

Situated learning: Perceptions of training  
practitioners on the transfer of  
competence across workplace contexts

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## Title Page

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# Situated Learning: Perceptions of training practitioners on the transfer of competence across workplace contexts

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## **Declaration by Candidate**

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I certify that, except where due acknowledgement has been made, the work is that of the author alone: has not been submitted, in whole or in part, to qualify for any other award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; and that any editorial work, paid or unpaid, carried out by a third party is acknowledged.

**Catherine Mary Down**

30 August 2005



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## Conventions Used

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In preparing this thesis, I have endeavoured to use consistent conventions and nomenclature so as not to confuse the reader.

### Chapters

There are seven chapters and only the first three levels of the chapters are numbered. That is, the chapter itself, the major sections into which the chapter is divided, and a further subdivision of these major sections. Any further subdivisions have headings which are either underlined and in 12 point font, or bold and in 11 point font.

Cross-references which are specific to a table, figure, or specific text will take you directly to that text. However, when the cross-reference refers to an idea or argument within a particular chapter or a subdivision of that chapter, the cross reference will take you to the beginning of that chapter or section.

I have used the symbol “§” to indicate a chapter or subdivision of the main text. Where the reference is to an appendix, then I have used the convention “Appendix x.y”.

### Questionnaire

The questionnaire is in two parts – Part A and Part B. The analysis of Part A is contained in Appendix 3.11. The analysis of Part B occurs in §5 and 6. Part B was divided into eight sections and the Likert-scale items from these sections have been designated as Qx.y. That is, Q4.7 identifies the seventh item in the fourth section of the questionnaire.

A printed copy of the questionnaire is contained in Appendix 5.1. The CD-ROM, which was sent to the participants, is attached to the thesis with a copy of the instructions on how to download QuickTime from the Internet if it is not already installed on your computer. This enables you to access the video, the original paper, and the PowerPoint slides.

### Figures and Tables

These are identified using the same convention as used with the Likert-scale items, that is, Figure 3.1 denotes the first diagram contained in §3.

### Acronyms

I have tried not to use acronyms except where I have already defined a particular one earlier on the same page. However a few may have slipped through such as:

VET	vocational education and training
TAFE	Training and Further Education
RPL	recognition of prior learning
RCC	recognition of current competency
ANTA	Australian National Training Authority
NCVER	National Centre for Vocational Education Research

## **Competence**

Throughout this document, I have used competence to mean the sum total of the learning we have constructed from our whole-life experience to date. That is, competence is what we know and can do and is inclusive of our values, attitudes and beliefs.

Competence has quite a different meaning than competency, which the Australian National Training Authority has used to denote the outcome of outcome-defined, or competency-based, training. Thus the word competency is used to denote a single, detached learning outcome, and its specification, within the Australian context, is called a “unit of competency”.

## **Referencing**

The reference list and the relevant citations were developed using EndNote and the “author-date” style, which has been modified slightly for edited books so that the editors’ names appear in the same format. This means that page numbers are included, not only for journal articles, but also for edited books and conference papers.

## **Writing style**

I have written in the first person whenever I am expressing my particular perceptions, experiences and analysis of the participants’ responses. I believe this is appropriate as the research is phenomenological and reports on my learning journey to develop new understandings and practices.

## Summary of the Research

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This research thesis is focused on the question: “How do practitioners understand the transfer of competence (that is, what they know and can do) across different workplace contexts and how does it influence their practice?”

The research investigates the experiences and perceptions of 108 workers, who have changed jobs or whose jobs have changed, as to how they were able to adapt what they knew and could do at that time. The research is phenomenological, using a methodology designed to collect and analyse data from the participants without decontextualising it. The methodology is customised and contextualised and uses activity theory, Engeström’s theory of expansive learning, grounded theory and discourse analysis to interrogate the research question.

The collection of data occurred over a period of five years and was in two stages, with the second stage validating and building on the first stage. Minimally structured interviews and a questionnaire were the main data collection tools used. Some descriptive statistics have been used but the research is qualitative in intent.

The research draws on current theoretical positions of learning, transfer, experiential learning, workplace learning, activity theory, qualitative research and reflection on experience. The thesis has been written to foreground the voices of the participants and the insights their experience brings to the research.

The research addresses a current gap in research work, carried out in Australia or overseas, which focuses on the transfer of competence across workplaces. The outcomes provide new perspectives on the ways in which practitioners understand transfer and integrate these interpretations into their practice. It strengthens the notions of consequential transfer and generalisation without decontextualisation, and thus makes a contribution to our collective knowledge and understanding.

The outcomes of the research are a metaphoric framework to guide the transfer of competence over different work contexts; a record of the application of new understandings of transfer as a sequence of consequential transitions (Beach 1999); generalisations derived from the embedding of contexts (Van Oers 1998); and an innovative research methodology. In addition, the participants have provided their perspectives on the preparation of, and on-going support for, people entering or crossing workplace contexts, and the consequential, necessary changes to institutional learning.



## Chapter 1

### Introduction and overview

---

'MUCH have I travell'd in the realms of gold, ...'  
24. *On first looking into Chapman's Homer* (Keats 1884)

#### 1.1 Introduction

The golden realms of my travels, like those of John Keats on the night he first penned the words quoted above, have been travels of the mind rather than the body. My journey has focused on learning and transfer, and how it is perceived by a group of educational practitioners. It has involved searching for, reading and thinking about recent, and not so recent, educational literature; listening to researchers present their findings at conferences; interacting with presenters and participants during research workshops; discussions with friends and reflecting on my ever evolving perceptions and understandings. Although I have forgotten, or deliberately rejected, much of the information I read or listened to, there has been no loss in this journey. It is through interactions with others - either directly or through some artefact- that we come to understand and be shaped by the social world. Such interactions offer us riches beyond measure.

#### 1.2 Focus of the research

In undertaking this research, my prime purpose was to better understand how people "transfer" or adapt what they already know and can do when they move to a new work situation or when their work changes substantially. The objective of the research was to explore the perceptions of training practitioners, based on their own experience and on their expertise as facilitators of situated learning. It focused on how these practitioners perceived the transfer of competence (that is, what people already know and can do) occurred, and on how they facilitate its development within their practice as teachers. That is, the focus of the research is the capacity of training practitioners to transfer their own competence between different settings and, to a lesser degree, on the capacity of these practitioners to develop this capacity to their learners.

The participants in the research were vocational education and training practitioners who had:

- experienced moving to a new job and/or substantially changing their work roles and functions
- were involved in preparing and/or mentoring others to prepare for different work changes
- could reflect on their experiences of learning from and at work.

The purpose of the research was to provide an experienced practitioner voice into the current debates on the transfer of learning across different workplaces and work roles. In current Australian vocational education and training (VET) rhetoric, learning transfer is assumed to happen and is the basis of much of the new policy which has been introduced over the last decade or more (Smith and Keating 2003, p. 219). The development of competency-based training, and Training Packages in particular, has been premised on the belief that if these competencies are developed then people will be able to transfer them to different contexts.

Such an assumption is a contested one from two points of view. First, it assumes that transfer occurs spontaneously, a concept which is not supported by current research (e.g. Billett 1994; 1996a; 1998a; Mulcahy and James 1998; Taylor 1997). Secondly, it ignores the contextual nature of learning and the need to adapt existing learning when the context of the learning is altered.

### 1.3 Rationale of research

This research was undertaken as a means of seeking out more insight on an issue that had been problematic for my practice for at least twenty years. My interest in the nature of the transfer of learning and the informal learning which comprises most of our practical knowledge is of very long standing and its foundation is:

- a practical concern for our disparate capabilities for learning formally and informally;
- the two quite different paradigms which might be said to distinguish traditional approaches to formal education (as used in schools and universities) to that used in most entry-level vocational education and training programs; and
- our outdated dependence on learning acquisition when determining educational access and job selection.

This interest has been developed over my thirty-five year career in education practice which has covered secondary teaching, national and state-wide curriculum development within the secondary school, vocational education and training and higher education sectors, substantial experience as an industry consultant (including a five year secondment to the Ford Motor Company (Australia) Ltd.), a public servant administering the VET in Schools program, researcher into national issues of importance within the Australian vocational education and training context, and a professional developer of secondary school, training and further education (TAFE) and university teaching staff. As a result of this wide and varied experience, I have developed a number of concerns about the way learning is often structured and the disparate importance attached to some sorts of learning experiences compared to others. Current educational policy within Australia is largely concerned with standardisation and the measurement of student achievement against such standards and an over-emphasis on assessment and credentialing to monitor and control access to learning opportunities. Such a policy framework gives scant recognition to learning through work, community and domestic participation and sets up a false dichotomy between formal and informal learning.

### 1.4 Objectives of the research

Given the focus and rationale for my research, a research question was needed which both enabled my concerns to be investigated and which also enabled the research project to be a manageable one. Eventually, the following research question was constructed.

**How do practitioners understand the transfer of competence (that is, what they know and can do) across different workplace contexts and how does it influence their practice?**

The question enabled the investigation of the experiences and perceptions of 108 workers, who have changed jobs or whose jobs have changed, as to how they were able to adapt what they knew and could do at that time. The intention of this research was to increase information about learning from work and within work situations, which is based on systematic and methodologically sound research in order to inform practice. Recent research into workplace learning (Billett 1994; 1996a; 1998a; Mulcahy and James 1998; Taylor 1997) and employer satisfaction (NCVER 1997) casts doubt on the assumed automatic nature of the transfer of learned competence across differing workplace contexts. More

recent work by Bransford and Schwartz (1999), Beach (1999) and Stevenson (2001; 2002; 2003b; 2005) has theorised interesting solutions to this 'transfer problem' (Pea 1987).

Educational practitioners were chosen as participants in this research because they have considerable experience in crossing different work contexts and also their role was to facilitate others to be able take their current competence across differing work contexts. The working theories of these practitioners were used to study whether the theories, referred to in the previous paragraph, were part of the participants' praxis. My research has two aspects that are new. That is, the investigation against the research question and an adapted contextualised methodology. This means that the thesis records not just the answers to the research question, but also how the question was investigated.

Very little research, which focuses on the transfer of competence across workplaces, has been carried out in Australia or overseas. This study will help to remedy this and will give information as to how training practitioners encourage transfer through their practice. In addition, the participant data has included their perceptions of the role of institutional learning in preparing and supporting employees and the changes that might be needed for this to happen.

## 1.5 Importance of the research

The research adds a practitioner voice to both learning theory and vocational education and training policy. Current learning theory is a set of generalisations which have been derived from research and theorising upon this research. Thus, learning theory has necessarily been decontextualised and largely formulated by researchers and theorists who are separate from everyday teaching and learning practice.

This study collects the views and experience of practitioners grounded within their arenas of practice. It is focused on the working theories, which practitioners use to inform and organise their everyday practice within complex human interactions and environments. Such working theories are generally derived from educational theory but are modified, reformulated and adapted by experience. They represent practice as it happens. However, they are largely tacit and rarely articulated.

The process used in this research was designed to ask participants to use remembered incidents in order to interrogate these theories. The artefact used to mediate this interrogation was a theoretical model of how the transfer of competence across different work contexts might occur. This provided the impetus for a wealth of contributed knowledge, insight and practical accounts as to how such transfer of what we know and can do across different contexts might occur.

This thesis might be interpreted as practitioner research. As such my interest as the researcher is in the nature of learning as it is experienced in work contexts. Schön described everyday professional practice as 'swampy lowland' (Schön 1987, p. 3). He further asserted that the problems of greatest concern to practitioners defied rationalistic solution. Thus, this account does not attempt to find a solution to the issue of transfer but to provide a practitioner voice to the debate.

The importance of this thesis is, however, not just restricted to issues of the swampy lowland. The understanding and experience of practitioners in areas of teaching and learning is essential to the formulation of educational policy. As Schön (1987, p. 3) reminded us, it is the issues of the swampy lowland which attract the most human issues and these defy solution by the application of research theory and technique. Thus, this research contains important insights and findings, which are relevant to the current international debate on the "transfer" of learning.

## 1.6 Outcomes of the research

The main outcome of this research is a documentation of the participants' perceptions of the learning and transfer of competence which occurs when we cross contextual boundaries. This extends to a consideration of the role of formal institutions, and the fundamental changes to the education system which would be necessary, in preparing individuals for these transitions. They also provide evaluative material on their experience of participating in my research endeavour.

This documentation provides the reader with new understandings of how practitioners understand learning and transfer. It also provides a new approach to the collection and analysis of data through the customised and contextualised methodology used.

This methodology was designed to enable the second stage of the research to build on the stage 1 outcomes and to improve them in the light of new insights and a greater understanding of the relevant literature. This transformation was grounded in the lived experience of the participants and their learning from that experience.

One of the more tangible outcomes has been the development of a representational model at the end of stage 1 and the amelioration of model with a more inclusive metaphoric framework. This improvement occurred as the result of stage 2 feedback on misunderstandings of, and deficits in, the model. As a consequence, the model has been recast into a metaphoric framework – or a simple narrative image which can be used to support the transfer of knowledge and skill across work contexts (Down 2004, p. 120) The metaphor used is that of a swamp – probably a Northern Territory swamp complete with crocodiles, snakes, quick-sands and other dangerous conditions. It provides a framework for reflection on experience and is aimed to help us focus on what we need to think about when crossing changing workplace contexts. It is our agency, and the affordances offered in the workplace, which enable us to access and effectively use these spaces to maximise our learning in response to the change of context. Since workplaces have become, over the last two decades or more, sites of continuous and paradoxical change, then our learning in the workplace also needs to be continuous; as the context of our social, emotional and cognitive interfaces with work is no longer stable, certain or unambiguous.

My personal outcomes are recorded in this account, as I have been able to explore and make sense of the phenomenon of transfer of competence across contextual boundaries. This meaning making has been the result of an immersion and engagement with the relevant literature and the participant responses. It has been multi-dimensional, as the construction of meaning occurs in different ways, and has both normative and personalised renditions. Whilst some of the resultant learning is tangible, much of it still lies beneath my conscious thought and will only become explicit through time and specific experience.

An explicit change has occurred in the ways in which transfer and learning can be understood as the result of crossing contextual boundaries. Both my understandings, and those of many of the participants, support Beach's (1999) concept of replacing the metaphor of transfer with that of consequential transitions. Associated with this is the concept of generalisation without decontextualisation (Van Oers 1998), by embedding one context in another, and, also, Stevenson's connection of vocational meanings (2002).



## 1.7 The structure of the thesis

In writing this thesis, I have tried to allow the 108 participants to contribute their individual voices to the descriptive material. Unfortunately, my attempts to keep the thesis to a reasonable length have meant that, in many cases, these voices have had to have been omitted or abbreviated.

After this brief introductory chapter, I commence with an outline of the educational literature, thinking and research that have shaped my understandings of intercontextual transfer (Chapter 2). The sources of my transformation over time have been drawn from many fields of scholarship and my immersion in the ideas presented has been for a protracted time period. My learning has not been restricted to a single educational approach or learning theory, but has occurred by making connections between different ways of thinking about learning, workplace contexts, and our situatedness within them.

The third chapter is concerned with the methodology of my research. Not the theoretical concepts which underpin the design, as these have been discussed in Chapter 2, but the approaches I used to collect the data and to analyse its different meanings. Chapter 3 provides an account of my intentions and experiences.

Chapter 4 is the first of the analytic chapters. It is an account of my analysis of the stage 1 data and its reformulation into a useful model. It should be noted that this analysis and reformulation was conducted at the start of my research journey. Therefore, I had not, at that time, accessed much of the thinking and insights which informed my analysis of the stage 2 research. It is important to recognise that it is not the “big-picture” that we are concerned with but with the detail of everyday understandings which the participants have supplied from their experiences.

Chapters 5 and 6 provide a contextual analysis of the responses to part 2 of the stage 2 questionnaire instrument. Chapter 5 is concerned with the stories which were used to ground the participant responses to the Likert-scale and open-ended items and with those responses which were concerned with the validation of the model developed as a result of the first stage of the research. In compiling this account, I have tried to use the participants’ voices wherever possible.

Chapter 6 provides a descriptive analysis of the participant responses to items concerned with the nature of transfer, the strategies which support the development for successfully crossing contextual boundaries, the role of formal education in this process and the societal, institutional, teacher performance, and learner experience issues which are perceived to be needed. It also contains a descriptive analysis of the participants’ evaluation of the research process and questionnaire instrument.

Finally, in Chapter 7, I attempt to weave the theoretical understandings of chapter 2 with the practical and experiential perceptions discussed in Chapters 4, 5 and 6. This results in the outline of, and justification for, a new metaphoric framework and also identifies the role of the participant data in framing my current understanding of both transfer across different work contexts and the reality of current educational practice.

## 1.8 The research journey

My journey into the realms of scholarly endeavour has been a prolonged one, having officially lasted six and a half years, although my sense of puzzlement about, and fascination with, learning has been a driving force in my thinking for decades. It has, largely, been a solitary journey but never a lonely one. It has been demanding and exacting but never loathsome. The journey has provided me with a key to great insight and exciting thinking and, at times, to intellectual discussions, which have pushed me to reflect on my experience with greater exactitude and integrity.

My intellectual travel has also allowed me to experiment with different modes of communication, particular applications of communicative and information technology and with a variety of approaches to the analysis of data. I have done many things that I would not otherwise have done. My experience has enriched me, and my learning journey has resulted in irrevocable changes in who I am, and how I interpret my social world.

My disposition is basically practical and all my proclivities are for action. It is through reflection on events and situations that I learn to understand my experiences and this reflection informs my future actions. The design of the research and its implementation reflect my practical disposition and my tendency towards experimentation and innovation. The journey has covered a lot of ground but has also dug deep in an attempt to find a better way to make sense of the transfer of competence across different work contexts.

## Chapter 2

### Theoretical Underpinnings

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#### 2.1 Introduction

Janesick (2003) argues that in qualitative research, the researcher moves from a research question to a paradigm or perspective and then to the empirical world.

As we try to make sense of our social world and give meaning to what we do as researchers, we continually raise awareness of our own beliefs.

(p. 56)

It is, therefore, useful to start with an overview of the theoretical context in which the research is embedded. This context represents my current understandings and the conceptual frameworks which inform my practice as a researcher. It also represents the context of the participants in this research, although their understandings and the way it shapes their practice will differ.

This chapter starts with a discussion of the roots of my research. Why after thirty years of educational practice did I choose this topic for a personal research journey? How does my life history impact upon the research? Why do I consider that this particular line of inquiry will produce insights which will result in improved educational practice? The answers to these and related questions set the scene for the research and help make explicit the underpinning beliefs and assumptions of my practice.

The discussion on the personal rationale for this research is followed by a discussion on the context of the research and the rationale for situating the research within this context. It covers the different approaches to learning from which we construct the working theories which govern our practice. From a broad consideration of theoretical approaches, this chapter then contains a more specific discussion of the particular aspects of theory, which apply to the research undertaken. These include activity theory, situated learning, the concept of transfer and specific aspects of learning in the workplace. The objective of this chapter is to provide an overview of the theory which underpins and enhances the participant responses and my interpretation of their ideas and perceptions.

#### 2.2 Background and rationale

##### 2.2.1 Early personal experiences of learning

I am an obsessive learner and I am happiest when I am learning with others – both with peers and colleagues, and through teaching and mentoring relationships. Such learning covers a wide range of disciplines and situations and, while I feel gratification from having my curiosity satisfied, it is only temporary. The more I know, the more I realise how much more there is to know. It was this love affair with learning that led me into a teaching career and which has driven me to continually explore the process of learning over a career of 30+ years.

However, there is a more sombre side to my involvement in learning which has its roots within formal education institutions. I suppose I entered the education system as a four year old with great expectations, which quickly changed to bewilderment when I found that I was “wrong”. Wrong because I already knew how to read, wrong because of my advanced

numeric skills, wrong because I knew the answers, wrong because I asked the wrong questions. Learning was structured, compartmentalised, run to a timetable and it was more heinous to learn too quickly than to learn too slowly. Departure from median learning brought penalties which ranged from having to tidy the classroom to sitting at a desk outside the Headmistress's office. My sin was that of learning too easily and a consequent boredom with the pace of institutional learning. So I learnt that an interest in learning was dangerous from a social point of view. Consequently, I spent 12 years of schooling and most of my university years avoiding any overt display, or even semblance, of learning. Only at home could I learn through books, through play, through listening and observing, through discussion and through experimentation and enactment.

This is not to say I didn't enjoy my schooling or that I didn't learn how to find the acceptable balance between being one of the community and academic achievement. What the education system wanted was for me to regurgitate the right answers, what I wanted was the maximum time to play sport and enjoy the companionship of others and, being possessed of a good memory and a gift for making teachers think I knew more than I did, finding a balance was relatively easy.

But this balance made me the possessor of innumerable facts with very little understanding of what those facts meant. The need for social acceptance meant that I had to be seen not to work at learning. So, at length I emerged from university, academically competent but with my desire and capacity to learn severely straight-jacketed, and my interests directed well away from academic pursuits.

Then I found myself in a low socio-economic, rural, secondary school, impeded because my independent school and university experience had not prepared me to work with students with whom I apparently had nothing in common: I looked wrong, I spoke a different language (although we all spoke English) and my expectations of what teachers did were totally unrealistic.

After my disastrous first week, I gave myself seven years to learn to be a good teacher. When seven years elapsed I extended it by another ten, until after seventeen years I realised that I was going backwards so I transferred to the vocational education and training sector. Thirteen years later I transferred to the higher education sector for much the same reason. For over thirty-five years I have been co-learning with students, colleagues and workers from other industries and have loved it. It is through this co-learning process that my confidence has increased and my curiosity, about the world, its inhabitants, and their ideas and fantasies, has been continually rejuvenated. I have watched my students leave the classroom – some to fly immediately and others to gain their wings at a later stage.

Such co-learning has not been the result of reading books and memorising facts. Instead it has been the result of collaborative and individual action centred on my work; interaction with the local, educational and social communities I inhabit; and the need to solve problems, counter contingencies, and to give rein to my curiosity and imagination.

More and more my interest has been in helping others to love learning and to develop the necessary capabilities to learn effectively from the communities and contexts in which they find themselves. Why is it that many, who performed well in a classroom environment, fail to reach their early potential? Why do others, who found classroom learning a struggle or a time of endless ennui, go out into the community and workplace and thrive? Why do others need the shock and responsibility of parenthood before they embrace learning as an essential part of themselves? I do not know the answers, but I believe that the ways through which people approach their everyday learning will determine their success in understanding the physical, social, cognitive and emotional contexts in which they live and work.

So why have I chosen to base my personal research journey on the question:

**How do practitioners understand the transfer of competence (that is, what they know and can do)<sup>1</sup> across different workplace contexts and how does it influence their practice?**

The first reason, as a later section of this chapter will show, is that the question of the transfer of knowledge and skills across work contexts is one which theorists and practitioners recognise as problematic but which politicians and educational bureaucracies use as a rationale for changes to educational provision. “If you learn ... you will be able to<sup>2</sup>” becomes almost an article of faith as the mandatory specifications of vocational education and training become more and more instrumental.

The second reason is that I believe that how practitioners understand their practice will reflect what they do in workplaces, classrooms (on industrial sites or in educational institutions), and in meetings with their peers. Obviously, there will always be some difference between belief and practice given the obstacles which practitioners face such as the expectations of others, the contexts in which they work and the parameters in which they need to practice. If learning is seen as the result of two reflexive processes – engagement and reflection on that experience – then the perceptions of practitioners is important if we are to better understand learning.

The third reason is that whilst theory informs practice, the theory was developed from the research of practice. Theory does not come first; practice does. So my interest is to probe the theoretical and practical understandings that effective practitioners have built up from their practice and from some exposure to educational literature.

For most vocational education and training practitioners in Victoria, exposure to educational theory is fairly minimal. This is due to the patterns of teacher/trainer preparation in Australia over the past three decades. Thus, more experienced teachers and trainers have been recruited on the basis of their industrial experience and then given two years part-time initial teacher training whilst practising as teachers. This still occurs in some states, whilst in others pre-service degrees in vocational education and training are required. However, currently in Victoria and legally in all other states and territories, the minimum qualification for teachers, trainers and assessors is a Certificate IV in Training and Assessment; a qualification which is often delivered through a 40 hour accelerated program. Consequentially, the preparation of vocational teachers and trainers, and thus their exposure to educational literature, has been systematically downgraded over the past twenty years.

As will be argued, teaching and learning in, and for, rapidly changing work contexts, is a condition of what Barnett calls supercomplexity (Barnett 2002, p. 9). Through their practice under such conditions, practitioners will develop a framework of understandings which will inform the way they work. Most of these understandings will be based on their practice, some will come from peer-based discussions or the rare opportunity to participate in professional development and others will be derived from their original training, reading or self-funded post-graduate study. So what do they believe to be the process by which we move across work contexts as we change jobs or when our work changes significantly?

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<sup>1</sup> The term competence refers to an individual's total ability to perform, which might be understood as what he/she knows and can do. It should not be confused with competency which is a term used in Australian vocational education and training specification to determine a particular set of performances.

<sup>2</sup> This particular phrase is used to preface learning objectives in both the systems model and competency-based training curriculum.

Thus, the rationale for this overall objective is my conviction that the answer to this question provides a lens with which we can inform our understanding of not only how people learn when they cross work contexts, but also how they learn from everyday tasks and situations.

### 2.2.2 Vocational education and training context

Over the past ten to fifteen years, Australian vocational education has been going through major transformations in the way it is organised and structured; in its specification of what is expected to be learnt, first through centrally-mediated curriculum and now through Training Packages; in the way it is funded; and in the way it is taught. Throughout this substantial reform process, the rhetoric has been rich with terms advocating flexibility, responsiveness, national recognition and portability. For example, the 2004 - 2010 strategic plan developed by the Australian National Training Authority (ANTA) states:

Future success for individuals, communities and regions, and the nation, will be increasingly linked to high-level, transferable knowledge and skills. A high quality, accessible and innovative education and training system has never been more important. The capacity of individuals to participate effectively in the modern workforce and society, the productivity and safety of the workforce, the competitiveness of industry, the adaptability of communities, regions and the nation – all will depend critically on Australia's education and training systems.

(p. 4)

The assumption of our bureaucratic training authorities that it is the skills and knowledge which is transferable, is reflected in the current emphasis on generic skills. Much of what has been written about the importance of generic skills by such bodies reinforces an assumption that such skills are transferable across different contexts and are able to be learnt. For example, four of the characteristics of the Key Competencies identified by the Mayer Committee in 1992 (Australian Education Council) and restated by Gibb and Curtin (2004, p. 9) as equally applicable to employability skills are:

- to equip individuals to participate effectively in a wide range of social settings, including workplaces and adult life more generally
- to involve the application of knowledge and skill
- to be able to be learned
- to be amenable to credible assessment.

At the time of the release of the Mayer Committee's report (Australian Education Council 1992), the issue of transfer had a high profile in the rhetoric associated with the importance of generic skills. Since then, research by a number of groups of practitioners over the last decade and more, has consistently ascribed the process of transfer as a human action and the role of generic skills as the vehicle by which skills and knowledge (technical or general) are transported, adapted, enhanced and contextualised as the boundaries between differing work contexts are crossed and recrossed. The nature of transfer will be discussed in more depth later in this chapter (§2.5, p. 54).

Within educational and management literature, there is an increasing focus on learning in the workplace (Boud 2000, p. 2). This is supported by the rhetoric of politicians and policy makers, whilst the provision of vocational education and training in the workplace and within TAFE Institutes remains largely classroom based and teacher-directed. A recent research project I undertook for the Australian National Training Authority on enterprise RPL<sup>3</sup> showed that the registered training organisations<sup>4</sup> involved in the project would not accept the assessment appraisals carried out by workplace trainers, despite the policy of mutual recognition and the fact that, in some cases, the workplace trainers have received their Workplace Training and Assessment qualification from the provider concerned (Down and

<sup>3</sup> Recognition of prior learning

<sup>4</sup> Registered Training Organisations is the term used in Australia to describe providers of vocational education and training who have been accredited by the National and State training authorities

Cleary 2005, pp. 53-54). There is still a long way to go before the increased interest in research into learning in the workplace is matched by general vocational education and training practice.

Competence (or competency) is at the core of the current Australian vocational education and training system. Achievement of competency is not only the basis for assessment and credentialing within the system; it is increasingly the basis of accountability, quality and funding measures. Australian VET is moving towards being an outcomes-based system, with the term competency no longer restricted to curriculum issues but also to the management of the functions of the system.

Yet within this context, the terms competence and competency are both contested and ambiguous. Within this research, competence is taken as the skills, knowledge, experience and attitudes which people bring to their work. Workplace contexts have physical, task, interpersonal and cultural dimensions. Differences in contexts could therefore arise from differences in one or a number of these dimensions. Thus, the transfer of competence is the adaptation and enhancement of existing competence to meet new workplace demands.

On the other hand, competency is often understood as a measurable performance and the curriculum, accreditation, quality and accountability structures of the Australian VET system suffer from a tendency to lean towards this much more limited definition of competency. As a consequence, those behaviours and attributes, which cannot be measured or concretely evidenced, are ignored or assigned to the too-hard basket. Whilst the introduction of Training Packages has been synonymous with a softening of this need for measurement of outcomes, insofar as assessment (of learning and of institutional performance) is now based on the provision of evidence, the definition of the terms "competence" and "competency" remain problematic.

Emphasis on evidenced performance also results in a de-emphasis on learning and an over-emphasis on particular performances. The definition of competency originally put forward by the National Training Board in 1992 acknowledged the role of context in shaping performance by including:

Task management skills, contingency management skills (dealing with irregularities and breakdowns in routine) and job/role environment skills (e.g. working with others).  
(p. 29)

This definition has not been abandoned over the intervening years, nor has it been universally applied. Whilst these terms now find their way into the Evidence Guides within Training Packages, it is my belief that assessment and governance structures within the Australian VET system are still largely based on an example of successful performance in ideal conditions.

The terms "competence" and "competency" are often used interchangeably. Within my thesis I have endeavoured to use them as defined above, recognising that 'competence is essentially a relation between abilities and capabilities of people and the satisfactory completion of appropriate tasks' (Hager and Goncz 1993).

### **2.2.3 Change and education**

In our current world, the only certainty we can have is that things will change. It is, therefore, useful to look briefly at the shifts in educational thought, rhetoric and emphasis which have occurred over the thirty-five year period that I have been working within the education sector.

Jarvis, Holford and Griffin (2003) identify thirteen shifts in emphasis that have occurred in education over the past years. They define these shifts as:

- childhood to adult to lifelong;
- the few to the many;

- education and training to learning;
- learning as a process to learning as an institutional phenomenon;
- teacher- centred to student-centred;
- liberal to vocational and human-resource development;
- theoretical to practical;
- single discipline knowledge to multidisciplinary knowledge to integrated knowledge;
- knowledge as truth to knowledge as relative/information/narrative/ discourse;
- rote learning to reflective learning;
- welfare provision (needs) to market demands (wants);
- classical curriculum to romantic curriculum to programme;
- face-to-face to distance to e-learning.

(Jarvis; Holford and Griffin 2003, pp.1-2)

These changes have not occurred in a social vacuum, but reflect the forces that are shaping, and have shaped in the past, our society. These social forces reflect the balance of power in the world; they are global and are changing the way we think and live at an ever increasing rate. This has led some theorists to claim that we have moved away from a modern society characterised by stability, confidence and progress into a post-modern world characterised by risk, illusion and ambiguity (Edwards 2000; Evans; Behrens and Kaluza 2000).

Traditional features of education in the modern era were underpinned by deeper social processes. That is, education is designed to:

- maintain and reinforce social order and social cohesion because it encourages people to conform to prevailing norms and culture
- control and manage individuals' aspirations , so that they are 'fitted into' the social structure of employment, class or social status in ways that they accept
- reproduce the workforce necessary to an industrial or post-industrial society, with its various divisions of labour, skills, careers and so on.

(Jarvis; Holford and Griffin 2003, p. 18)

If one accepts that we have moved into the post-modern age, then the social conditions and processes which shape our lives are also rapidly changing. Jarvis, Holford and Griffin (2003, pp. 19-21) have identified the main changes as:

- globalisation
- demography
- work and the economy
- privatisation
- individualisation
- commodification
- translating policy into practice.

Theorists are still debating whether we have moved into a post-modern era ( Baudrillard 1994; Foucault 1986; Usher 1994) or whether we should regard contemporary developments as a late form of modernity (Giddens 1993). Baudrillard (1994) writes that it is sufficient for us to recognise that the rapid changes abroad within our society mean that education is failing as a source of emancipation, in its belief in science (e.g. Chernobyl) and in humanism (e.g. the Holocaust).

As education's role of socialising is stripped away by our current conditions and its place in a system of shared universal beliefs (scientific, moral, religious and philosophical) is eroded; as knowledge becomes much more fragmentary and relativistic (Jarvis; Holford and Griffin 2003, p. 22); as the content moves to depending much more on individual tastes and styles (concomitant with our move to a market society), our discourse about education has changed. Learning has replaced education as the term used to denote the enhancement of



our capabilities. Learning is much more an individualised term than education and the responsibility for their own learning is being placed in the hands of the individual.

#### 2.2.4 Learning and culture

The process of learning may be broadly described as making sense of, or meaning from, our experiences. These experiences occur in a social, cognitive, physical and cultural context. What matters is how we interpret these experiences. Such interpretation is largely based on our social and cultural backgrounds and current contexts.

So learning becomes dependent on the social and cultural context. Learning is very closely linked to both culture and knowledge. "What" and "how" we learn are influenced by culture; but culture is a learned set of understandings and practices. This means that there is no universal theory of learning – just frameworks and guidelines for our practice. What counts as knowledge differs between cultural contexts just as how we understand that knowledge differs.

Culture is a very complex phenomenon as is learning. When the two are in juxtaposition, a situation develops that Barnett (2002) would call supercomplexity. That is:

a situation in which different frameworks present themselves, frameworks through which we understand the world and ourselves and our actions within it. In the contemporary era, such frameworks multiply and are often in conflict with each other. (p. 10)

There are no simple answers as to the impact of culture on learning or of learning on culture. However, by looking critically at these phenomena, we can, at least, learn what questions we should be asking.

### 2.3 Theoretical approaches to learning

This section looks at some of the major learning theories which may inform our practice. Because learning is such a universal and diverse human action, it is highly unlikely that there is a single, all embracing learning theory or strategy for learning. Our learning is situated in our activity and practice and occurs with a community of practice which is itself situated in a social world.

The material that follows looks at theoretical approaches to learning which impact on the practice and views of the participants within this study. Theories of adult learning have been an area of much academic interest and expansion in the past 2-3 decades and changes in understanding have been reflected and tested for practicality at the practitioner level. This is particularly true with regards to vocational learning, both in the classroom and in the workplace. The aim of this section is to provide a brief outline of the theoretical underpinnings, which shape the work and the attitudes of educational practitioners. These ideas are worked out in practice and thus underpin the way in which teachers and trainers learn from their own practice and from that of those cohabiting their workplaces.

Through their responses to the questions asked of them, the participants in this research reflect the theoretical understandings which guide their practice. In a climate of questioning of some traditional ideas about learning theory, it is important to identify the extent to which new theory is integrated into everyday practice.

Thus the subsections which follow seek to provide a foundation of theoretical approaches which impinge directly on the research and its participants. It includes those theoretical standpoints which impinge on the 'transfer' of learning which is of the most highly debated issues within vocation preparation and learning. Therefore, the material is largely concerned

with those areas of learning theory which are most relevant to vocational education and training and to the topic of 'transfer' in particular.

The three most easily agreed upon groups of learning theories are the behaviourist theories which are mostly based on some sort of stimulus – response of various degrees of complexity; the cognitive theories which focus on the active engagement of the mind in learning; and the humanist theories which are based on various analyses of personality and of society. All of these groups of theories are positioned on a continuum between a conformist-orientation and a liberation-orientation (Rogers 2002a, p. 9).

Rogers argues that it is a mistake to see behavioural theories as conformist-oriented and humanist theories as liberation-oriented with cognitive theories somewhere in the middle. Behavioural theories range from the reinforcement of desired response to the exploration of the many different possible responses; cognitive theories focus at one extreme on the discipline of the subject and, at the other extreme, of open discovery learning; whilst humanist theories include both the importance of role imitation (and other forms of patterning) and the freedom of the learning group (2002a, p. 8).

Cognitive theories are much more pertinent to this research than the other two, insofar as the research methodology and the research questions being explored have their basis in cognitive theory. This does not mean that behavioural and humanist theories do not impact on this research. As the more dominant educational approaches within the educational world within which my participants work, they are part of the theoretical context of the research and, as such, are reflected in many of the participant perceptions. For this reason, relevant aspects of behavioural and humanist approaches to learning are discussed briefly and followed by a discussion on cognitive approaches which underpin my research.

### **2.3.1 Behaviourist approaches to learning**

Trial and error learning is part of the behaviourist approaches to learning. It is also an important element in our everyday learning (or informal) learning. Positive outcomes of the learning – pleasure or satisfaction – are said to condition the learner to expect success whereas negative outcomes – frustration or failure - make the learner less likely to experiment.

Instrumental learning, in which the learning outcomes are specified in behavioural terms, have dominated formal learning in vocational education and training in Australia for the last twenty years. The demand for measurable outcomes has led to the successive introduction of three outcome-driven forms of curriculum and instruction, that is:

- systems model curriculum models
- competency-based training
- Training Packages.

Training Packages, the Australian national system of vocational education and training specifications, are a form of competency-based training which has been used to create an industry-led training system within Australia. Initially, Training Packages had very little input from vocational education and training practitioners but were developed by industry advisory bodies in consultation with peak bodies associated with a specific industry or industry stream. Accreditation, or recognition, came from the National Training Quality Council which consisted of representatives of industry and the State and Territory Training authorities and was overseen by the Australian National Training Authority. Training Packages were introduced in 1996 and their development and implementation has been accompanied by rapid changes and development in policy and practice. Smith and Keating (2003) argue that although:

This has led to difficulties for those implementing them. On the other hand, some would argue that it is good that the nature of Training Packages and their development processes have developed and changed over time (Smith 2001) (p. 148)

Smith and Keating argue that Training Packages were introduced to regularise vocational education and training specifications, to align training more closely with industry competency standards and to make accredited training easier to deliver across a range of environments. However, poor marketing of the concept at the beginning of the process, including a misjudged pronouncement by the then CEO of the Australian Training Authority that 'curriculum was dead' (Down 1996, p. 6; Smith and Keating 2003, p. 171), meant that the implementation of Training Packages has occurred within a fairly hostile environment. A comprehensive research project (Down 2002) found that acceptance of Training Packages by vocational education and training (VET) practitioners has increased as people began actually working with them; closer links between workplaces and providers had been established; there was a wider use of competency standards within enterprises and that the greater proportion of VET students were workers rather than those seeking or preparing for work. Areas of concern included poor assessment practices, equity issues, a lack of direction for teachers, and assessment-driven delivery (pp. 11-12).

Whilst not specifically part of this research, competency-based training and Training Packages have had a significant impact on the practice of those working within vocational education and training. All the participants in this research have worked with Training Packages as researchers; as teachers involved in initial or continuing vocational teacher education; and as VET teachers and/or trainers. Their perceptions of how people learn in the workplace may well be influenced by their experiences of working with Training Packages; certainly, many of their responses express a lack of support for current formal training regimes.

In the same way in which formal vocational teaching and learning is influenced by behavioural theories of learning, humanist learning theories have also been important in shaping educational practice over many decades. The following section provides an introduction to some of these theoretical approaches.

### **2.3.2 Humanist approaches to learning**

Humanist learning theories spring from an understanding of the major contemporary changes in culture. As discussed earlier, our contemporary world is characterised by complexity, uncertainty, instability, the uniqueness of the individual response and conflicts of values. Rogers (2002a, p. 12) suggests that humanist theories of learning have several things in common, such as:

- the active nature of the learner
- movements towards increased autonomy and competence
- the urges and drives of the personality
- compulsion towards growth and development
- an active search for meaning
- the fulfilment of goals which learners set for themselves
- the settings for learning
- drawing on experience
- motivation for learning is internal
- learning is associated with the cultural and interpersonal relationships which form the social context.

Humanist theories can be divided into two broad types: those that focus on personality factors and those that focus on the social or environmental factors with which the learner

interacts through dialogue. Such theories are inculcated into the ways in which we interact with the people and features of our workplaces. Thus a short overview of what these theories are provides a background which aids in the interpretation of the participants responses and the varied ways in which they see their worlds.

Personality theories view personality types as being spread on a spectra or continuum between those who perceive the locus of control to be within themselves and those who see it as external. Another way of expressing this is between the extrovert and the introvert. The contribution of learning theories built on analyses of personality types (such as those of Houle 1961; Maslow 1968; 1970; 1985; Carl Rogers 1974; 2002b) has been the importance of attitudes to learning.

Alan Rogers argues that environmental learning theories can be grouped into four categories; that is:

- human communications theory
- social learning theory
- total environment learning theory
- paradigm transformation.

Human communication theory, which posits that we learn through dialogue in which the receiver is active and interpretation is an essential element of the transaction, tends toward the external end of a continuum. At the other end of this continuum is social learning theory and paradigm transformation which stress the internal.

Social learning theories emphasise the importance of the social context in which we learn. Much of what has often been called the hidden curriculum of formal schooling is learning derived from social interaction and relationships. Our social relationships, be we child or adult, will promote or inhibit effective learning. In addition, the social purposes for which people learn will impact on our learning. Learning to achieve social ends, be it collective or individual, is a basic human behaviour.

Social theorists argue that learning, like knowledge itself is socially constructed. This implies that the social, historical and cultural contexts, together with the individual's setting within these, determine the meaning and significance of learning for that individual. Thus these theories are also termed constructivist theories. That is, 'knowledge is contingent upon circumstances and learning is a process which reflects this' (Jarvis; Holford and Griffin 2003, p. 43). Different forms of social learning theories have been proposed. These might be termed:

- sociological functionalist theories (Jarvis 1987)
- the social construction of self ((Mead 1934; Strauss 1977)
- social learning theory (Bandura 1977; Bandura and Walters 1963)
- collective learning.

Aspects of each of these four social learning theories are embedded within my and many of the research participants' working theories and beliefs about their everyday practice. So it is useful to give a very brief overview of these four theoretical standpoints in order to better interpret their perceptions on the research questions.

### Sociological functionalism

From a sociological perspective, individuals are socialised into cultural attitudes, values and beliefs. Sociological functionalism identifies several ways in which social learning occurs. These are:

- societies have to learn functional adaptation in order to survive in a changing environment;
- individuals must learn social roles in order to be members of the society; and

- failure to learn meant that society itself would not survive, and that individuals would come to play deviant or dysfunctional roles.  
(Jarvis; Holford and Griffin 2003, p. 45)

Our socialisation begins within the family, is strengthened during compulsory schooling and continues throughout life. The adult phase is sometimes referred to as secondary socialisation. Research into social class, linguistic codes (Bernstein 1971) and the construction of the curriculum (Lawton 1973) have reinforced our theories of sociological functionalism. However, Jarvis stressed that this is not a passive process when he wrote:

All aspects of the individual are, to some degree, a reflection of the social structure. But this is not merely an acquisition, or receptive process, since their social self affects the manner in which persons perceive and interpret their experiences in social living ... Individuals actually modify what is received and it is the changed version that is subsequently submitted to other people in social interaction.

(1987, p. 14)

Thus reflection on our work is likely to be influenced by our exposure to sociological functionalism. Similarly, the concept of the social construct of self adds to our understanding of our identity as a worker and thus influences our understanding of everyday practice

### The social construction of self

Mead (1934) argued that the individual self is a social construct and, thus, individual learning is a function of social relations. However, she took social theories of learning beyond the concepts of individual adaptation and interaction, and argued that evidence of the mind, or the self, could only be derived from how they manifest themselves socially. Since an individual 'belongs to a social structure, a social order' (Mead 1934, p. 1).

If the self is socially constructed, then its construction depends on how others interact and communicate with it. Evidence of change in the self, that is learning, comes through communication.

Current interest on the concept of identity builds from Mead's foundations. Wenger (Lave and Wenger 1991; Wenger 2002) argues that our identities are a key structuring element of how we know. This is discussed later in this chapter under the heading "situated learning" (p. 50).

### Social learning theory

Bandura (1977) theorised about learning from a psychological perspective, that is, that learning is a process of interaction between individuals and their social environments. He accepts that as a social process, learning involves functionality, interaction and significant symbolism (including language). His contribution to social learning theory is the concepts of individual self-regulation and self-direction. As he wrote:

Social learning theory approaches the explanation of human behaviour in terms of a continuous reciprocal interaction between cognitive, behavioural and environmental determinants. Within the process of reciprocal determinism lies the opportunity for people to influence their destiny as well as the limits of self-direction. This conception of human functioning then neither casts people into the role of powerless objects controlled by environmental forces nor free agents who can become whatever they choose. Both people and their environments are reciprocal determinants of each other.

(Bandura 1977, p. vii)

Reciprocal determinism also underpins our understanding of our practice and was reflected in many of the participant responses discussed in chapters four, five and six.

This was especially true of the participants in stage one of the research. The concept of collective learning, which is outlined in the next section, was even more pronounced and was reflected in the language and metaphors used by many of the research participants.

### Collective learning

Collective or group learning can be defined as learning which is more than the sum of individual learning of the members of the group or organisation. Concepts such as learning organisations, learning culture and learning society are common terms used by commercial managers in reference to the competitive advantage of their companies.

The concept of collective learning is a contested one. Illeris (2002) cites Henning Salling Oleson who wrote that:

the concept of experience is active, it creates coherence, it is critical and it is creative; it is also collective. The societalized individual cannot experience individually.

(cited by Illeris 2002, p. 197; Oleson 1989 [1985], p. 68)

Peter Senge's work on the learning organisation also supports the concept of collective learning. He defines a learning organisation as one:

Where people continually expand their capability ... where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together.

(Senge 1990)

Illeris (2002, pp. 198-199) notes that collective learning has been an important element in traditional worker culture. Such learning occurs:

through a problem-interpreting process and organising process ... As the workers talk together and exchange viewpoints and experiences, they interpret the particular common situation. A collective consciousness develops ...

(Borg 1971, p 69; cited by Illeris 2002, p. 199)

In his summing up of collective learning Illeris notes that:

Where a group is in a common situation that is emotionally laden and perceived as having an important common significance, and where the participants have extensive common presuppositions concerning the context, there may occur a collective learning that can be transcending, yet remove personal responsibility.

(Illeris 2002)

Total environmental learning is another form of social learning where the engagement of the individual with the environment is holistic and total. 'That is, the physical world in which we live, the built environment that we have made for ourselves, the mental world that we have created as well as the social world are all elements with which we are bound in a perpetual engagement' (Rogers 2002a, p. 14).

Habermas (1970a; 1970b; 1971; 1972; 1974; 1979) described life in terms of a struggle and a desperate search for self-emancipation and autonomy through self-formative processes. To do this, he drew upon the work of Paolo Freire (2000; 1970) who identified three stages of learning

- activities that are task-related;
- activities concerned with personal relationships; and
- conscientisation, that is transformation of awareness of surrounding reality, the development of a concern for change, and a realistic assessment of the resources of and the hindrances to such a process and the conflicts it is bound to provoke.

For Freire, learning is only learning when it leads to action for change. Similarly Habermas (Habermas 1979) identifies three kinds of learning which are in a hierarchical relationship, that is:

- instrumental learning
- communicative learning
- emancipatory learning.

He argues that in any learning situation, these three forms of learning will co-exist in different proportions. 'Because the teaching-learning encounter is part of the wider struggle of the individual with his/her total environment, it will involve a complete transformation of the relationship between learner, teacher ([or] mediator of knowledge) and knowledge' (Rogers 2002a, p.15).

The fourth group of humanist theories relate to paradigm transformations. That is, the environment we live in is the result of our own creative process; that we build, name and manipulate the environment for ourselves and that learning is the process of rebuilding, renaming and remanipulation. One of the most influential paradigm transformation theories is Kelly's (1955) personal construct theory which:

argues that learning is not something determined by external influences but that we create our own learning. By observing and reflecting on experience, we form our own personal constructs (units of meaning) from our ideas, feelings, memories and evaluations about events, places and people in our lives. In this way we make sense of our world and manipulate it.

(Rogers 2002a, p. 15)

Aspects of these related humanist approaches to learning may be seen in the research data which is discussed in chapters four, five and six. Whilst most everyday educational practice is grounded in behavioural, cognitive and humanist theories, it is very rarely a case of one theory to the exclusion of all others. The complex, contradictory, ambiguous and personal nature of educational practice means that practitioners work is grounded in theoretical concepts but is shaped by the immediate reality. So as practitioners we draw on what we believe is important and what works in highly personalised, individual interactions.

### **2.3.3 Women's ways of knowing**

Before moving to the third group of learning approaches, that is, the group of cognitive theories, it is perhaps timely to include a short outline of woman's ways of learning. This has been included in my literature review because of its importance in recognising the ways in which woman (including the women participants of this study) learn and understand their world and their practice. As 50% of the stage 1 participants and 53% of the stage 2 participants were women, then the concepts which follow might be assumed to underpin much of their thinking. It is also strongly linked to humanist approaches to learning and adds to the previous discussion.

An important part of culture is gender and the attitudes to women which shape their place in society and thus what they are and what they do. Most learning theories and practices are based on the prevailing or dominant cultures. Much of the research on learning theories has been interpreted by men in terms of current social practices. However, the feminist movement has, for the past twenty or more years, enabled us to understand differences in learning rather than assuming that all learning is similar.

The concept of andragogy (Knowles 1984) was an attempt to develop a theory of adult learning. Maslow has been a central point of reference in much of the North American literature on adult learning, especially the idea of self-directed learning. Yet his work on self-actualisation (Maslow 1970) appears to assume that the human race is relatively homogeneous and moves along a common self-actualising trajectory. When educational psychological theorists are writing about learning, identity and ways of knowing, they often appear to ignore gender and cultural differences. Most learning theory is based on the idea that all humans develop through the same stages. This certainty (consistent with modernism)

was first ruffled by the work of Carol Gilligan on women's identity and morality. Gilligan suggested that women find their identity in their relationships with others:

Since masculinity is defined through separation while femininity is defined through attachment ... males tend to have difficulty with relationships while females tend to have problems with individuation.

(Gilligan 1982, p. 8)

Feminists (such as Elias 1979; Fraser 1995) have argued that the way men learn is often very different from the way women learn. The cultural assumption behind Knowles work is that of the dominant Anglo-Saxon, male culture of the western world. Thus males might be commended for being "active", "energetic", "curious", or "inventive", females would be praised for being "appreciative", "considerate", "cooperative", "poised", "sensitive" or "dependable" (Kemener 1965, cited by Fraser 1995, p. 28). In the desired shift from passive classroom-based to more active forms of learning, there is a strong likelihood that 'society is privileg[ing] masculine self-actualisation and equat[ing] masculine attributes with adulthood' (Fraser 1995, p. 29).

Thus as Mulligan and Griffin ask:

Is it possible that we practitioners may also be unwitting agents of the very oppression and limitations we seek to transcend by our good practice?

(Mulligan and Griffin 1992, p. 3)

Gilligan's argument, that women's identities are formed through involvement in (chiefly) informal learning settings in particular social contexts, is supported by the work of four American researchers: Belenky, Clinchy, Goldberger and Tarule. Their work was centred around the concept of women's ways of knowing and they argued that 'conceptions of knowledge and truth ... have been shaped throughout history by the male-dominated majority culture' (Belenky; Clinchy; Goldberger and Tarule 1986a, p.5). As a result of in-depth interviews with one hundred and thirty 'rural and urban American women of different ages, class and ethnic background' (1986a, p. 4), they identified five ways of knowing, that is:

- silence – this is a condition of ignorance or unknowing and silent women do not use language for constructive thought or communication, nor do they see it as a route to self-knowledge.
- received knowledge – this is a condition where women learn by listening but have very little confidence in their ability to speak. Truth comes from others and in the form of a single right answer, preferably instantly.
- subjective knowledge – a growth from silence and an externally-oriented conception of knowledge and truth, for many women, comes through 'a new conception of truth as personal, private, and subjectively known and intuited' (Belenky; Clinchy; Goldberger and Tarule 1986a, p.54). This change, which often occurs in connection with changes in one's personal life, is personally liberating and recognises that the truth is not "out there" but inside us.
- procedural knowledge – this involves recognising that truth is not revealed but is enacted through procedures, skills, techniques and experiences and must be ferreted out by conscious reflection.

Belenky and her associates recognised two types of procedural knowledge. One of these is separate knowing which they see as playing 'the game of impersonal reason' (1986a, p. 109). Such 'reasoned critical discourse' (p. 110) is basically a traditional male approach to knowing.

The second type of knowing is connected knowing which arises from a subjective experience that 'personal experience provides the best knowledge' (Jarvis; Holford and Griffin 2003, p.83). Based on a capacity for empathy, they act as 'connected rather than separate selves, seeing the other not in their own terms but in the other's terms' (Belenky; Clinchy; Goldberger and Tarule 1986a, p. 115). The source of such



knowledge is conversation (or discourse) which has its basis in trust and shared inquiry.

- constructed knowledge – whilst ‘all knowledge is constructed and the knower is an intimate part of the known’ (1986a, p. 137), constructivists recognise that the questions posed and the answers given depend on both the cultural and historical context and on the inquirer’s frame of reference. In their search for answers, constructivists cross disciplines and search for truths beyond and across systems. They ‘are not troubled by ambiguity and are enticed by complexity’ (1986a, p. 139). Women constructivists develop connected knowing so that it is ‘a way of weaving their passions and intellectual life into some kind of whole’ (1986a, p. 143). Their interactions are characterised by cooperation and reciprocity and, although idealist, ‘learn to live with compromise and to soften ideals which they find unworkable’ (p. 152).

Whilst this work is quite dated, it is widely known. It gives a typology of how women learn and how they relate to knowledge. Whilst their conclusions are restricted to those women involved in their research, their work is significant and represents a distinct way of knowing and learning.

Not surprisingly, the work of Gilligan and Belenky et al. reinforces the concept that how and what people learn is shaped by where, and with whom, they learn. Subsequent work by feminists has stressed that, although theories of learning are accepted as being based on our interaction with the social world, the nature and role of gender and culture, as the defining features of context, are largely absent from such theoretical discussions (Devos 2002, p. 51).

It is expected that many of the participants will be familiar with the concept of connected knowing and that it will be reflected in their contributions to this research project.

### **2.3.4 Cognitive approaches to learning**

Whilst curriculum structures with the Australian VET are largely premised on behavioural, and more recently, humanist approaches to learning, these are often, in practice, overlaid by cognitive approaches. The following discussion provides a framework of the variety of theoretical approaches which are premised on cognitive approaches to learning. These theories form much of the foundation for this study which attempts to look at a cognitive issue, that is, our learning through work and the issue of the ‘transfer’ of our learning across different contexts, within a theoretical context that has been built up by the integration of behavioural, humanist and cognitive orientations to learning.

Cognitive learning theories may be divided into three. First, there are the theories of Piaget and others which propose stages of learning development. For example, learning development is sequential with Piaget (e.g. 1929) focusing on the conceptualisation development in children; whilst Kohlberg (1986) proposes six stages of moral development (without reference to age); and Fowler (1981) devises a theory for the development of religious faith.

It is the second group of these theories which directly impact on this study and on its focus on the ‘transfer’ of learning. This second group of theories also have a developmental basis but are also interactionist and, therefore, could also be grouped as humanist approaches to learning. These are developed from and typified by the work of Lev Vygotsky (1978), who was also responsible for laying the foundations of activity theory (which is also discussed later in this chapter, starting on p. 35). Whilst much of Vygotsky’s work was developmental and his research was based on studies of children, he has a consciously different orientation from early cognitive theorists.

In Piaget's work, cognitive development precedes the learning (that is, one can only learn if the appropriate cognitive faculties are sufficiently developed for a particular level of conceptualisation). Vygotsky disagreed with Piaget's work on this point and argued (in his book *Thinking and Speech* (1987), translated by Norris Minick) that 'what is missing, then, in Piaget's perspective is reality and the child's relationship to that reality. What is missing is the child's practical activity. This is fundamental' (Minick 1996, p. 87).

Vygotsky's interest was the relationship between genetic and cultural development, one's learning capabilities (or potential) and the real activity which connected them. Thus, he proposed two different developmental levels: the actual developmental level and the zone of proximal development (Daniels 1996, p. 4).

As Vygotsky's work and its significance spread, different interpretations and applications have arisen. However, the key concepts that are derived from Vygotsky's work, its translators and its followers and critics<sup>5</sup> are:

- significance of social interaction
- relationship between the social and the individual
- 'theoretical framework of phylogenetic<sup>6</sup>, historical and ontogenetic<sup>7</sup> constructs' (Minick 1996, p. 48)
- need for support systems (scaffolding) within the zone of proximal development
- understanding that developmental processes lag behind learning processes
- the need to focus on potential rather than on achievement
- dynamic nature of meaning, that is:  
to understand another's speech, it is not sufficient to understand his (sic) words – we must understand his thought. But even that is not enough –we must know its motivation

(Vygotsky 1986, p. 253)

The third group of cognitive approaches, which are also important to this study, might be said to be centred on the work of Jack Mezirow. His work was based on the education of adults and has less of a developmental flavour than the work of Piaget and Vygotsky. He did, however, define adult development as 'an adult's progressively enhanced capacity to validate prior learning through reflective discourse and to act on the resulting insights' (Mezirow 1991, p. 7).

Mezirow's main focus is on meaning and the transformation of perspectives of meaning. He differentiates between meaning perspectives and meaning schemes. Meaning perspectives are our higher-order theories, beliefs and propositions. Mezirow described meaning perspectives as the assumptions and expectations through which we filter impressions on our senses (2000, p. 16). On the other hand, meaning schemes are symbolic images which we use to construe meaning.

For Mezirow, 'transformative learning results in meaning schemes being transformed, new schemes created and different perspectives gained on experience itself' (Jarvis; Holford and

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<sup>5</sup> Norris Minick notes that Vygotsky became a significant force in Soviet psychology following his move to Moscow in 1924. He died of tuberculosis in the spring of 1934. His work did not reach the Western world until 1978. Given the political context at the time, his work was passed by word of mouth and through people's remembrances. It has been reinterpreted differently in different countries and by those with different philosophical outlooks.

<sup>6</sup> Phylogenesis refers to the evolutionary development and diversification of particular features of organisms. In this case it refers to cognitive development.

<sup>7</sup> Ontogenesis refers to the development of an individual. In this sense, it refers to the experiences that have shaped the individual's development.

Griffin 2003, p. 40). Mezirow was also strongly influenced by Habermas<sup>8</sup> and was concerned with instrumental learning and communicative learning. He saw these not as a dichotomy but as two distinct types of learning.

Instrumental learning involves cause and effect relationships and learning through task oriented problem-solving. On the other hand, communicative learning could be seen as the learner actively and purposefully negotiating interaction with others and the world. Thus they could be seen as the two ends of a continuum and one's learning approach to problem solving located somewhere between the two extremes.

Because cognitive approaches to learning are largely concerned with the development of the individual, learning is seen to be controlled by the inherent structure of knowledge itself. Thus the words "must", "necessary" and "discipline" associated with a cognitive approach suggest the learner must adapt to the knowledge. That is, the world of knowledge is external to the learner (Rogers 2002a, p. 10).

Thus, knowledge, skills and attitudes are posited as hierarchical. An example of this is the work of Bloom (1965) who distinguished between the cognitive and affective domains and developed a parallel taxonomy for each. He suggested that the steps to learning are the same for each individual. Gagné also drew up a progression of learning which moved from a simple signal to complex problem-solving. Table 2.1 outlines Bloom and Gagné's taxonomies.

**Table 2.1: Hierarchies of learning**

Bloom		Gagné
Cognitive domain	Affective domain	
knowledge comprehension application analysis synthesis evaluation	receiving responding valuing  conceptualising organising	signal stimulus-response chaining verbal association multiple discrimination concept learning principle learning problem solving

Developmental theories largely underpin most curriculum development within the vocational education and training context which is characterised by a "logical" sequence of learning and the specification of pre-requisites, co-requisites and entry-level requirements. Some of the earliest developed Training Packages required that the qualifications they specify must be undertaken in sequence although this is now changing. Certainly, the responses of many of the participants in both stages of this research, demonstrated a sense of adherence to developmental theories of learning and the hierarchical nature of knowledge.

### 2.3.5 Activity theory: units of analysis

One of the theoretical orientations to come out of the work of Vygotsky, which is currently the scene of considerable research focus, is activity theory. Activity theory can be considered as both a way of thinking about the phenomenon being researched and as a methodological tool. It has been used as such as part of the research methodology for my research. This section provides a short summary of the development of the smallest structural unit of an

<sup>8</sup> Habermas identified three types of learning, that is instrumental learning, communicative learning and emancipatory learning.

activity system. This is necessary in order to explain its particular relevance to the phenomenon being researched and as a method of analysis.

The cultural-historical theory of activity (activity theory for short) approaches human cognition and behaviour as embedded in collectively organised, artefact-mediated activity systems (Cole and Engeström 1993; Engeström 1987; Leont'ev 1978). Activities are social practices oriented towards objects. An entity becomes an object of activity when it meets a human need.

(Engeström 1999c, p. 380)

The initiation of cultural-historical activity theory (sometimes referred to as socio-historical activity theory) is generally attributed to Lev Vygotsky (1978) in the 1920s and early 1930s. The evolution of activity theory as a concept in the time between when Vygotsky first formulated the concept and the published version of it some fifty to sixty years later is, unfortunately, lost or distorted because of the political conditions which prevailed in Russia during that time which deemed philosophy and thought an activity detrimental to the State (Bakhurst 2003). It was further developed by Vygotsky's colleague and disciple Alexei Leont'ev (1978; 1981). Engeström (1996b) argues that activity theory has evolved through three generations of research characterised by mediation, the dichotomy of activity and the complex interactions between the individual subject and his or her community.

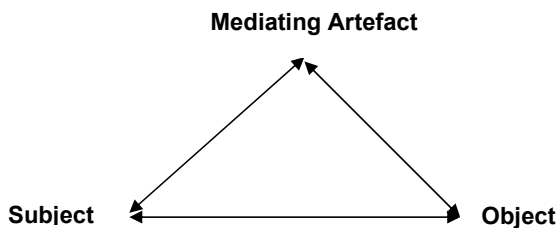
Mediation

Vygotsky postulated that the conditioned direct connection between a stimulus (S) and the response (R) is 'a complex mediated act' (1978, p. 40). This was shown by the following diagram (Figure 2.2):



**Figure 2.2: Vygotsky's diagram**

This diagram is usually reformulated as shown in Figure 2.3 below.



**Figure 2.3: Common reformulation of Vygotsky's diagram**

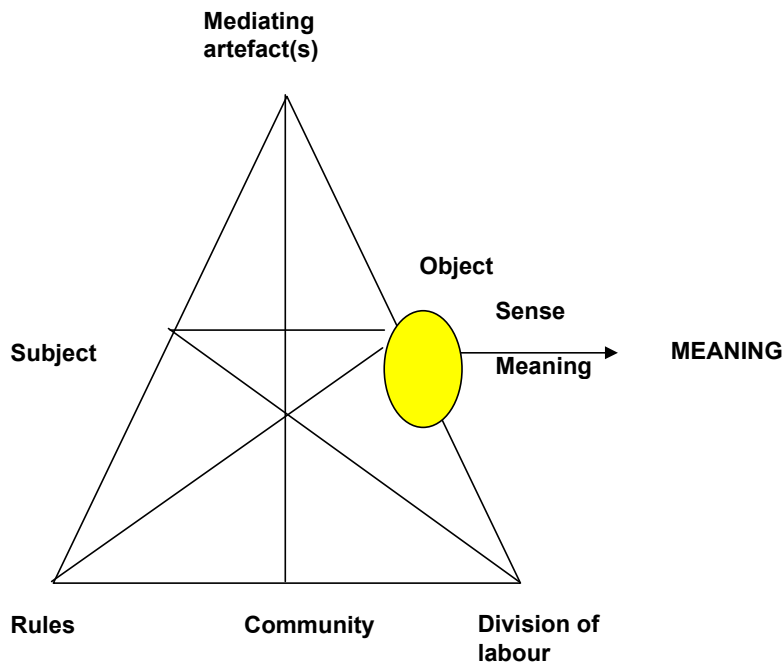
The insertion of cultural artefacts into human actions was revolutionary (Engeström 1999a, p. 2) as the distancing of the Cartesian individual and the previously excluded societal structure which characterised the work of Piaget and his followers was now remedied. Individuals could no longer be understood as separated from their cultural resources and the society

could not be understood without the agency of individuals who use and produce artefacts. "Objects became cultural entities and the object-orientedness of action became the key to understanding human psyche" (Engeström 1999a, p. 2).

### Dichotomy of activity

The first generation model of the fundamental unit of analysis was individually focused. This limitation was overcome by second generation research which centred around Leont'ev. Using the example of a "primeval collective hunt" (Leont'ev 1981, pp. 210-213), Leont'ev explicated the crucial difference between individual activity and collective activity.

The representation of this distinction was done by Engeström six years later when he developed an expanded version of Vygotsky's original diagram as a model of a collective activity system. This is shown below as Figure 2.4.



**Figure 2.4: The structure of a human activity system**  
(Engeström 1987, p. 78)

In this diagram, Engeström (1999a, p. 3) suggests that the uppermost triangle may be considered as the 'tip of the iceberg' representing individual and group actions; the part which is generally seen and reported upon. However, these actions are embedded in a collective activity system where the often unseen, unreported and unconsidered effects of the community, its rules and its divisions of labour are influences of the actions of the individual or the group.

In diagrams of activity systems, the object is always shown as an oval to depict that 'object-oriented actions are always, explicitly or implicitly, characterized by ambiguity, surprise, interpretation, sense making and potential for change' (Engeström 1999ap. 3).

Leont'ev's concept of activity moved the paradigm forward as it turned the focus on complex interactions to the individual subject and his or her community. Originally, in Russia, the societal activity systems, studied concretely by activity theorists, were largely limited to studies of children's learning and play. However, since 1970, activity theory has been taken up by western world researchers and new domains of research opened up. Collections of research using an activity theory basis (Chaiklin and Lave 1996; Engeström; Meittinen and Punamäki 1999; Engeström and Middleton 1996a; Tuomi-Gröhn and Engeström 2003) show the diversity of research applications and new domains of activity to which this research methodology is being used. This has been enhanced by the work of Il'enkov (1977; 1982) in identifying the role of internal contradictions as the driving force of change and development in activity systems.

I do not mean to imply that activity theory does not have its detractors. Many writers in the field of qualitative research fail to give it a mention as a research methodology or tool. Even those who use activity theory have raised criticisms about the capability of activity theory to deal with cultural diversity and thus to be useful in cross-cultural research. Philosophers also challenge the concept of activity theory as a theory, preferring to consider it a research methodology (Bakhurst 2003).

Bakhurst's view is that a theory is a set of concepts that is generally accepted over a long period and he argues that this does not apply to activity theory. My view is that it depends whether we are talking about a capital 'T' Theory or a small 't' theory. Small 't' theories are the concepts by which we, as individuals or groups, ascribe meaning to our everyday activities. I find activity theory a useful working theory; that is, away of ascribing meaning to change situations as, by considering the possible mediating artefacts and the context (its community, rules and division of labour), it is possible to make sense of complex situations. Therefore, I use activity theory as a tool in the analysis of complex, and often conflicting, data.

### Complex interactions

There is a need for the third generation of activity theory to develop the necessary conceptual tools to understand dialogue, multiple perspectives, and networks of interacting activity systems. Engeström (1999a) notes that third generation advances include:

- the work of Wertsch (1991) in introducing Bakhtin's (1981; 1986) ideas on dialogicality as a way to explain the Vygotskian framework
- Ritva Engeström's (1995) work in pulling together Bakhtin's ideas and Leont'ev's (1978) concept of activity
- notions of activity networks (Russell 1997)
- possible links between activity theory and Latour's (Latour 1993) actor-network theory (Engeström and Escalante 1996; Meittinen 1999)
- concept of boundary crossing (Engeström; Engeström and Kärkkäinen 1995)
- concept of a 'third space' to account for examples of expansive learning (Gutierrez; Rymes and Larson 1995)

One form of activity theory may be defined in terms of five basic principles identified by Yrjö Engeström (1999). These principles are:

1. The *first principle* is that a collective, artefact mediated and object-oriented activity system, seen in its network relations to other activity systems, is taken as the prime unit of analysis. ...
2. The *second principle* is the multi-voicedness of activity systems. An activity system is always a community of multiple points of view, traditions and

interests. The division of labor in an activity creates different positions for the participants, the participants carry their own diverse histories, and the activity system itself carries multiple layers and strands of history engraved in its artefacts, rules and conventions. ...

3. The *third principle* is historicity. Activity systems take shape and get transformed over lengthy periods of time. Their problems and potentials can only be understood against their own history. ...
4. The *fourth principle* is the central role of contradictions as sources of change and development. Contradictions are not the same as problems or conflicts. Contradictions are historically accumulating structural tensions within and between activity systems. ...
5. The *fifth principle* proclaims the possibility of expansive transformations within activity systems. Activity systems move through relatively long cycles of qualitative transformations. As the contradictions of an activity system are aggravated, some individual participants begin to question and to move away from its established norms. In some cases this escalates into a collaborative envisioning and a deliberate collective change effort. An expansive transformation is accomplished when the object and motive of the activity are reconceptualized to embrace a radically wider horizon of possibilities than in the previous mode of the activity. A full cycle of expansive transformation may be understood as a collective journey through the *zone of proximal development* of the activity.

(paraphrased from Engeström 1999a, pp. 4-5)

Engeström uses these five principles as the basis for his particular approach to activity theory. This approach is usually known as expansive learning and is discussed in the following section.

### **2.3.42.3.6 Expansive learning**

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Whilst one of the newer theoretical approaches to learning, expansive learning is critical in gaining an understanding of learning within work environments and, especially, those workplaces characterised by considerable technological and technological change. Understanding that much of the knowledge we utilise on an everyday basis is neither bounded or stable is an important step in understanding how we adapt what we already know and can do to new situations.

Engeström (1999a, p.1) argues that any theory of learning must answer at least four central questions:

- (1) Who are the subjects of learning, how are they defined and located?
- (2) Why do they learn, what makes them make the effort?
- (3) What do they learn, what are the contents and outcomes of this learning?
- (4) How do they learn, what are the key actions of processes of learning?

He uses these four questions to develop his theory of expansive learning (Engeström 1987). This theory was developed within the framework of cultural-historical activity theory (Vygotsky 1962; 1978; 1986).

Engeström argues that standard theories of learning are focused on processes where, traditionally, an individual or, more recently, an organization, acquires some identifiable knowledge or skills in such a way that a corresponding and relatively lasting change in the performance of that person or organization is observed. Further, he claims that it is a 'self-evident presupposition that the knowledge or skill to be acquired is itself stable and reasonably well defined. There is [also] a competent 'teacher' who knows what is to be learned' (Engeström 1999a, p. 6).

Whilst it can be argued that most of the theories outlined above are not necessarily confined to such bounded learning, it must also be conceded that the way that these theories are enacted in formal educational institutions certainly is confined. The definition of formal learning, discussed below in §2.4.1, p. 45, certainly assumes a curriculum and the expertise of the teacher in the subject matter to be taught. Competency-based learning takes this bounding of knowledge and learning one step further by specifying the outcome to the learning.

However, in a changing world, much of the learning which occurs in workplaces and communities, is not bounded, stable, well-defined or even understood ahead of time. 'In important transformations of our personal lives and organizational practices, we must learn new forms of activity which are not yet here' (Engeström 1999a, p. 6). In such situations we create knowledge as we learn it. Whilst many of the theories of learning discussed above cover this eventuality, they offer little in the way that the context and the learner actually interact.

To develop his theory of expansive learning, Engeström started from Bateson's (1972) theory of learning. Bateson's theory was a provocative proposal rather than an elaborated theory. It distinguished between three levels of learning. These are shown in Table 2.2 which follows:

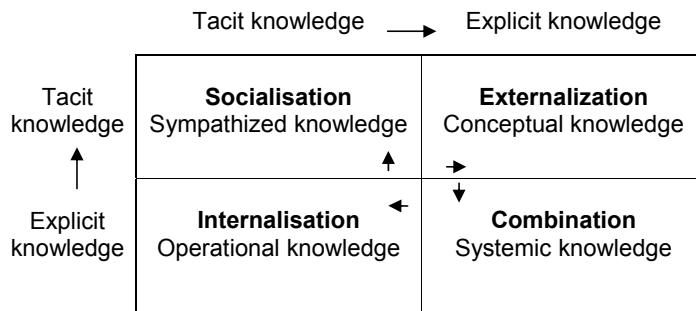
**Table 2.2: Bateson's levels of learning**  
( adapted from Engeström 1999a, p. 7)

	<b>description</b>	<b>example</b>
level I	conditioning through the acquisition of responses deemed correct within a given context	learning the correct answers and behaviours in a classroom
level II	acquisition of the deep-seated rules and patterns of behaviour characteristic to the context itself	learning the "hidden" curriculum of what it means to be a student
level III	radical questioning of the sense and meaning of the context and the construction of a wider alternative context	learning leading to change in organisational practices

Learning at level III is where the learning group begins to radically question the sense and meaning of the context and to construct a wider alternative context. As Bateson himself recognised, learning at level III is a high risk activity (1972, p. 305). Expansive learning develops from level III learning and actively and collectively develops new patterns of activity.

In developing his theory, Engeström refers to Nonaka and Takeuchi's (1995) framework of cyclic knowledge creation which is based on conversions between tacit and explicit knowledge and posits four major stages, that is socialisation, externalisation, combination and internalisation (Engeström 1999a, p. 19). Engeström's adaptation of Nonaka and Takeuchi's model of knowledge conversion is represented, on the following page, as Figure 2.1.





**Figure 2.1: Modes of knowledge conversion**  
( adapted by Engeström 1999c, p. 379; Nonaka and Takeuchi 1995)

Engeström notes that this theory assumes that the assignment for knowledge creation is 'unproblematically given from above' (1999a, p. 19). This means that the management of the organisation decides on the knowledge to be created without the involvement of the group who are to create it. Thus, the knowledge creation process is imposed. Engeström (1999c) notes that Nonaka and Takeuchi's framework does not seem to account for the practical sequences of formulating and debating a problem in which knowledge 'is represented as an open, multi-faceted problematic' (p. 380).

Engeström's theory of expansive learning is based on the dialectics of moving from the concrete to the abstract. This makes it very different from most theories of learning which are approached theoretically and then applied to concrete situations. In Engeström's theory the essence of the object (concrete) is obtained by:

Tracing and reproducing theoretically the logic of its development, of its historical formation through the emergence and resolution of inner contradictions. A new theoretical idea is initially produced in the form of an abstract, simple explanatory relationship, a *germ cell*. This initial abstraction is enriched step by step and transformed into a concrete system of multiple, constantly developing manifestations.

In an expansive learning cycle, the initial simple idea is transformed into a complex object, a new form of practice. At the same time, the cycle produces new theoretical concepts – theoretically grasped practice – concrete in systemic richness and multiplicity of manifestations.

(Engeström 1999c, p. 382)

Because a dialectical-theoretical approach is used, an abstraction captures the smallest and simplest primary unit. The primary unit of expansive learning is explained in §2.6.2 and depicted in figure 2.4 (p. 37). Engeström's theory of expansive learning is related to Latour's (1987; 1993; 1996) actor-network theory. 'Both regard innovations as stepwise construction of new forms of collaborative practice or techno-economic networks' (Engeström 1999c, p. 383).

Expansive learning is achieved through specific epistemic or learning actions which together form an expansive cycle or spiral. Engeström describes a typical sequence of epistemic actions as:

- questioning accepted practice and existing wisdom
- analysing the situation
- constructing an explicit, simplified model
- examining the model in order to understand its dynamics, potentials and limitations

- implementing the model through practical application
- reflecting on and evaluating the process
- consolidating its outcomes into a new form of practice  
(paraphrased from Engeström 1999c, pp. 383-384).

Both the theory of expansive learning and Nonaka and Takeuchi's theory of knowledge creation focus on the development and application of new concepts and both regard knowledge creation as an escalating process. However, they differ radically in their concept of tacit knowledge<sup>9</sup>. Also expansive learning theory places considerable importance on the 'discursive construction of a shared object and intention in knowledge creation' (Engeström 1999c, p. 385).

### 2.3.7 Situated learning

It could be argued that all learning is situated learning. All learning (and all human activity) is situated in a context, and the nature of this context will impact on and shape the learning that occurs. However, it is the primacy and the role of the context that differentiates situated learning from other forms and approaches to learning.

The recognition of situated learning has derived from three sources of research endeavour. The first of these is the situated cognition or situated action movement (Marton & Booth, 1997, p. 11), which centres around studies of learning and thinking in everyday situations outside of educational institutions. Key figures in this area are Jean Lave and Etienne Wenger (for example 1996b; 1991; 2002), and John Seely Brown and associates (including Brown 2000; Brown; Collins and Duguid 1989; Brown; Collins and Duguid 1996), among others.

The second area of research endeavour that has contributed to our understanding of situated learning is that of computer scientists seeking alternative models to explain human-computer interactions, such as Clancy (1992) and Suchman (1987). Both these research areas place emphasis on researcher observation as a means of explaining human actions in terms of their social or cultural situatedness.

The third area is that of the socio-cultural or socio-historical school of psychology developed originally by Vygotsky and his followers. Known sometimes as activity theory (Engström, 1999), this third area provides a powerful methodology for the study of change in terms of the social and cultural context in which it occurs. As Marton and Booth (1987) explain, Vygotskian psychology seeks to understand and explain consciousness (the inner) in terms of society (the outer), which is the reverse of the cognitivist approach, which explains the outer (acts, behaviour, etc.) in terms of the inner (mental representations).

Situated learning is generally understood as the learning that occurs when the learner sets out to acquire the necessary skills, knowledge, and attitudes that will enable him/her to be part of a community of practice. This community of practice could be domestic, social, or vocational. It is what Lave and Wenger (1991) describe as legitimate peripheral participation, which:

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<sup>9</sup> Nonaka and Takeuchi (1995, p. 72) view tacit knowledge as the basis of knowledge creation, whereas Engeström (1999c, p. 385) sees different modes of knowledge representation as tools which can be used in different orders and combinations

provides a way to speak about the relations between newcomers and old-timers, and about activities, identities, artefacts and communities of knowledge and practice. It concerns the process by which newcomers become part of a community of practice. A person's intentions to learn are engaged and the meaning of learning is configured through the process of becoming a full participant in a sociocultural practice. This social process includes, indeed it subsumes, the learning of knowledgeable skills.

(p. 29).

Lave and Wenger (1991; 1996; 2002) argue 'that transparency of the socio-political organisation of practice, of its content and of the artefacts engaged in practice is a critical resource for increasing participation' (2002, p. 111). They argue that learners are inevitably part of a community of practice whether it is an occupational community or a family or a common-interest group and that the development of knowledge and skills requires them, as newcomers to the community, to move towards full participation in the socio-cultural practices of that community. Wenger and others have elaborated on the concept of a community of practice (Wenger 1998; 2002; Wenger; McDermott and Snyder 2002), describing their value, their structural elements and their cultivation.

The concept of the community of practice has become part of our educational, managerial and organisational language and discourse. It has also been adapted to "learning communities". What has not been translated quite so easily and rapidly is the nature and role of the particular contexts in which learning occurs and how that impacts on the learning itself.

Lave and Wenger (1991, p. 33) note that it was not just the activity or experience that gave rise to the learning which was situated, but also the process of the learning itself. They emphasised that instead of "receiving" a body of factual knowledge, situated learning involved the whole person, and that the learner (or agent), activity and the world mutually constitute each other.

The concept of situated learning is often criticised for its inability to be generalised because of the particularity of the context and the uniqueness of the context's role in shaping the learning. Lave and Wenger (1991, p. 33) counter with the argument that generalisation means that data is abstracted from its context and that the way this is done is dependent on the context of the abstraction. Secondly, a generalisation is only useful if it can be applied to a particular context. The test of a generalisation is its application to 'a specific event in specific circumstances' (1991, pp. 33-34). The power of abstraction 'is thoroughly situated, in the lives of persons and in the culture that makes it possible' (1991, p. 34).

The management of contingency is a key characteristic of the maintenance of situated learning. It triggers our problem solving strategies and starts us on a search for a solution. How we manage contingency depends on the four factors – experience, learning approach, resources and motivation. These four factors are interdependent. Our past experience of contingency influences the way we approach learning in problem solving situations, who or what we call on to provide additional resources to the resolution of the issue and what has shaped our mental attitudes and confidence in our ability to resolve the situation.

The focus of this research is situated learning, insofar as it concerns the learning and adaptation which occurs when we cross the boundaries between one work context and another, or when workplace change is such that the workplace is transformed and becomes an unfamiliar context. In such situations, it is the learner who is experiencing the change, who is situated in the new context, and who has to make sense of the situation. The participants in this research were asked to document their perceptions of how they and others, had self-managed this process, and the resources they had accessed to achieve it.

My research is based in both activity theory and in the theory of situated learning. However, the two theories do not necessarily sit comfortably beside each other. Situated learning occurs because the individual is situated within a context and a community of practice and

thus the focus is very much on the immediate and local conditions and issues which serve to initiate learning. This is not passive learning; the learning is shaped by the context but, at the same time the context is continuously changing because of the learning which occurs within the community of practice. It is transformational learning but the change is localised to the immediate context and community. The mediating artefact which shapes this change is the individual's work.

One of the criticisms of situated learning is that, whilst the context is recognised as shaping the learning, there is no systematic attempt to identify and/or analyse the critical aspects of the context. So, in one sense, situated learning might be seen as the top triangle of the diagram of the basic human activity unit (as shown in Figure 2.4, p. 37). As has been already stated, Engeström has suggested that this triangle represents the 'tip of the iceberg' (Engeström 1999a, p. 3) and the part of learning which is generally seen and reported upon.

Whereas, as Figure 2.4 shows, activity theorists understand the hidden part of the iceberg as a 'collective activity system where the often unseen, unreported and unconsidered effects of the community, its rules and its divisions of labour are influences of the actions of the individual or the group' (Engeström 1999a, p. 3). So one of the major differences is that in situated learning analyses, the context is recognised as shaping the learning which occurs but is not in itself subject to analysis. In contrast activity theorists give primacy to the analysis of the context in which the learning occurs.

The emphasis in socio-cultural theory on knowledge creation, and recreation, as an active process, directs our attention to a range of new questions about our informal learning and its relationship to our work and our working identities. The following section provides a theoretical context for my research and shapes my interpretations and findings.

## 2.4 Approaches to learning

As stated in the introduction to this chapter, my research thesis is concerned with learning. The key research question seeks to discover the perceptions of educational practitioners as to how they transfer their competence across differing work contexts. The translation, adaptation and enhancement of what we know and can do as we cross contextual boundaries are not just elements of an inter-contextual transfer process; they characterise a learning process which is not dependent on a pre-determined curriculum. Furthermore, I argue that this process is a lens with which to explore our perceptions of learning within both formal and informal learning situations.

The participant perceptions which I collected as part of my research clearly showed that the terms information, knowledge and learning were often used interchangeably. This is reflective of wider social trends, in which, as part of our everyday language and discourse, the distinction between knowledge and information is becoming increasingly blurred. We might question whether this is the information age or do we actually belong to the knowledge society with its concomitant knowledge economy? Brown and Duguid (2002, pp. 119-120) identify three generally accepted distinctions between knowledge and information. The first of these is that knowledge entails a knower. That is whereas information is seen as independent and sited, knowledge is associated with someone. So the questions we ask are "where can I find the information?" and "who knows?"

The second distinction is the level of attachment we ascribe to each of the terms. Information is relatively unattached. It is amenable to ideas of shipping, receiving and quantification. Knowledge, on the other hand, is much harder to pick up and transfer. Thirdly, the degree of assimilation is much higher. Knowledge is something we learn. It entails both understanding and commitment and arises from human activity.

One implication of this is that, whilst we can talk about the information age in terms of the technology which provides us with easy access to information, the phrases “knowledge society” or “knowledge economy” implies that we need people to ‘assimilate, understand and make sense of [information]’ (Brown and Duguid 2002, p. 121).

One definition of learning is that it is the acquisition of knowledge. It is learning which creates intellectual property, capital and usable assets. It is also the process of learning which enables us to live and work in a changing society and to deal with the paradoxes, contradictions, ambiguity and uncertainty of our everyday lives.

This means that learning needs to go beyond simply the acquisition of information. Ryle (1949) first distinguished between “knowing that” and “knowing how”. Knowing that involved the accumulation of data, facts and information whereas knowing how was the ability to put this learned information into practice. Later, Bruner (1990; 1996) furthered the distinction and the scope of learning when he distinguished between learning about and learning to be. The Delors report to UNESCO, which was the result of three years of world-wide consultations on learning, asserted that learning throughout our lives is based on four pillars; ‘learning to know, learning to do, learning to live with others and learning to be’ (Delors 1996).

Learning is transformational; ‘it requires the ability to engage in practice’ (Brown and Duguid 2002, p.128), and it results in changed performance. Stevenson (Stevenson 2005, p. 4) makes the distinction between making a performative response and a behavioural response. Performance is planned, structured and reflected upon. It is learned behaviour rather than more distinctive behaviour. Our occupational practice is performative and has been shaped by our preparatory learning within formal situations and our learning through and from our work.

Ryle (1949) argues that we learn *how* by practice. Similarly, by activity and practice, we learn to be. Thus as Brown and Duguid argue;  
the same stream of information directed at different people doesn’t produce the same knowledge in each. If people are engaged in different practices, if they are learning to be different kinds of people, then they will respond to the information in different ways. Practice shapes assimilation.

(2002, p.129)

This means that as we understand more of how people learn through their work, domestic and community activities, then we will better understand how learning occurs. The focus of my thesis is to study the perceptions of teaching and training practitioners in order to try to understand how people are able to translate, adapt and/or transform what they already know and can do when they move between different contexts, that is, sites of practice.

#### **2.4.1 Formal and informal learning**

For the purposes of this research, a working definition of formal learning is understood as learning which is prescribed by some form of specification, be it syllabus, curriculum documentation or specified learning (or performance) outcomes. Thus, it might be assumed that informal learning is learning which occurs outside of these parameters.

However, it is not so simple to make the distinction as might be assumed. Table 2.2 (Bateson’s levels of learning) shows that level 2 learning occurs, because of and at the same time as, level 1 learning. Yet what Bateson (1972) describes as the acquisition of the deep-seated rules and patterns of behaviour characteristic to the context itself, is not specified in any syllabus or curriculum document. Defining what we mean by informal learning is much harder than it might initially seem.

The situation is further complicated by the distinction which some people make between non-formal and informal learning. Schuller and Field (2002, p. 83) define non-formal learning as 'learning which takes place during social interaction that is primarily undertaken for non-educational purposes' (Schuller and Field 2002, p. 83). This definition places non-formal learning as the antithesis of formal learning.

Eraut, Alderton, Cole and Senker (2002, p. 128) categorised the learning that occurred through work into three: organised learning support, consultation and collaboration within the working group, and learning from people within the learning group. Vygotsky (1986) wrote about unconscious learning, a concept which Dewey who wrote in 1897 that the:

... participation of the individual in the social consciousness of the race ... is constantly shaping the individual's powers, saturating his [sic] habits and arousing his feelings and emotions. Through this unconscious education, the individual gradually comes to share in the intelligent and moral resources which humanity has succeeded in getting together.

(Dewey 1971, p.84)

Marsick and Watkins identify defining characteristics of informal learning (and its subset, incidental learning) as being 'experience-based, non-routine and often tacit' (1990, p. 15). They include such diverse notions as 'learning from experience, learning by doing, continuous learning for continuous improvement, accidental learning, self-managed learning or the learning organisation' (Watkins and Marsick 1992, p. 287) .

Finally, Alan Rogers (2003, p. 25) uses the terms "formalised" learning and "acquisitional" learning to replace the terms formal and informal. However, he simultaneously recognises that there are two generalised sites of learning which impact on these processes, that is, formal sites (institutions) and non-formal sites (non-institutional). That is, both acquisitional learning and formalised learning can take place in both formal and informal settings.

There is also a sense in which no learning is informal. It may take place in informal (that is, non-educational settings) but it is the major part of our interaction with our social world and is part of our deliberate actions to better understand this world. Thus, informal learning covers learning which occurs within informal settings; learning which is unconsciously assimilated; or learning which is incidental to other learning or activity.

It is, perhaps, a term which might be better avoided. However, the term is not under my control, others (including the participants in both stage 1 and stage 2 of this research) use it, and use it in different ways. So, for the purpose of this research, informal learning is used to denote any learning which is not planned or structured by others and is not systematic.

## 2.4.2 Experiential learning

That all our knowledge begins with experience, there can be no doubt.  
(Kant 1788, p. 30 : 1993 edition)

The experience of learning involves our emotions, a major dimension of learning (Boud; Keogh and Walker 1985b; Goleman 1998; Illeris 2003; Jarvis; Holford and Griffin 2003).

Whilst Jarvis, Holford and Griffin argue that the term "experiential learning" has become 'something of an ideology in education' (2003, p.53), it will be used within this thesis as an equivalent term to learning through experience. This involves social, cognitive and emotional interactions with the contexts in which we live and learn.

Miller and Boud (2000) define experience as 'the totality of the ways in which humans sense the world and make sense of what they perceive' (p. 8). Experience is individually interpreted

so although it is derived from external social, physical and emotional interactions, Marton and Booth (1997) point out that experiences 'are descriptions of the internal relationship between persons and phenomena: ways in which a phenomena is experienced by persons' (p. 122).

The learning which comes from experience 'is the process which takes this experience and transforms it in ways which lead to new possibilities, which may involve changes in actions, ways of viewing the world, or relationships' (Miller and Boud 2000, p. 8). These ways of making sense of the world and our lives within them are influenced by our individual biographies or ontogeny (socially derived ways of knowing) as well as the history of the context (Billet 2000, p. 29).

Some theorists of experiential learning argue that the experience may be primary or secondary (mediated); actual or recalled; real or artificial (Jarvis; Holford and Griffin 2003, pp. 55-56). However, others limit experiential learning to mean experiences in which the learner is actively involved. Tate (1992) stressed her understanding of the first hand nature of experiential learning when she wrote:

Experience of learning to me means that the learner is directly in touch with the realities which are being studied. It involves a direct encounter with the phenomenon being studied, not talking about it, not reading about it, not simply considering it or thinking about it but instead a direct encounter with the realities being studied.

(p. 127)

Experiential learning is underpinned by five propositions (Boud; Cohen and Walker 1993, pp. 9-10). These can be summarised as:

- experience is the foundation of, and the stimulus for, learning
- learners actively construct their own experience
- learning is holistic
- learning is socially and culturally constructed
- learning is influenced by the socio-emotional context in which it occurs.

The theory of experiential learning was largely first developed by Kolb (1984; 2000), on the basis of a phenomenological approach, although Jarvis, Holford and Griffin point to written evidence of experiential learning about two thousand years ago (2003, p. 57). Other authors, from different approaches to learning, use different terms for the same phenomena. These include Schön (1991; 2002; 1987) who used the terms reflection-in-action (and knowing-in-action); Lave and Wenger (1991) who use the term situated learning; and Belenky, Clinchy, Goldberger and Tarule (1986b) who describe the learning which comes from women's experiences as women's ways of knowing (see §2.3.4, p. 33). Lave and Wenger and Schön's interpretations are discussed later in this section.

Kolb's (1984) experiential learning model posits a four stage cycle which describes how experience is translated into concepts which in turn are used as guides for future experiential learning (Boud; Keogh and Walker 1985c, p. 12). A reprint of some of Kolb's work (Cross and Israelit 2000) labels this model as 'The Lewinian Experiential Learning Model' (p. 314). Kolb wrote that the aim of his work was

not to pose experiential learning theory as a third alternative to behavioural and cognitive learning theories, but rather to suggest ... a holistic integrative perspective on learning that combines experience, perception, cognition and behavior. ... [I start with] the learning models of Lewin, Dewey and Piaget and identify the common characteristics they share – characteristics that serve to define the nature of experiential learning.

(Kolb 2000, pp. 313-314)

One of the obvious characteristics all three models share is that they all rely on reflection on experience in order to decide on the next course of action.

In order to maximise the learning which comes from experience, learners need to develop effective strategies and access useful support. Such support may come from:

- reflection on experience
- problem-solving related to that experience
- discussion with family and peers (including story-telling)
- access and dialogue with those with greater experience and/or expertise.

These are not alternative strategies. Instead the support accessed by learners is usually a combination of the three strategies. Horton (1990), according to Brookfield (2000), described the role of adult educators as 'helping people learn what they do' (p.27) To do this:

... it was essential that people learned to make decisions on the basis of analysing and trusting their own experience, and learning from what was good and bad ... I believed then and still believe that you learn from your experience of doing something and from your analysis of that experience.

(Horton 1990, p. 57)

The majority of the participants in my research work with adults in order to help them to "learn what they do". It is, therefore, important that these four strategies are explored in more detail in order to underpin what the participants might understand by experiential learning, reflection on experience, reflection-on-action, group reflection, problem solving, story-telling, mentoring, and learning from experts.

### Reflection on experience

The notion of reflection on experience has a long documented history. Grundy (1982) notes that reflection in learning can be traced to Aristotle's discussion of practical judgement and moral action. It is important to distinguish between reflection on learning and other forms of mental musings, such as contemplation, idle meanderings or day-dreaming, although these may trigger reflection on learning.

Boud, Keogh and Walker (1985c, p. 11) identify three important aspects of reflection. The first of these is that only learners can construct their own learning and only learners can reflect on their experiences. The second is that reflection is a purposeful activity 'pursued with intent' (p. 11). The last is that the reflective process is a complex one in which both feelings and cognition are closely inter-related and interactive.

### Reflection-in-action

Schön takes a slightly different view of reflection on experience by stressing the learner's action in the reflective process. He notes that most of our knowing is tacit in nature, 'implicit in our patterns of actions and our feel for the stuff with which we are dealing' (Schön 2002, p. 50). Our everyday actions are characterised by 'tacit recognitions, judgements and skilful performances' (p. 50). Schön argues that when we reflect on our actions, sometimes during that action, then we also reflect on the tacit understandings within that action. These tacit understandings are then surfaced, criticised, restructured and embodied in our future action. Schön calls this the process of reflection in action.

Similarly, Schön recognises that there is a kind of knowing or know-how which is inherent in intelligent action. He calls this knowing-in-action the characteristic mode of ordinary practical knowledge. Reflection-in-action means that the learner becomes a researcher in the practice. The learner constructs a new theory about the unique situation. His/her reflective process is characterised by an interaction of means and ends, a framing of a problematic solution and an integration of inquiry and implementation. This means that reflection-in-action does not depend on certainty but can proceed in situations of uncertainty and uniqueness (Schön 2002, pp. 59-61).



### Supporting reflective practice

Reflective practice needs to be at the core of one's being. Thinking about what we have done is, in some ways, an instinctive act. But unless we are systematic and purposeful about our reflection, then our learning will remain tacit and not under conscious control. Our learning from experience is not necessarily positive. We learn how to avoid unpleasantness, to prevaricate and procrastinate, and to protect ourselves from criticism. Effective reflective practice needs to be learnt, practiced and enhanced.

There are a number of conditions which prevent us from being reflective. Berman Brown and McCartney cite Eraut (1994) as having identified these as the availability of time to reflect in the increasingly busy workday; the erosion of the disposition to reflect once the obligations of assessed work have been removed, and the post-qualification routinisation of professional work (Berman Brown and McCartney 1999, pp. 21-22).

Boud, Keogh and Walker (1985a) identify three elements they believe are important in the reflective process. These are: returning to the experience, attending to feelings and re-evaluating experience (p. 26). These elements are important if we are to process our reflection so it results in learning, that is, changed practice. Reflection involves a number of cognitive processes such as association, integration, validation and appropriation. Thus, for reflection to result in learning, we need to learn how to reflect and how to access the necessary support for this to happen.

There are a number of strategies and tools which are used to develop and support reflection. These may be facilitated (by a teacher, mentor, coach or animator) or may be self-practised. They include:

- the use of schema or patterns of self-questioning (for example, Stephen Brookfield's matrix of best/worst experiences (2000, p. 31))
- using writing as a tool. This includes constructing personal autobiographies (Powell 1985, p. 41), reflective journals to record reflections and effective use of portfolios as an initiator of reflection on experience
- making a space for reflection in one's daily schedule
- reflecting with others, either a work group, family members and/or friends. This can include story telling as a way of framing the reflection. Having a drink after work in the pub with trusted friends can often lead to valuable group reflection as well as hilarity as the day's events are unpacked and put into proportion
- working with a mentor or coach to debrief and analyse recent experiences
- preparing for a meeting or in-depth conversation and, thus, sorting out nebulous ideas and impressions into a coherent whole
- constructing 'mind maps' (McCormack and Pancini 1990, pp. 41-45) to consolidate one's thinking
- reflecting aloud with the aware attention of another person (Knights 1985, p. 85)
- debriefing in a one-to-one or group situation (Pearson and Smith 1985, p.83)

### Double loop learning

Argyris (2000, p. 280) coined the term double loop learning. He posited the concept that the process of solving a problem (that is, identifying and correcting errors in the external environment) was not in itself sufficient to result in learning. He maintained that we also needed to look inwardly at our own behaviour, identify the ways in which this behaviour has, often inadvertently, contributed to the problem, and then change how we act. The process of both looking inwardly and outwardly and acting on our conclusions is double loop learning.

Double loop learning is an essential part of learning to learn effectively. Learning from one's mistakes will not be potent unless we reflect on our own part in the problem. This is not

necessarily an easy process, especially in group situations where the competitiveness, inherent in social situations, means that honest reflection may be misinterpreted as weakness. This means that group learning is dependent on mutual trust and respect - not a usual element within workplaces, communities and other social groups.

### Story-telling

Engaging in reflection on our experience can be stressful, painful and embarrassing. It is not an easy habit, especially if the reflection occurs within social situations. Story-telling, and its virtual counterpart, blogging, provides a springboard for reflection which is partially distanced from the individuals involved. Through describing an experience, we can establish an account of what happened. This enables us to analyse the situation being described and our role within it.

Narrative studies have shown us how stories, myths, sagas and legends serve to make sense of concepts and events (McWhinney and Batista 1988, p. 47). Also, narratives have been found to reduce the complexity, ambiguity and unpredictability of organisational life (Humphreys 2003, p. 43).

For those with limited literacy skills and those who find writing uncomfortable, oral narrative is a useful medium through which they can describe what happened and to interpret this. The stage 1 data collection used a process of storytelling for exactly this reason. I asked the participants to describe how they believed that the transfer of competence across different work contexts occurred. They responded with the story of their experiences recorded on tape. These accounts contained each of the four questions which Smyth (2000) identified as:

1. Describe ... what do I do?
2. Inform ... what does this mean?
3. Confront ... how did I come to be like this?
4. Reconstruct ... how might I do this differently

(p. 50)

Westworth (2004) uses web logging ( or "blogging" as it is more commonly called) with groups of non-English-speaking-background (NESB) adult students to develop academic and socio-cultural literacies. Her students learnt to use the "web log" as a communication media, taking advantage of its asynchronistic nature which was 'valuable for ESL students, providing them with time to consider and to edit their responses' (Westworth 2004, p. 246). Her account of this activity indicated a progression through describing, informing, confronting and reconstructing as their asynchronous "conversations" developed. The stories the bloggers told combined events out in the global world and others within their own lives. She wrote:

They formed a strong community of learners, each of whom played an active role. The communication continued outside of the parameters of the classroom, and frequently the discourse of the blog and of the classroom became inextricably interwoven. ... It was a community who announced and celebrated the birth of a baby, applied for jobs, gained interviews and openly discussed class and world events.

(Westworth 2004, p. 250)

### **2.4.3 Workplace Learning**

As this study is concerned with learning in the workplace, it is important to look at the theoretical underpinnings of workplace learning. In doing this I start with definitions of the workplace and the learning which occurs in and around, before looking at some of the specifics of workplace learning.

So what do we mean by the term workplace? Probably the most inclusive definition of workplace which I can find is that it is 'any organisation or part of an organisation that

comprises people working together, whether in the public or private sector and including the voluntary sector' (Unwin and Fuller 2003, p. 7). Similarly, the term workplace learning is defined by the same authors as embracing 'all types of learning which are generated or stimulated by the needs of the workplace, including formal on-the-job training, informal learning and work-related off-the-job education and training' (p. 7).

The workplace, or the enterprises for which we work, are not primarily concerned with learning, but with the provision of products and/or services. The ways in which they successfully meet their organisational goals depend on the learning of individual employees, work teams, management and the organisation as a whole. Yet, as Unwin and Fuller argue 'the contribution [of learning] is often minimalised because learning is difficult to separate out from the day-to-day activities' (2003, p. 3).

The informal and incidental learning we undertake in the workplace comes from our work activities combined with our innate drive for excellence (Rogers 2002b, p. 16). These activities bring us into interaction with others in the workplace, but also with the physical workplace environment and its infrastructure. As discussed earlier, our interaction with workplace systems, processes and procedures results in Bateson's type II learning, that is, 'acquisition of the deep-seated rules and patterns of behaviour characteristic to the context itself' (Engeström 1999a, p. 7). Thus, we learn the hidden unwritten curriculum of what it means to be a worker in that context.

The nature of, and responsibility for, learning in the workplace is a contested one. Not only is the type of learning defined differently by different scholars, but who has responsibility for different parts of workplace learning makes a significant difference into how it is understood, how it is valued, how it is organised and how it is recognised. Opportunities for learning are not necessarily equitable and it is the affordances offered by others and the agency of individuals which largely determine the quality of workplace learning.

#### **2.4.4 Agency and affordances in the workplace**

Billett (2000d, p. 60) argues that the quality of workplace learning is dependent on the opportunities for learning afforded by workplaces and on how individuals elect to engage in work activities and on the support and guidance provided by the workplace.

Lave (1996a, p. 8) notes that there is no separation between participation in work and participation in learning through that work. Learning through work is shaped by the activities individuals engage in, the direct guidance they access, and indirect contributions provided by the physical and social environment.

Basically workplace activities act to reinforce, refine and generate new forms of knowledge. This is usually referred to as accommodation and assimilation. Consequently, learning through work can be understood in terms of the affordances that support or inhibit individuals' engagement in learning through work.

Billett (2000c, p. 31) identifies the following factors:

- opportunities to participate in work activities. Such opportunities have been shown to be distributed on the basis of race (Hull 1997); gender (Tam 1997); worker or employment status (Darrah 1996; 1997); workplace hierarchies (Darrah 1996; 1997); workplace demarcations (Bernhardt 1999; Billett 1996b; Danford 1998); personal relationships; workplace cliques; and affiliations (Billett 1999)
- availability for opportunities to participate. Workplaces are not benign places. They are highly contested environments (Billett in press, p. 2). This contestation occurs between newcomers and old-timers (Lave and Wenger 1991); full- and part-time workers (Bernhardt 1999); teams with different roles and standing in the workplace (Darrah

1996; Hull 1997); individuals' personal and vocational goals (Darrah 1997); and among institutionalised arrangements such as those representing workers, supervisors and management (Danford 1998)

- the struggle of contingent workers (part-time and contractual) to be afforded opportunities to participate in ways available to full-time employees, e.g. Tam (1997) reports that part-time women workers may have difficulty in maintaining their skills currency and in realising career aspirations
- competence in work activities is related to individuals' opportunities to access and observe co-workers and workplace processes (Billett 2000).

However, whilst acknowledging the salience of the affordances of the workplace, the agency of individuals to elect to engage, or otherwise, with work activities and guidance also determine the quality of their learning.

For example, Wertsch (1998) argues that the agency of the individual will determine whether the learning is mastery (as in the cheerful enquiries by staff at McDonalds as to whether you would like some fries with your ice-cream sundae) or appropriation (when the rare staff member from the same chain consistently demonstrates, through his/her sales patter, that for effective on-selling, there must be an obvious link between the product the customer has already purchased and the product being suggested). One of the consistent mistakes within the Australian vocational education and training (VET) system has been to see competency-based approaches as mastery, rather than as a transformative educational process based on defined outcomes.

The research of Billett et al. (Billett; McKavanagh; Beven; Angus; Seddon; Gough; Hayes and Robertson 1999, p. 167) indicates the potential of individual agency to offset some of the limitations of an environment whose affordances were weak and to determine what causes an individual to participate in workplace learning (Billett 2001b, p. 5).

More pertinently, it shows that the readiness and the capability of the individual to participate and to engage in workplace learning is critical.

The quality of learning is not solely the responsibility of the enterprise's management. Instead it is shared across the enterprise. Enterprises can develop learning arrangements, and support and ease the access for participation in developing vocational practice. However, the direction, strength and persistence of individuals' participation will also be key determinants. ... committed learning guides and learners can make up for a poor learning environment and a rich learning environment can be rendered poor by reluctant learners.

(Billett 2001a, p. 177)

Billett identifies three important conceptual implications which arise from this understanding.

- Rather than being a mere element of social practice (for example, Hutchins 1991), individual agency within social practices is both interdependent and independent (Engeström and Middleton 1996b). Individuals' socially derived personal histories (ontologies), together with their values and ways of knowing, mediate their participation and learning within social settings.
- Individuals' participation at work is neither passive nor unquestioned. Billett's research shows that even when the workplace is highly invitational, individuals may elect not to participate in learning. This suggests that a range of invitational qualities are required to enable all participants to participate in ways that allow them to contest and/or transform existing values and practices and to find meaning in participation.
- Workplaces can facilitate the hard-to-learn knowledge of vocational practice. It is therefore important that individuals' have the capacities necessary to take advantages of the affordances offered by workplaces in order to achieve rich learning outcomes.

## Skills for learning

Whilst engagement in, and reflection on, a particular task is clearly one of the key practical strategies for learning in the workplace; what are the particular skills and capabilities that we need for effective learning? This question was one of the focuses of the research; the answer to which I tried to elucidate from the participants, especially those involved in stage 2.

Anderson (1992) identifies six conditions which are important, that is:

- work[ing] in pairs and small groups;
- peer comment and assessment;
- public presentation of work;
- an atmosphere of trust and safety;
- honesty, openness and real attention ... [on the part of the facilitator, guide, mentor or coach]; and
- attention to the learning process itself.

(p. 239)

Anderson was describing his use of experiential learning in an industrial arts classroom in which he was able to act to attempt to establish these conditions. However, there is no certainty that such conditions can be achieved in a classroom, let alone a workplace. As Billett states, 'workplaces are contested terrain' (2001a, p. 7).

In discussing the role of learning contracts in workplace placements for business students, Marshall and Mill (1992) identified key outcomes of such activity. These include the recognition of operational problems within the work situation, the suggestion of strategies to overcome identified problems, discussion with others (supervisors, peers and experts), developing the skills for working with groups, analysing work needs, observing role models, developing personal effectiveness, and reacting to contingency in accordance with established policy and procedure (p. 216). In addition, they pointed out that the process used is designed to strengthen the learners self-assessment skills and that evaluation of their program has shown that does occur.

In discussing practice-centred learning for nurses, Anderson and McMillan (Anderson and McMillan 1992), identified a process which relies on enquiry, reflection, evaluation and action of situated practice (pp.224-226). They report that this process had strengthened the self-assessment skills of the participants.

These three cases, together with my experience in crossing workplaces, suggest some of the skills and/capabilities that learners in workplaces need to learn through and from work and, therefore, from moving across different work contexts. As learners, we need to be able to reconnoitre the new workplace and explore the systems, processes, policies and practices which determine how work is performed within that context. This exploration extends to appraising the performance and knowledge of our colleagues and managers, the infrastructure of the workplace, the effective lines of communication and the networks into which we may tap. We also need to be able to observe how others act within the new context and reflect on the reasons and causal conditions.

Therefore, we must decide how to act, based on this exploration and observations and enact behaviour which might be appropriate. This is very much trial and error learning made explicit by systematic reflection on our experiences. Such systematic reflection may well use the tools of activity theory such as the unit of analysis (see p. 50) and Engeström's matrix for the analysis of learning (p. 76). From our reflection we learn to correct defective and deficient performances and to deepen our learning through accessing the resources of the workplace such as discussion with peers and supervisors, our experiences within the workplace and our prior experience and ontological development as well as an analysis of the workplace's development and culture. Finally, we need to recognise the contradictions and paradoxes

which are an integral part of any social group, and learn from them. Such learning will involve our social, cognitive and social interaction with the context of the workplaces.

Preparation for work, therefore needs to involve us in the sort of exploration, analysis, reflection, enactment, and deepening engagement that we experience when moving to a new workplace. Whilst the development of key competencies, employability skills and graduate attributes and capabilities are advocated in tertiary education in Australia as skills that will enable such contextual boundary crossing, there is still more discussion than action occurring (Down 2002; 2003a; 2003b). Measures introduced to facilitate this aspect of the federal and state governments' agendas concentrate on learning specifications rather than processes and are, as such, divorced from the learning process (Hager 2003, p. 20).

Weber (2003) identifies three layers of meaning with the way people express themselves, that is, a layer of content meaning, a layer of identity meaning and a layer of relational meaning. Our ability to be able to analyse communication in the workplace in order to identify such layers, and their impact on us and others, is an important skill to enhance our learning and our understanding of workplace processes.

Quite sophisticated knowledge and skill in understanding work contexts is required of all workers, regardless of their skill classifications and how much they are paid. The lack of such skills and knowledge results in disempowerment and exploitation.

## 2.5 Issues of transfer

The 'transfer of learning is a multifaceted problem at the core of learning' (Pea 1987, p. 639). The transfer of knowledge is not just an individual achievement. It is embedded in context, impacted upon by our individual ontology, and is multidirectional. This section covers current thinking about transfer, the concept of contextual boundaries, and how these might be crossed. It is divided into three parts, that is:

- concepts of transfer
- consequential transitions
- polycontextual boundary crossing.

### 2.5.1 Concepts of transfer

Transfer, as a construct of educational psychology 'refers to the appearance of a person carrying the product of learning from one task, problem, situation, or institution to another' (Beach 1999, p. 101) The issue of transferability is, obviously, an important one with respect to workplace performance. Most of our formal education systems are basically vocational in intent, and based on the assumption that competence (or even individual competencies) are transferable across differing work and education contexts.

If competence is considered to be a relationship between capacity and performance in a particular context, then the transfer of such competence to new or different contexts would appear to be problematic. If, however, the relationship is seen to be three dimensional with the ability to understand, take into account and work within a particular context being given equal importance as personal ability and task completion, then the resultant competence should be both adaptable and capable of transfer to new and different situations.

Bruner (1960) describes acquisition, transformation and evaluation as three overlapping processes which are involved in learning. Lohrey (1995) suggests that it is the relative value placed on such processes that determines the type of learning transfer which is possible:

The relative weight given to the processes of acquisition and transformation will be the value we give to different forms of learning transfer.

(p. 17)

The relative values, given to the different forms of learning transfer, relate to epistemological questions as to the relative merit of a view which sees learning as the reshaping and transformation of knowledge and skill by active learners. This contradicts the more dominant view which considers learning as the acquisition of knowledge and skill. Beven (1994) argues that a condition for transfer is the provision of a learning environment:

that not only takes into account the competencies described in the curriculum, but also encourages them to become independent learners, able to generate and try out new ideas, solve problems by interpreting new situations, explore and tackle unfamiliar tasks, and monitor their own activities and progress.

(p. 224)

Transfer is usually described as being near or far (Beven 1994; Mayer 1975; Misko 1999) depending on how similar the new application of learning is to the original method of learning. Such a definition is based on learning as acquisition and, as such, minimises both the context and learners' roles in the process. Perhaps a better description of different modes of transfer are 'low road transfer' and 'high road transfer' (Perkins and Salomon 1988; 1989; Thomas; Johnson and Anderson 1995). Lohrey (1995) points out that in this view of transfer:

we are not dealing here with dualism or a binary pair which exclude each other. Rather, like the relationship between the learning processes of acquisition and transformation, the relationship between these two modes of transfer is interconnected, integrated and reciprocal.

(pp. 17-18)

Low road transfer might be considered as the essential first step for learning transfer. As such, it is driven by acquisition and habits and routines of response. Such transfer occurs:

in all transfer situations and between all contexts to a greater or lesser degree. The condition in which low road transfer is sufficient is when different contexts are highly similar in their situations, tasks or features.

(Lohrey 1995, p. 18)

Yet when contexts are not alike, low road transfer becomes necessary but insufficient to allow for the transfer of learning. In such situations, a conscious and deliberate modification of behaviour becomes necessary through the application of high road learning:

High road learning is concerned with consciously transforming the principles and patterns, developed in prior learning, to fit new situations and contexts which may be unfamiliar.

(Lohrey 1995, p. 20)

In Lohrey's view, there are two essential aspects to high road transfer. The first is a recognition that habitual and routine knowledge and responses are insufficient and that these require a transformation if they are to be applied within the new context. The second is that such a transformation is achieved by applying structural and general cognitive principles which have been developed as a result of prior learning. Lohrey describes high road transfer as 'reflective transformation' (p. 20).

Pea (1987) argues that transfer is an interpretative problem which involves socio-cultural decisions about the appropriateness of transfer for particular purposes, tasks and thinking situations and that the perception of similarity between a prior situation and a current one is the result of the thinker's culturally influenced categorisation system Stevenson (1993, p. 81). This relates to the concept of a contextual fit, i.e. the construction or establishment of a set of symmetries which enable closure between performance and the context in which it occurs.

Such a fit is constructed by the learner. In low road transfer, relevant and well formed habits enable the learner to determine the fit: in high road transfer the fit is achieved by deliberate

and conscious knowledge transformation. Thus, high road transfer requires the learner not only to recognise that habitual patterns and routines will not fit within the new context, but also to find the necessary cognitive principles which initiate creative insights, construct new meanings and find new links and integrations.

Lohrey identifies six generic learning processes which provide learners with the necessary creative, flexible and holistic abilities needed to transform prior knowledge into fitting and appropriate action within different contexts. These 'subjective, developmental processes' (1995, p. 22), i.e. explicitness, self-awareness, integrated thinking and action, active and interactive learning, exploring multiplicity, and integrated procedures, complement high road transfer and are overlapping and mutually reinforcing.

However, the rather positive view of transfer outlined above has a number of critics from proponents of situated cognition (for example, Greeno 1997; Lave 1988) and from those within the cognitive tradition (such as Detterman 1993, p. 15). Whilst the other contributors to the same book are not as negative, they reinforce the idea that transfer is a rare, rather than common, occurrence.

One valuable advance in thinking about transfer comes from Bransford and Schwartz (1999). They consider that research on transfer has provided us with a window on the value of different learning experiences (p. 62). That is, our assessment of learning should be based on measures of transfer rather than memory. They also expanded on Broudy's (1977) concept of "knowing with", that is, 'by knowing with our cumulative set of knowledge and experiences, we perceive, interpret, and judge situations based on our past experiences' (p. 12).

Broudy argues that "knowing with" uses a number of different mechanisms such as associative (for example, non-linear relationships based on continuity, resemblance and frequency) and another is interpretive (that is, how people classify, predict and infer). Using research on perceptual learning, Bransford and Shwartz (1999) maintain that experiences with contrasting cases sets the stage for new learning (p. 73). They called this 'preparation for future learning' (PFL) and contrast this to 'sequestered problem solving' (SPS) (p. 66). Using a preparation for learning approach, Bransford and Shwartz were able to address such transfer issues such as negative transfer<sup>10</sup> (p. 80), the active nature of transfer (p. 82), the need for people to actively seek the perceptions of others (p. 83), which they claim is often reinforced by "lived experience" and/or a study of the humanities (p. 84). They also note that much of our preparation for learning is tacit in nature (p. 80).

The concept that it is difference in one's perception of different contexts that is important and preparative to new learning is reinforced by the work of Marton and Booth (1997) and that of Marton and Trigwell (2000) which argue that, although the identification of patterns in learning can be initially beneficial, it is a focus on difference which enables deep learning to occur (Marton and Booth 1997, p. 145).

My understanding of transfer briefly outlined above have been greatly influenced and transformed by the work of Beach (1999; 2003). His work has resolved the basic contradictions in the earlier work of cognitive researchers who described transfer as if it is the learning and not the learner who is crossing across different context. It is, therefore, largely the understandings which come from a study of the work of consequential transitions and of polycontextual boundary crossing which provide a theoretical basis for this thesis in terms of how transfer is understood by the participants.

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<sup>10</sup> Negative transfer occurs when an inappropriate performance is transferred to a new context. Transfer often requires "letting go" or unlearning previously held ideas and behaviours (Bransford and Schwartz 1999, p. 80)



## 2.5.2 Consequential transitions

Beach (1999; 2003) identifies six problem areas with the metaphor of learning, that is:

1. transfer defines a narrow and isolated aspect of learning
2. transfer has an agency problem
3. transfer is no different than “just plain learning”
4. transfer environments are assumed to be static
5. transfer assumes a “launch” model of person-environment relations (that is, earlier learning determines the trajectory of later learning)
6. transfer is difficult to intentionally facilitate.

(paraphrased from Beach 1999, pp. 107-110)

By moving away from the metaphor of transfer to the metaphor of consequential transition (pp. 110-111), Beach also disposes of two unnecessary distinctions which are associated with the transfer metaphor, that is, transfer at the task level and transfer at the level of larger forms of social organisation; and intentional from unintentional transfer (p. 110). He did this by first defining the process as generalisation, which he defined as ‘the continuity and transformation of knowledge, skill and identity across various forms of social organization’ (p. 112). His definition recognises that ‘learners and social organisations exist in a recursive and mutually constitutional relation to one another across time’ (p. 111).

This generalisation process is not an abstraction as it is obtained without decontextualisation (Van Oers 1998, p. 136). Generalisation requires systems of artefacts to:

create continuities and transformations through social situations. The process of generalization and systems of artefacts weave together changing individuals and social organizations. ... [this] can involve transformation, the construction of new knowledge, identities, ways of knowing, and new positionings of oneself in the world. They are consequential for the individual and are developmental in nature, located in the changing relations between individuals and social activities.

(Beach 1999, p.113)

This developmental and transformational concept of transfer links situated learning (Lave and Wenger 1991), later work on communities of practice (Wenger 1998; 2002; Wenger; McDermott and Snyder 2002), human activity systems (Engeström 1987; Vygotsky 1978) and expansive learning (Engeström 1999a; 1999b).

Four types of consequential transition are identified by Beach, that is:

... lateral, collateral, encompassing and mediational. Lateral and collateral transitions involve persons moving between pre-existing social activities. Encompassing and mediational transitions have people moving within the boundaries of a single activity or into the creation of a new activity.

(Beach 1999, p. 114)

Replacing the metaphor of transfer with the metaphor of consequential transitions makes sense and removes the clumsiness of having to talk about transfer and adaptation. It also makes important links with other emerging educational theories and practices, and recognises the transformative interplay between the individual, the social group and the wider context.

## 2.5.3 Crossing contextual boundaries

The situated nature of learning (which has been briefly discussed on p. 50) and the integrated and reflexive nature of the individual and his/her context, means that when we cross contexts or when the context is in transition, we need to reflect on and adapt our knowledge, skills and attitudes in order to integrate the change into our learning. This is a process not an event, and it takes time and effort, both from the individuals and the social group, to prevent dysfunction.

The concept of expertise also needs to be re-evaluated. Traditionally, the development of expertise has been seen as a linear development. Dreyfus and Dreyfus (1986) identify five stages in the development of expertise: novice, advanced beginner, competent, proficient and expert. Alternatively, Stevenson (2003a) argues that our expertise is related to our 'facility with meanings' (p. 12). He identifies eight different concepts on which psychologists have based their explanations of expert action. These are:

- expertise as memory and knowledge
- expertise as performance and as language
- expertise as problem-solving and transfer
- expertise as creativity/innovation
- expertise as conceptual change
- expertise as schemas
- expertise as judgement and appropriate practice
- expertise as shared meaning and as activity.

(summarised from Stevenson 2003a, pp. 12-20)

The linkage of expertise with our facility with meaning is significant. Making sense (or meaning) from our experience is a multi-dimensional activity. Thus Tuomi-Gröhn, Engeström and Young (2003) argue that expertise is developed in multiple and overlapping contexts. They wrote that:

these multiple contexts demand and afford different, complementary, but also conflicting, cognitive tools, rules and patterns of social interaction. Criteria for expert knowledge and skill are different in the various contexts. Experts face the challenge of negotiating and combining ingredients from different contexts to achieve hybrid solutions.

(p. 3)

These multiple contexts make the one-dimensional continuum between novice and expert problematic. Thus Engeström and his associates (Engeström; Engeström and Kärkkäinen 1995) argue that the development of expertise involves both polycontextuality and boundary-crossing.

Polycontextuality is understood as co-ordinated multi-tasking at the level of tasks and work actions. Leont'ev (1978; 1981) theorises 'that polycontextuality also operates at the level of larger collaborative activity systems' (Engeström; Engeström and Kärkkäinen 1995, p. 320). This means that experts are engaged in multiple simultaneous tasks which extend over multiple communities of practice.

Boundary-crossing is used to denote moving between different communities of practice and, therefore, different activity systems. Engeström et al describe it as a 'process of collective concept formation' (1995, p. 321). They argue that the vertical view of expertise assumes that expertise is manifested in well-defined repeatable tasks and that such expertise is stable and relatively unchanging. In situations 'where problems are new and there is little reason to expect that their solutions would readily become codified, repeatable procedures ... [then] ... practitioners must move across boundaries to seek and give help, to find information and tools wherever they happen to be available' (Engeström; Engeström and Kärkkäinen 1995, p. 332).

Polycontextual boundary-crossing can be seen as a tool for learning and transfer (understood as consequential transitions). This idea is taken up by Wenger (1998), who introduces the concept of a broker. A broker is able to make connections across different communities of practice, facilitate coordination and open new possibilities for new meanings to be constructed (p. 109). Another way of making connections across different communities of practice is through the use of boundary objects or enabling artefacts.

Because boundary objects can appear as self-contained objects, it is easy to overlook the fact that they are a nexus of perspectives and that it is often in the meeting of

these perspectives that artefacts obtain their meaning. ... Artifacts, then, are boundary objects and designing them is designing for participation not just use.  
(Wenger 1998, p. 108)

Thus the concepts of consequential transitions, polycontextuality and boundary-crossing provide a conception of how our competence changes as we move across different work contexts. In addition, the concepts of brokering and boundary objects provide us with ways of connecting with new contexts and might be explored to help us translate such theoretical ideas into the practice of preparing for and supporting the participants in this research, and others, as polycontextual boundary crossers.

## 2.6 Connections

In outlining the theoretical background of my research, I have identified the theories and understandings which underpin my practice and the “spectacles” through which I experience, interpret, understand and learn from my everyday contexts and encounters and my practice as a researcher and educational practitioner.

This outline is necessarily complex and multi-layered. The concepts are intertwined and often contradictory because that reflects the practical world I inhabit. As is common, there is often a gap between the theoretical constructs and understandings which form my working knowledge and my actual practice. This is because my practice is informed by my explicit, implicit and tacit knowledge of the world. My practice is also continually changing as a result of my experiences - resulting in new learning which is shaped by the cognitive, emotional and social context in which I am situated.

In imitation of a bower bird, I try to integrate those theoretical constructs which make sense to me, or help me to achieve personal objectives, and ignore those which seem obscure and unrelated to my experience. I recognise that, sometimes, this involves combining ideas from quite different theoretical perspectives. As a practitioner, I place a higher value on theoretical constructs, which assist me to improve my practice and understand my experiences, than on theoretical orthodoxy.

Chapter 2 provides a discussion of key theoretical material which informed and influenced my analysis and synthesis of the collected data. It also represents my unfolding understanding as I attempted to make sense of the literature in the light of my experience and the voices of the research participants. As such, the work of the educational cognitivists and the concepts of situated learning, activity theory, and newer concepts of transfer, which define it in active terms, are vital to the subsequent discussion..

An outline of the research methodologies used and of the research design and process is contained in Chapter 3. Chapters 4 –6 provide an analysis of the collected data for both stages of the research. Finally, in Chapter 7, I attempt to weave the theoretical background and the participant data into a coherent whole and to outline new understandings about the perceptions practitioners have of how people transfer and adapt their competence across different workplace contexts.



## Chapter 3

### METHODOLOGY

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#### 3.1 Chapter overview

Given that this thesis is centred on the perceptions of practitioners as to how the transfer of competence (that is, what we know and can do) across different work contexts, I considered that a qualitative approach was the most appropriate. In addition, the focus on the movement across contexts necessitated a methodological framework in which the role of the context could be analysed.

Thus Chapter 3 commences with a discussion of the approaches to research which informed my research design. This section described the different research methodologies and methods which have been drawn on in the design, conduct and analysis of the research.

The chapter then provides a detailed account of the design of the research. Since this design required two distinct, yet connected, stages, these are outlined in detail, including the specific selection of participants, the data collection process, the analysis of the data and the formulation of findings for both stages of the research. An account of the implementation of this research design follows. It includes the issues and problems which were encountered in both stages of the research and their resolution. The chapter ends with reflection on the methodology: its strengths, weaknesses, opportunities and limitations.

#### 3.2 Approaches to research

Acceptance of the concept that knowledge is socially constructed leads naturally to the adoption of a qualitative research paradigm. As Jarvis, Holford and Griffin note:

... constructivist theories of learning emphasise the ways in which learners construct knowledge for themselves into an integrated and holistic understanding. As such, learning centres around the meaning and significance of the process itself.

(2003, p. 43)

My research attempts to explore these holistic and integrated frameworks which the participants have developed over time as a result of their experience. As such, a qualitative approach, based on a social learning framework, is appropriate.

##### 3.2.1 Qualitative research

The overall research approach is that of qualitative research.

Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them.

(Denzin and Lincoln 2003a, pp. 4-5)

As the observer, I am therefore part of the world I am trying to both understand and change through my research. Thus the use of the first person, rather than the impersonal third person commonly used in research reports, is an appropriate genre for my research, given that I have an active relationship with the phenomenon and contexts being researched.

The work of Becker (1996) and Denzin and Lincoln (2003b, pp. 14-17) summarises the five ways in which qualitative research differs from quantitative research. Each of these has influenced my choice of a qualitative research approach. 'These points of difference turn on different ways of addressing the same set of issues' (Denzin and Lincoln 2003b, p. 14).

The first of these is the use of positivist and post-positivist approaches. Although early qualitative research was defined within the positivistic tradition, with its focus on a reality which can be studied, captured and understood, it is also advocated by those from a post-positivistic viewpoint. Post-positivists rely:

... on multiple methods as a way of capturing as much of reality as possible. At the same time, emphasis is placed on the discovery and verification of theories. Traditional evaluation criteria, such as internal and external validity, are stressed, as is the use of qualitative procedures that lend themselves to structured (sometimes statistical) analysis. Computer-assisted methods of analysis that permit frequency counts, tabulations, and low-level statistical analyses may also be employed.

(Denzin and Lincoln 2003b, p. 14)

Denzin and Lincoln describe both the positivist and postpositivist traditions as holding to 'naïve and critical realist positions concerning reality and its perception' (2003ap. 14). Coming from a strong scientific background, I find that my inclination, language and approach to research, although it has moved away from the precepts and structure of my early research in organic chemistry, are still fundamentally post-positivistic. Thus my choice of a qualitative approach, research design and methodology was strongly influenced and shaped by a post-positivistic approach (often at a subconscious level). That is, although I have consciously rejected the concept of "objective research", the remnants of my early immersion in a scientific approach to research can still be recognised in my preference for structure and confirmation.

The acceptance of postmodern sensibilities is a second way in which qualitative research differs from quantitative research. While a number of researchers with strong postmodern or poststructuralist approaches strongly reject positivistic approaches, they do so to different degrees. Researchers such as Vidich & Lyman (2003) and Richardson (2003) argue that positivist methods are but one way of telling stories about the social world – no better or worse than other stories; just different. As Huber (1995) notes, not all researchers are so tolerant. This view is echoed by Denzin and Lincoln who wrote:

Many members of the critical theory, constructivist, poststructural, and/or postmodern schools of thought reject positivist and postpositivist criteria when evaluating their own work. They see these criteria as irrelevant to their work and contend that such criteria reproduce only a certain kind of science, a science that silences too many voices.

These researchers seek alternative methods for evaluating their work, including verisimilitude, emotionality, personal responsibility, an ethic of caring, political praxis, multivoiced texts, and dialogues with subjects.

(2003b, p. 19)

On this issue, I belong to the more inclusive group and, despite my postmodern leanings, regard all research as a way of seeking out knowledge within a distinct set of parameters which come from the approach taken, the methodology and design of the research, the access to subjects for the research and the quality of the analysis and interpretation of the data. This thesis, therefore, represents my experience in seeking out knowledge and the story of both the journey and the outcomes.

The third way of looking at the difference between qualitative and quantitative research is that of capturing the individual's point of view. Whilst this is an objective of both qualitative

and quantitative researchers, qualitative research relies directly on detailed interviewing and observation to better capture the subject's perspective, whereas, quantitative research generally relies on 'more remote, inferential empirical methods and material' (Denzin and Lincoln 2003b, p. 16).

My research is fundamentally qualitative. Stage 1 is entirely so, using participants' stories and explanations as the basis data for the investigation. In order to capture the views of a larger, and more geographically dispersed, participant group, the research strategies are, of necessity, more remote and inferential even though participants were encouraged to expand and explain their answers through the use of open-ended questions and comments.

Examining the constraints of everyday life is identified by Becker (1996) as more indicative of qualitative than quantitative research. Because qualitative researchers try to view 'life in action' (Denzin and Lincoln 2003b, p. 16) and to embed their findings within this world, they are more likely to confront the constraints of the everyday social world. This is in contrast to the abstraction and the interpretation of accounts based on probabilities derived from the study of large numbers of randomly selected cases which characterises quantitative research.

In the research study on which this thesis is based, the data collected was grounded in the realities of everyday life. In both stages of the research, participants explained or answered questions on the basis of their experience rather than from an abstracted theoretical framework. Thus the research is situated in a qualitative approach with respect to this characteristic.

The last of the five ways in which qualitative and quantitative research differs is in securing rich descriptions. Rich descriptions of the social world are prized by qualitative researchers, whereas these are of little value to quantitative researchers, concerned as they are, with the process of developing generalisations.

Rich descriptions were sought from the participants in Stage 1 of the research and were enhanced by the expansive and validatory material collected in Stage 2. Thus the choice of a qualitative approach reflects my commitments to the styles, epistemologies and forms of representation which characterise qualitative research.

With reference to qualitative research, Janesick (2003, pp. 53 - 58) describes the research design process as being equivalent to setting the design elements within a choreographic process. The choice of different strategies, tools and methods for different parts of the research process is important to maximise the richness and use of the collected data. The process of formulating the research questions must be linked to the research site and rationale for the choice of that site. The particular rationale for the sites chosen for the research is discussed later in this chapter in sections § 3.3 and 3.4.

Qualitative research also demands that the researcher becomes one of the research tools as he or she interprets the data within the context of the social world. This, in turn, demands that the qualitative researcher critically examines his or her own biases and articulates the ideology or conceptual frame for the study.

As we try to make sense of our social world and give meaning to what we do as researchers, we continually raise awareness of our own beliefs. There is no attempt to pretend that research is value-free. Likewise qualitative researchers, because they deal with individuals face-to-face on a daily basis, are attuned to making decisions regarding ethical concerns, because this is part of life in the field.

(Janesick 2003, p. 56)

The need to continually question the interpretations and inferences I drew from the data, and the ethical dilemmas which arose, became a significant feature of the research process as further discussed in § 3.3 and 3.4. One of the tools I used, to assist me in checking both my

assumptions and ethical decisions, was a list of twelve characteristics of qualitative research identified by Janesick (2003, pp.57-58) . These are reproduced in Appendix 3.1.

Qualitative research methodology can be viewed as a series of genres of research practice. Each has its own classics, its own preferred forms of representation, interpretation, trustworthiness, and textual evaluation. Some researchers chose to work with a particular genre and thus research those situations, phenomena or ideas which lend themselves to that particular research paradigm. In the case of this research, what needed to be researched was clear to me, but my epistemological, ontological, and methodological premises or the 'basic set of beliefs that guides action' (Guba 1990, p. 17) was only partially defined.

Being basically practical in orientation, I believe that knowledge has to be useful. That is, it must improve one's practice<sup>11</sup> and to inform the practice of others. I also see learning and change as both synonymous and reflexive. Learning results from change and learning results in changed practice. The outcome of all learning is a change in performance as a result of new understandings and skills.

I also have a practical orientation to the concept of theory. To me, theory provides a generalised and abstracted framework which helps me to understand the world. In most cases, this theory has been developed from research into practice. The test of whether a theory is useful is that it explains the outcomes of my actions, and the actions of others, within a particular context.

However, I am wary of theory because of its abstracted and generalised nature. Being part of the social world and, especially, part of my workplace, I am aware of the transient nature of the immediate context but also the way it shapes my understandings, my behaviour and my identity as an individual. When I cross contexts, my understandings and actions subtly change because of past experiences and understandings. Some of these are known to me, but most are tacit. So whilst generalised, abstracted theory may be useful in explaining what I do and think, it could, equally, be obscuring the reality or causing me to draw false conclusions from what I experience. Most probably, it has the effect of foregrounding some aspects of what I experience and obscuring other aspects.

Whilst practice is the data from which theory is developed, the application of theory to practice may distort our understanding of that practice unless the nature and the impact of the context and my unique ontogenesis are considered. So, in looking for an appropriate methodology and in deciding on the research methods I should use, the priorities were that the data collected should be grounded as far as possible; that the research participants should be encouraged and supported to reflect deeply on their experiences in formulating their responses; and that my analysis should take into account the contextual nature of all actions and to describe, and attempt to explain, rather than to abstract and generalise.

The eventual design of the research process was customised and contextualised to the research question and to the priorities just outlined. Clearly, this was a risk within the context of a PhD thesis. The community of practice I was seeking to join has a research tradition which builds on the work of those that have gone before. Similarly, research designs, methodologies and methods have been developed over a long period in order to ensure that the research process is valid, reliable, rigorous and repeatable.

So in using a mixed set of research methodologies and methods, I was branching out on my own and moving away from the known to the unknown. However, I was convinced that, in order to answer the research question, then I would have to be both adventurous and innovative. The research question itself is cross-disciplinary and socially embedded. After

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<sup>11</sup> The term practice is used to define the way I interact with the social, cognitive, emotional and physical contexts in which I work and live. Such practice is informed by my understandings of those contexts and my activity within them.



much soul searching and discussion with experienced researchers, I decided to use a mixture of approaches suited to the research question. These involved activity theory, Engeström's theory of expansive learning, questionnaire response analysis based on grounded theory, an orientation to discourse analysis and the use of simple descriptive statistics. Activity theory and expansive learning have been discussed in the previous chapter (commencing on p. 35 and p. 39 respectively) and have guided my analysis throughout the research process and its documentation.

Grounded theory, discourse analysis and descriptive statistics are covered in the following sections in order to provide a background to their contribution to the research.

### 3.2.2 Grounded theory

Cohen and Mannion (1989) argue that 'sociological theories should be grounded in data that are generated by the act of research. In short, theory should follow from research not precede it' (p. 39). Grounded theory is one of the earliest forms of qualitative inquiry and was established with the publication by Barney G. Glaser and Anselm L. Strauss when their book, *The Discovery of Grounded Theory* was published in 1967 (Charmaz 2003, p. 249).

Grounded theory is interpretive research. That is, the research begins with:  
individuals and sets out to understand their interpretations of the world around them.  
Theory is emergent and must arise from particular situations; it should be 'grounded' on data generated by the research act (Glaser and Strauss 1967). Theory should not precede research but follow it.

(Cohen; Manion and Morrison 2000, p. 23)

Although the original developers and users of grounded theory used 'objectionist approaches and [had] perspectival proclivities' (Charmaz 2003, p. 252), grounded theory strategies can also be used for other research approaches such as feminist, Marxist, phenomenological research. The strategies of grounded theory 'allow for varied fundamental assumptions, data gathering approaches, analytic emphases and theoretical levels' (Charmaz 2003, p. 252).

Whilst grounded theory's main feature is the grounding of theory in data, it also requires creativity on the part of the researcher(s). Patton (1990) noted that grounded theory, as an example of qualitative evaluation inquiry, draws on both critical and creative thinking (Patton 1990). Developing theory is a complex activity and one which needs to be considered from many different perspectives. It is also both an inductive and deductive process. 'At the heart of theorizing lies the **interplay** of making inductions (deriving concepts, their properties and dimensions from data) and deductions (hypothesizing about the relationships between concepts ...)' (Strauss and Corbin 1998, p. 22 (their emphasis)).

The design of my research uses a grounded approach insofar as the data collected from participants, in both stages of the research, is grounded in their practice. Does this then mean that it uses grounded theory methods? The answer to this question is both positive and negative. This arises because of disagreement within the literature as to the range of research situations and the research processes which fall within the generalised category "grounded theory research".

For example, Patton stresses the attention paid to objectivity (2002, p. 488), a position which Glaser (1997), claiming to have the pure version of grounded theory, supports (Charmaz 2003, p. 256). Strauss and Corbin (1998), however, note the inevitability of subjectivity and advise researchers to use particular strategies to minimise its 'intrusion into their analyses ... while retaining sensitivity to what is being said in the data' (p. 48). Charmaz (2003) argues that:

A constructivist approach to grounded theory ... redirects qualitative research away from positivism. My argument is threefold:

- (a) grounded theory strategies need not be rigid or prescriptive;
- (b) a focus on meaning whilst using grounded theory *further*s, rather than limits, interpretative understanding; and
- (c) we can adopt grounded theory strategies without embracing the positivistic leanings of earlier proponents of grounded theory.

(p. 251)

Grounded theory is based on a correspondence perspective between real world phenomena and explanatory propositions. That is the generated theory must correspond to the real-world data collected. Strauss and Corbin (1998) posit the six characteristics of a grounded theorist:

- The ability to step back and critically analyse situations
- The ability to recognise the tendency towards bias
- The ability to think abstractedly
- The ability to be flexible and open to helpful criticism
- Sensitivity to the words and actions of respondents
- A sense of absorption and devotion to work process.

(p. 7)

The general process of grounded theory begins with description, moves to conceptual ordering and then to theorising.

In doing our analyses, we *conceptualise and classify* events, acts and outcomes. The categories that emerge, along with their relationships, are the foundations for our developing theory. This abstracting, reducing and relating is what makes the difference between *theoretical and descriptive coding* (or *theory building and doing description*).

(Strauss and Corbin 1998, p. 66)

The movement from description, through conceptual ordering to theorising has been the approach taken with stage 2 of the research. Chapters 5, 6 and 7 record the first two of these processes, that is, the description of the data and the conceptual ordering of it. However, it was the participants themselves who provided the description and I analysed their responses using a micro-analysis approach<sup>12</sup> which combined open<sup>13</sup> and axial<sup>14</sup> coding. Because this description and conceptual ordering had to then be condensed so as to fit the mandatory requirements<sup>15</sup> of a thesis, the axial coding and sorting was repeated a number of times and in this process much of the description was lost. For this reason, the original description and conceptual analysis is preserved as appendices 6.1 to 6.7 inclusive and 7.1 to 7.3 inclusive. Chapter 8 records the theorising which comes from the conceptualised data from both stages, plus the theoretical ideas which are contained in this chapter. The emerging theory which results is generated by the research data.

However, the use of grounded theory within my research, is only part of the design, and has been included as a logical process rather than a total commitment to the methodology. As has been stated before, the design of the research was determined by the research question I was investigating. The research design came after the focus of the research was

<sup>12</sup> Micro-analysis is defined by Strauss and Corbin (1998) as the 'detailed, line-by-line analysis necessary at the beginning of a study to generate initial categories (with their properties and dimensions) and to suggest relationships among categories: a combination of open and axial coding' (p. 57).

<sup>13</sup> This is 'the analytic process through which concepts are identified and their properties and dimensions are discovered in the data' (Strauss and Corbin 1998, p. 101).

<sup>14</sup> This is 'the process of relating categories to their subcategories, termed 'axial' because coding occurs around the axis of the category, linking categories to the level of properties and dimensions' (Strauss and Corbin 1998, p. 123)

<sup>15</sup> The reference to mandatory requirements refers to the length of my thesis, which, despite ruthless pruning, is still in excess of the preferred word count.

established. The methodological approaches are secondary to this focus. They were chosen, customised and contextualised as a result of my exploration as to how I could find the answer to my research question.

### 3.2.3 Discourse and research

The analysis of discourse is the exploration of the organisation of ordinary talk and everyday explanations (Cohen; Manion and Morrison 2000, p. 298). Insofar as the respondents to the stage 2 questionnaire are reflecting (and writing) about their perceptions of their experience, this research, whilst not a study based on discourse analysis, involves, to some degree the analysis of discourse. For this reason, a short explanation of discourse analysis and its relationship to my research follows.

Discourses are 'sets of linguistic material that are coherent in organisation and meaning and enable people to construct meaning in social contexts' (Coyle 1995, p. 245). Cohen, Manion and Morrison note that a speech situation has a double structure, 'the propositional content (what is being said) and a performatory content (what is being done or achieved through the utterance)' (Habermas 1970a, p.368). Assuming that this also applies to a written communication, then a necessary aspect of the analysis of participant responses is to try, where possible, to analyse what the participants may be trying to achieve through their responses.

Discourse analysis is an important theoretical perspective on the study of learning within social settings. Gee and Green (1998, p. 120) note that it was originally developed to examine ways in which knowledge is socially constructed in classrooms and other settings. As our recognition of, and interest in, learning has extended to workplaces and other social settings, so has the use of discourse analysis.

Given the complex and continuing nature of workplaces and related social settings, it is usual to combine discourse analysis with ethnographic approaches in order to determine 'what counts as knowledge within a local setting; how and when learning occurs; and what is learned at one point of time' (Gee and Green 1998, p. 120). Gee and Green describe this understanding of the socio-cultural nature of discourse, social practice and learning as a coherent logic-of-inquiry (p. 121).

Two of the concepts to come out of discussions around discourse analysis are those of shared meaning and cultural models. These arise because the language we use, and the discourses we subscribe to, have to do with our social constructions of meaning, especially when interacting within a group.

The construction of situated meaning (that is, an image or pattern which a group constructs 'on the spot' through conversation within a given context) occurs as a result of contextualization cues and, as Gee and Green argue are negotiated between people through social interaction (pp. 122-3). Situated meanings contain cultural models which are families of different images or informal "theories" shared by people belonging to a specific social or cultural group (p. 123).

These cultural models are not necessarily consciously complete in any one participant and different bits and pieces are shared across different people and groups. It is through interaction that the bits and pieces come together and become part of an individual's taken-for-granted social practices. Such cultural models are not stable and are subject to revision, modification and reconstruction. Furthermore, knowledge of these cultural models is not held equally within a group, with some members having more or less access to and knowledge of such models (Gee and Green 1998, p. 125).

One of the aims in the analysis of participant responses is to try to identify the shared meanings and cultural models which lie within the participant responses. Also, the questionnaire used to collect data in stage 2 of the research was designed as a guide to reflection and learning. It might, therefore, be expected that at least some of the participants will reflect through their responses that they are not just answering random questions but there is a structure and connection between their responses to the questionnaire items.

Discourse analysis in the context of this research is not so much being used as a research method but as an orientation to analysis.

### 3.2.4 Descriptive statistics

Descriptive statistics provide a readily understood way of grouping ordinal data together and then providing information about what this data looks like. The inclusion of descriptive statistics within qualitative research is a common practice for those involved in post-positivistic qualitative research. Denzin and Lincoln note that:

Although many qualitative researchers in the postpositivist tradition will use statistical measures, methods and documents as a way of locating groups of subjects within larger populations, they will seldom report their findings in terms of the kinds of complex statistical measures or methods to which quantitative researchers are drawn (i.e., path, regression, or log-linear analyses).

(2003a, p. 15)

In my research the use of descriptive statistics is confined to the analysis of the responses to the Likert-scale items within the stage 2 questionnaire. These items were generally based on the nature of the model which was constructed after the analysis of the stage 1 research, and statements made by the stage 1 respondents about their perceptions of the movement of competence across contextual boundaries.

The actual measures used were the mean or average response, the mode or the response most often selected, the median or the middle response and the range which measures the two-dimensional spread of the responses. In addition the weighted mean was calculated. As its name suggests, this provides information of the weighting which the group gave to the responses and provides an easy measure to use to get an impression of the pattern of responses.

As both the groups of participants in this research were serendipitous, it is not possible, even had I so wished, to use statistical processes which assume a large sample (of 1,000 or more) and, therefore, a normal distribution or a calculated skewed distribution. The use of statistics in my research was simply a grouping device. The information, which was invariably hidden through this grouping, was teased out via the comments the participants made in their responses to the open ended or unstructured items in the questionnaire.

Learning is no longer just a matter of inward experience and challenge but a matter of confronting multiple expectations, standards and evaluations that stand outside of oneself and that – as with work itself – cannot, to a significant degree be confronted in advance. ... Learning, therefore, whether it arises intentionally or unintentionally, requires support if it is to be undertaken successfully.

(p. 15)

## 3.3 Research design

One of the criticisms of qualitative research methods is that because the subjects of the research are situated in context, then the research is not easily generalisable. This issue has been addressed in the previous chapter in §2.4.2 under the heading, situated learning (p.

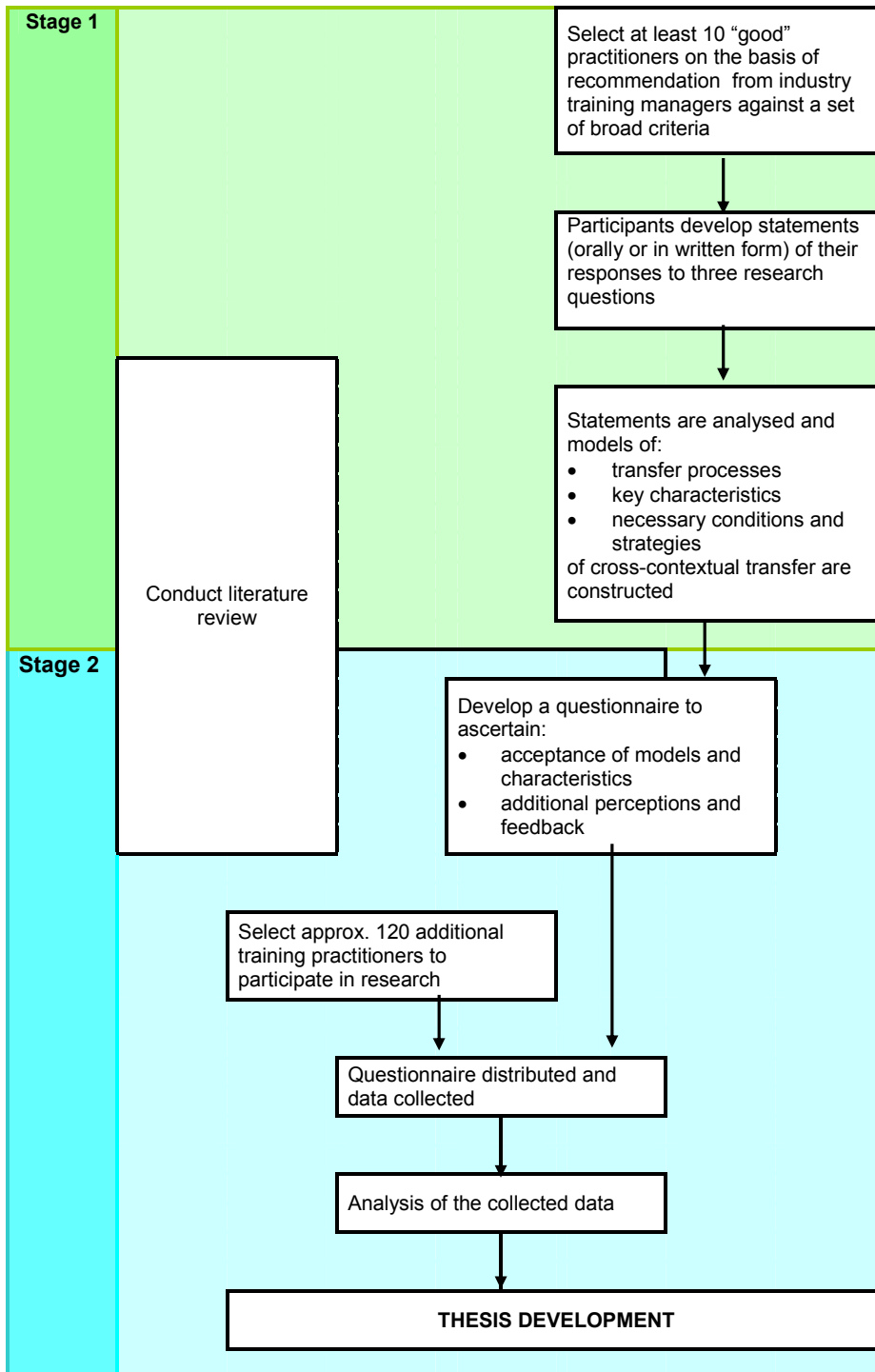
50). To deal with this issue, at the time of planning the research design, I chose to have two distinct research phases.

The first of these focused on the perceptions of a small group of training practitioners with respect to the way in which they took what they knew and could do and adapted and applied it when the context changed. This context change was limited to two situations: when a person moved to a different workplace or when the job changed significantly within the same workplace. The aim of stage 1 was to analyse this data to see if distinct models of understanding could be identified.

The second stage was concerned with the validation of these models with a much wider group of training practitioners to look for commonalities and also to seek feedback on how the models might be improved. This involved a deviation from using a purely qualitative approach and the addition of descriptive statistics to analyse the feedback from stage 2.

Both these stages are discussed in more detail in the following material which is organised around the research design. First, the objectives of the research are discussed; both the overall objectives and the objectives of the two stages. This is followed by a section which looks at the rationale of the methodology chosen. This covers the rationales for the research approach, method and the techniques of data collection and analysis used.

The overall research design is shown in the diagram on the following page. The process shown was not modified during the course of the research and was used to complete the research.



**Figure 3.1: Overall research design**

The original timelines of the research design have altered several times. This is, basically, a thesis undertaken part time and after more than 30 years of experience as a teaching and learning practitioner, in order to explore a phenomenon which has proved equally intriguing and challenging. It has, therefore, been an iterative and developmental process, building on a long history of research and practice. Because the area is relatively uncharted, it required an openness and a willingness to follow revelations, insights and engagement in formative conversations with others to clarify ideas or to give birth to emerging understandings.

Fitting this into demanding work priorities has meant that progress in the research has been spasmodic, rather than consistent, with long periods of inactivity interspersed by flurries of activity. This has meant that there was a five year space between starting the Stage 1 research and starting the Stage 2 research.

Consequently, there has been some loss of continuity as some of the Stage 1 participants have changed their jobs and/or e-mail addresses, and so were not able to be included in the Stage 2 research. On the other hand, the long time span has allowed access to new and very relevant literature and allowed for the evolution and development of new ideas and ways of understanding. Overall, the long time span between the stages of the research has been beneficial.

There have also been a number of internal modifications within this overall research design. Many of these have come as my knowledge and understandings of both activity theory and situated learning have developed and deepened. Others have come as a result of participant feedback or the nature of the material collected, whilst some have been the result of the constraints of this research project (and the other parts of my life). These will be discussed further in later sections of this chapter.

### **3.3.1. Objectives of the research**

#### Overall objective

The objective of the research was to explore the perceptions of training practitioners, based on their own experience and on their expertise as facilitators of situated learning. The research focused on how these practitioners perceived that the transfer of competence (that is, what people already know and can do) occurred, and on how they facilitate its development within their practice as teachers.

The overall research question being considered was:

**How do practitioners understand the transfer of competence (that is, what they know and can do) across different workplace contexts and how does it influence their practice?**

The rationale for this objective is my conviction that the answer to this question should provide educational practitioners with a roadmap or framework which will enable them to meet the vocational needs of their learners.

#### Stage 1 objectives

Within Stage 1, the collection and analysis of data was structured so as to answer three key research questions concerning the perceptions of training practitioners about the transfer of competence across workplace contexts.

These questions are:

- **how does this transfer occur and how do people manage this process?**
- **what are the essential characteristics and conditions necessary for this transfer process to be effective?**
- **what processes, strategies, conditions etc. do the participants use within their training practice in order to develop and enhance the capacity of their learners to transfer their competence across differing work contexts?**

When designing the research, I considered that the data collected in this stage would result in some different conceptions of how transfer might occur. Thus a key objective of this phase was to produce some models - both of how the participants envisaged the process of transfer across different work contexts and how this influenced the way in which they helped facilitate the capacity of their learners to carry what they already knew and could do into the new context.

### Stage 2 objectives

The key objective of this stage of the research was to validate the models and schemas developed in the first stage of the research and, also, to provide feedback on the acceptability of these research outcomes.

Thus the questions were:

- **how applicable are the models and ideas developed in Stage 1 to a wider group of participants?**
- **what basic learning principles and approaches underpin the transfer/adaptation of competence across workplace contexts?**
- **What skills, knowledge, attributes, etc. do people need to manage the transfer/adaptation across workplace contexts?**
- **How should this be supported and/or reflected in formal educational contexts?**

These sets of questions guided the research design, process and findings. However, as in all social processes, it is the unintended and unexpected outcomes which often have the potential to convey important meanings, provided that we are heedful of them. Therefore, the objectives of the research had a guiding role rather than a controlling one and acted to direct the research rather than constrain it.

### **3.3.2 Rationale**

The transfer of skills across different workplace applications, sites and communities is accepted as given in much of the current rhetoric concerning workplace reform and vocational education and training. For example:

The generic nature of the key competencies ensures that they are transferable, from one job to another, improving a person's ability to move between enterprises, industries and occupations in a way which is consistent with their aspirations and economic conditions.

(Australian National Training Authority 1998, p. 9)

However, this concept of the transfer of what has been learnt and practised in one context to another is neither uncontested nor problematic (for example, Billett 1994; 1996b; 1998b; Mulcahy and James 1998). It was, in order to explore the nature of cross-contextual transfer that I decided to focus my PhD research on the working theories<sup>16</sup> held by training

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<sup>16</sup> Working theories are the practical theories we develop from our experiences through reflection. They are often transient but always useful in explaining activity within a particular context. If they are not useful, they are reformulated; hence their transient nature.



practitioners, on how competence was transferred from one workplace context to another, and how their practice reflected these theories.

Changes in the way we work over the past decade have resulted in an expressed need by employers, governments, and industry for the greater flexibility, adaptability and mobility of the workforce. This implies a development of the capacity for acquired learning and skill to be able to be transferred as employees move across differing work contexts.

Although policy makers, researchers and practitioners have acknowledged this need, there is currently a dearth of contextually-based research about the transfer of competence. In addition, much of the research which does exist about the transfer of learning is based on classroom learning and minimises or ignores the context of the learning and the extent to which the learning is situated within the context (Misko 1995).

Traditionally, transfer has been looked at as an externally-managed process. Many of the initiatives of the National Training Reform Agenda and the National Training Framework have been apparently premised on a belief that if we approach training a certain way, then transfer of competence will follow. This denies the alternative view of the transfer of competence as a self-managed or spontaneous process which is possibly governed by:

- the autonomy of the learner
- the confidence of the learner to innovate
- the learner's recognition of the interrelationship between learning and its context.

Training practitioners have usually come to their role from other work roles. Therefore, it can reasonably be assumed that training practitioners have already successfully transferred competence developed in industrial and/or teaching workplaces to their training context and that their perceptions of transfer are based on their own experience and that of their students.

### Research Approach

The research seeks to identify and obtain the perceptions of "good"<sup>17</sup> practitioners as to:

- how they think the process of transfer occurs
- what they believe are the essential characteristics necessary for effective transfer
- how they develop the capacity for transfer within their training practice.

The information and its analysis will provide an advanced conceptual base for developing and improving praxis in the transfer of competence. The research process involves the sharing of information and expertise among training practitioners who are often isolated from traditional knowledge bases by time and cultural artifices.

Literature exists which assumes a link between the transfer of learning and training. However, much of this is ideologically driven (as in the reports of Carmichael 1992; Mayer 1992, which were commissioned by the Australian Government in support of the National Training Reform Agenda) or the result of research commissioned to validate current policy (Lohrey 1995; Sweet 1993). The intention of this research is to develop knowledge which is based on systematic and methodologically sound research in order to inform practice. Australian research into workplace learning (Billet 1999; Billett 1994; 1998b; Mulcahy and James 1998; Taylor 1997) and employer satisfaction (National Centre for Vocational Education Research 1997) casts doubt on the assumed automatic nature of the transfer of learned competence across differing workplace contexts.

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<sup>17</sup> The term "good" is defined in terms of the perceptions of students and peers about their practice.

Very little research which focuses on the transfer of competence across workplaces has been carried out in Australia or overseas. My study will help to remedy this and will give information as to how training practitioners encourage transfer through their practice.

The objective of the research is to explore the perceptions of training practitioners on the transfer of competence across workplace contexts. These perceptions are based on their own experience and on their expertise as facilitators of situated learning. The research focuses on how these practitioners believe the transfer of competence occurs and on how they facilitate its development in their practice as teachers.

Within this research, competence is taken as the skills, knowledge, experience and attitudes which people bring to their work. Workplace contexts have physical, task, interpersonal and cultural dimensions. Differences in contexts could therefore arise from differences in one or a number of these dimensions. Thus, the transfer of competence is the adaptation and enhancement of existing competence to meet new workplace demands.

### Research strategies

As has been outlined, the approach I have taken for my research is essentially qualitative. The nature of qualitative research and my reasons for using it have been outlined in §3.2.1 (p. 61). However, because of the need to process a large amount of information from a relatively large number of participants, some quantitative analysis in the form of simple descriptive statistics have been included.

Qualitative research methodology can be viewed as a series of genres of research practice. Each has its own classics, its own preferred forms of representation, interpretation, trustworthiness, and textual evaluation. Some researchers chose to work with a particular genre and thus research those situations, phenomena or ideas which lend themselves to that particular research paradigm. In the case of this research, what needed to be researched was clear to me, but the paradigm (that is my epistemological, ontological, and methodological premises or the 'basic set of beliefs that guides action' (Guba 1990p. 17)) was not.

Thus, at the beginning of the research I was not sure just which genre would meet the needs of the data. Apart from a conviction that the research was, essentially, phenomenological in nature, I did not have a clear framework for the analysis of the data I was collecting in Stage 1 until I came in contact with Yjrö Engeström and his use of activity theory (Engeström 1999a). His framework for analysing a process of change/learning under four key questions, namely:

- who are learning?
- why do they learn?
- what do they learn?
- how do they learn?

against the five principles of activity theory, namely:

- that a 'collective, artefact-mediated and object-oriented activity system ... is ... the prime unit of analysis' (Engeström 1999ap. 4)
- the multi-voicedness of activity systems
- historicity
- the central role of contradictions as sources of change and development
- the possibility of expansive transformations in activity systems,

seemed to provide an answer to my search.

The matrix generated by this process (which appears as Table 3.1 on the following page) became the framework of my analysis of the stage 1 data. This arises from my earlier discussion of the conceptual underpinnings of both activity theory (p. 35) and Engeström's

theory of expansive learning (p. 35). These two theories provide both the conceptual framework for the research and a useful research tool for the analysis of the Stage 1 data.

A different strategy was needed for the stage 2 research which was, in effect, a validation and enhancement of the conceptualised data and emerging theory from stage 1. However, I was not able to find a single methodology that would enable me to find the answers to my research question and objectives within a learning paradigm with which I felt comfortable.

I decided to use a customised grounded theory approach in conjunction with the use of simple descriptive statistics. This meant that I was able to use a relatively wide range of questions and still get responses which indicated deep reflection. Also, the questionnaire was organised so that it would be a learning strategy as well as a research strategy. This would enable, I hoped, participants to think through issues concerned with the crossing of contextual boundaries over time, and coming from different angles to consider the questions posed.

Therefore the final research approach consisted of a mixture of research strategies, customised and contextualised to the research question. These have been described as involving activity theory, Engeström's theory of expansive learning, questionnaire response analysis based on grounded theory, an orientation to discourse analysis and the use of simple descriptive statistics.

**Table 3.1: Matrix for the analysis of expansive learning (Engeström 1999a, p. 6)**

	<b>Activity system as unit of activity</b>	<b>Multi-voicedness</b>	<b>Historicity</b>	<b>Contradictions</b>	<b>Expansive cycles</b>
<b>Who are the subjects of learning, how are they defined and located?</b>					
<b>Why do they learn, what makes them make the effort?</b>					
<b>What do they learn, what are the contents and outcomes of learning?</b>					
<b>How do they learn, what are the key actions and processes of learning?</b>					

## Research tools and techniques

The overall research design was developed in response to the phenomenon being studied (that is, the transfer of competence across different work contexts) and the opportunities and limitations on the conduct of the research.

The term 'transfer' is used in a number of different ways within educational literature and in day-to-day conversations between educational practitioners. This has been discussed in the previous chapter in §2.5 (p. 54). Equally variable is the meaning given to the term 'competence'. As previously stated, competence is taken to be the skills, knowledge, experience and attitudes which people bring to their work. Workplace contexts have physical, task, interpersonal and cultural dimensions. Differences in contexts can, therefore, arise from differences in one or more of these dimensions. In this research, the transfer of competence is the adaptation and enhancement of existing competence to meet new workplace demands.

The key research tools used to collect the data in the research were the use of open, unstructured (or, at least, minimally structured) interviews in stage 1 and a 'grounded' questionnaire in stage 2. The details of how these were used, and on whom, are covered in §3.3.1 and §3.3.2. Before that, I want to make some comments about these techniques and why they were chosen as part of the research design.

### **Unstructured interviews**

Asking questions and getting answers is not easy as there is always a residue of ambiguity, no matter how carefully the questions are worded or how carefully the answers are codified and interpreted. 'Unstructured interviews can provide a greater breadth of data than other types, given its qualitative nature' (Fontana and Frey 2003p. 74). They can also provide greater depth of data.

Fontana and Frey (2003) argue that the unstructured interview also enables the researcher to commit what structured interviewers would view as two capital offences: responding to questions asked of the interviewee and letting personal feelings influence the interview.

My choice of unstructured interview, as the tool for data collection in Stage1, came from my perception that, if I wanted the respondents to think deeply about how they believed the transfer of competence across different work contexts occurs, then the interview needed to happen over time and in a format that allowed the respondents to explore for themselves, without feeling any pressure to please the interviewer, their experience and perceptions of the phenomenon.

Marcus and Fisher (1986), although addressing ethnography at large, voice reflexive concerns about the way in which the researcher influences the research, both in the methods of data collection and in the techniques of reporting findings. Given that most of the respondents in Stage 1 of the research have either worked with or for me over a period of years, this was of particular concern. So I tried to devise an unstructured interview format which minimised the influence I would have over the data collected. This view arose from my past practice and was later validated by the literature (for example, Fontana and Frey 2003, pp. 74-85) as a recognised genre known as polyphonic interviewing (p.81).

It involves recording the voices of the subjects with minimal influence from the interviewer and then letting each data set stand on its own, without collapsing the collected data together. Instead 'the multiple perspectives of the various subjects are reported, and differences and

problems encountered are discussed, rather than glossed over' (Fontana and Frey 2003, p. 81). It is also an approach which sits comfortably within an activity theory approach.

### **Self-administered questionnaire**

Self-administered questionnaires are a form of structured or semi-structured interview (Fontana and Frey 2003, p. 62). The choice of a questionnaire as the data collection instrument in Stage 2 of the research was in response, firstly, to the relatively large number and geographical dispersal of the expected participants in this stage; and, secondly, to the purpose of this stage as a mechanism for seeking validation and feedback on the Stage 1 findings.

However, it was also necessary to 'ground' the questionnaire, so that participants responded to each question on the basis of their experience and not just on what their theoretical frameworks and/or working theories told them should happen. This was done by first asking the participants to select and describe three examples of the transfer of competence across different work contexts that they had been, or would be, involved in, and then to respond to the questions for each story in turn.

Bradburn (1983) notes that most structured interviews leave little room for the interviewer to improvise or exercise independent judgement. However, even a self-administered questionnaire is administered in a social interactional context and is influenced by that context. Thus, the respondents to my questionnaire wrote their answers as if conversing with me, changed the wording of questions to better suit their purposes, showed evidence of wanting to please, or otherwise, and felt quite at liberty to ignore those questions they did not want to answer, and did not fully complete the questionnaire in those cases where the time they had to spend was limited.

### **Framework for expansive learning**

The framework for expansive learning shown as Table 3.1 (p. 76) was used to organise the material obtained from the Stage 1 unstructured interviews for analysis using an activity theory methodology. The detail of this process is discussed in more fully in §3.4.3 (p. 82).

### **Descriptive statistics**

As previously indicated these are often used in postpositivistic qualitative research. Denzin and Lincoln note that:

Although many qualitative researchers in the postpositivist tradition will use statistical measures, methods and documents as a way of locating groups of subjects within larger populations, they will seldom report their findings in terms of the kinds of complex statistical measures or methods to which quantitative researchers are drawn (i.e., path, regression, or log-linear analyses).

(2003a, p. 15)

Because of the relatively large number of expected responses (approximately 120), five-point Likert-scale items were included in the Stage 2 questionnaire in order to test the support for or importance of particular concepts. These were analysed (using SPSS computer software) as to frequency, weighted means, and simple measures of comparison.

These Likert-scale items were accompanied by the provision of space for comments after every group of Likert-scale items and respondents were encouraged to explain or expand on their choices or to give any other feedback they considered important. In addition a number of open-ended questions were also asked on relevant issues.

Most important of all was the fact that all questions were 'grounded' in the participants' experience. This was done by asking the respondents to first identify three stories about situations of the transfer of competence across different workplace contexts. One of these was an account in which the respondent was the main actor, one where another person was the main actor but the respondent was concerned in some way and the third "story" was a future scenario about which the respondent had been thinking.

This process was designed so that the respondent would reflect on his or her experience, the experience of others (given the usual limitation that we cannot know exactly what others are thinking) and then to test out their working theories with a projection of experience. The success or otherwise of this design feature is discussed in detail in §5 (p. 132).

### 3.4 Conduct of stage 1 research

In this section, I discuss the selection of participants for this stage of the research, the data collection phase, the data analysis and the process by which the model which emerged from this stage was developed. The findings from this stage are discussed in Chapter 4 (p. 91).

#### 3.4.1 Participants

The set of participants in this stage of the research was an opportunistic sample. All the participants were known to me and most had worked for or with me within the last fifteen years although none of them had worked closely with me over the last eight years. This meant that there had been a degree of separation in our relationships for at least five years before their involvement in the research.

This was an important factor especially with those classified as enterprise trainers, that is, those who were employed by the enterprise in which they work. My work role as an industry consultant in the early 1990s and my role in professional development within a vocational education and training institution before that meant that many of these trainers has done their initial training with me as their teacher/mentor. By ensuring this space between close interaction with the participants and their input into stage 1 of the research, I had effectively built up the relationships which allowed the research to happen (given the demands made of the participants).

In one sense, it might have been better if the participants had been unknown to me (in a work context) when the research began. On the other hand, I was asking them to undertake a difficult task and one which required trust and respect between the researcher and the research participants. So I needed to have strong, established relationships with the participants and to understand the depth of knowledge and insight these people could contribute to the research.

Eighteen participants were involved in stage 1 originally. The reported outcomes of the research rely entirely on the transcripts from twelve of these. The input, which has not been used, came from those who either misunderstood what I requested from them or who were unable to complete the task because of other commitments. Fortunately, three of these were enterprise trainers and three were teachers from TAFE Institutes. This left me with equal representation of

teachers/trainers from industry enterprises and from registered training organisations (RTOs). The following table gives some indication of their work, industry affiliation and their location within Australia.

**Table 3.2: Stage 1 participants**

Enterprise trainers			VET teachers/trainers		
no.	industry	location	no.	industry	location
02	automotive manufacture	Geelong	01	maths at work	Melbourne
03	automotive manufacture	Geelong	08	basic education	Geelong/ Melbourne
07	metal refining	Geelong	10	management	Melbourne
09	nursing	Sydney, NSW	11	engineering	Port Melbourne
14	air transport	Tullamarine	13	basic education	Geelong
16	food processing	Broadmeadows	17	community services	Hornsby, NSW

The gender split was not even, with 5 male (4 enterprise trainers and 1 VET practitioner) and 7 female (3 enterprise trainers and 5 VET practitioners). This was incurred by trying to get the maximum stretch of different industry areas possible as male dominated industries tend to have predominantly male trainers and be serviced by male VET practitioners while the reverse is true for industries historically the preserve of female employees.

### 3.4.2 Data collection

As intimated in §3.2, the data was collected using very open unstructured interviews. I met with all the participants, either individually or in small groups, in order to explain the research process and to supply them with the necessary information and material. This consisted of:

- a letter explaining the research process and its supervision. (This letter had previously been approved by the university ethics and postgraduate research committees) - Appendix 3.2
- a consent form to complete and return – Appendix 3.3
- a short statement of the aims and design of the research – Appendix 3.4
- a page stating the research questions they were to address and also outlining some of the things which they might want to include in their response – Appendix 3.5
- a blank cassette tape
- a portable tape recorder if they did not already have one.

Participants in this first stage of the research were able to choose the format of these open-ended interviews to suit their preferred styles of thinking and recording ideas and information. The methods chosen by the various participants were as follows.

- a meeting with the researcher to clarify the purpose and concept of the research, followed by the use of a tape recorder to record their answers to the questions over a period of time, as they think through the subject
- a recorded interview with the researcher
- a meeting with the researcher to clarify the purpose and concept of the research, followed by a period of time for reflection and the collation of ideas (on tape or paper or both) and, finally, a recorded interview with the researcher



- written responses to the questions posed developed after an initial discussion with the researcher
- recording a discussion with a third person (e.g. partner, colleague) about the research questions and their responses to them
- a recorded discussion between two or more of the participants after they have each prepared an initial response to the questions
- a focus group with a number of participants, led by the researcher, after the initial responses have been submitted.

Most of the participants reported that they had recorded or written their responses from home. However, the two who chose recorded interviews with me used their workplace for the location of the interview.

No matter which method they used, all the participants recorded that they found it difficult to explore their perceptions of this form of transfer. This could be attributed to their unfamiliarity with analysing such a phenomenon and their lack of a suitable language in which to express their thoughts. To overcome this difficulty, all of them spoke or wrote of situations which they had experienced when having to transfer their competence to new contexts, and then tried to analyse these accounts.

They also used metaphors to help explain their perceptions. A few of the VET practitioners drew on their educational knowledge. In one way, the VET practitioners (and the two enterprise trainers with formal educational backgrounds) were advantaged in this process, as they had a professional language to fall back on and could take refuge within accepted theories, when things got difficult. On the other hand, from my point of view, this did not give rise to as interesting and deep insight as those with a poor knowledge of education language, theories and terminology often did.

It was predictable that the respondents would find this process very challenging, as they were drawing on their tacit knowledge to respond to the research questions in most cases. Despite the rhetoric about transfer which accompanied the National Training Reform Agenda and the subsequent introduction of Training Packages, there was no discussion about transfer – it was assumed to happen if training went by the 'rules' laid down in national curriculum and teaching resources. (Down 1995). This example of implementation by decree is discussed more fully in §2.2.2 (p. 22).

The data collection process in Stage 1 was fairly flexible. It was not deliberately trialled, although two of the respondents had returned their input before most of the others had started. All but one of the participants availed themselves of my invitation to ring me or meet with me if they were having difficulty. It was during these contact points that the participants found a method of data collection which suited them and the contexts in which they lived and worked. In two cases, these conversations led to a mutual decision to use an interview technique; for another three, it led to a meeting with me after they had started to discuss in a group what they had so far recorded. This conversation was also, by mutual consent, recorded and used as part of the Stage 1 data.

All this took a long time and it was more than a year before all the data had been collected. In many ways this was fortunate, as, by this time I had met Yrjö Engeström, and had realised that his matrix for expansive learning (Engeström 1999a, p. 6) was a suitable tool for the collation and analysis of the data. This meant that, having designed a research process which allowed for the emergence of unanticipated phenomena, it was then necessary to search for an appropriate

tool for the collation and analysis of the data. That is, the phenomena being researched directed the choice of tools.

### 3.4.33.4.3 Data analysis

The first step in the data analysis process was to listen carefully to the recordings or read hand-written transcripts. It was at this stage that six of the responses were put to one side because those respondents had either misunderstood what was required of them or had not completed the task.

I transcribed most of the interviews; which had the advantage that my slow transcription allowed me to internalise what was being said and to start to think about them in relation to the research. The transcripts were then re-read carefully before being collated.

The collation process was done manually using highlighters, “post-it” notes and reams of butchers’ paper. The procedure was as follows:

1. I transferred and magnified Table 3.1, using a whiteboard marker, onto butchers’ paper. One sheet of butchers’ paper was used for each respondent.
2. Each transcript was photocopied several times.
3. I identified, highlighted and assigned a number to a key statement<sup>18</sup> in one of the transcripts.
4. I assigned the same number to a “post-it” note and stuck it in the appropriate square in the matrix.
5. I then repeated steps 3 and 4 until all key statements in that transcript were represented on the matrix.
6. By re-examining the transcript, I was able to ensure that all useful material within them had been highlighted and placed in an appropriate square within the matrix.
7. The matrix was then studied carefully to ensure that the post-it notes in each square corresponded to appropriate transcript statements
8. By cutting up the transcript so that each key statement was a separate physical entity, I was then able to replace the “post-it” note by the actual statement and secure it to the butchers paper. The sheet of butchers’ paper was carefully labelled and stored.
9. I repeated the process (steps 3 – 8) for each respondent and for the transcript of the recorded meeting.

Those recordings or transcripts which I had put aside were re-examined to ensure that they did not contain valuable information which had not also been included in other transcripts. On the basis of this re-examination, I made the decision to base my research on the remaining twelve transcripts.

As a result of this very concrete exercise, the collected data was now sorted in a way which led to a straight-forward analysis of the material. The outcomes of this analysis are discussed in the next chapter.

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<sup>18</sup> Key statements were identified as anything which could feasibly fit within the matrix.

### **3.4.4.3.4.5 Model development**

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As I proceeded through my data collation process, it became very clear that there were some fundamental similarities in all the transcripts. These I noted and it was from these that the model which formed the basis of the second stage of the research was developed.

I had expected that more than one model might have emerged, but only one did.. It was clear that the respondents were identifying four separate phases in their descriptions of how they thought the transfer of competence across different work contexts occurred. Whilst the phases were relatively distinct, the pathways between them were not, with the likelihood of different pathways, doubling back, and repetition, characteristic of many of the accounts.

The model developed is discussed in more detail in the next chapter.

### **3.5.3.5 Conduct of stage 2 research**

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#### **3.5.1 Questionnaire design**

The design of Stage 2 called on all my ingenuity. Although I conducted a number of literature reviews, I could not find a suitable process for the testing/validation of an educational model. It seemed to me that I needed to find a process which enabled the respondents to have the model explained to them, have the opportunity to ask questions about it and then to be able to consider their own responses. A series of focus groups seemed suitable, but this would have been both time-consuming and expensive, unless all the participants were nearby. For these reasons, my stage 1 research had been necessarily restricted to people who I either knew well or who were in close geographic proximity. Thus, focus groups were ruled out.

Also, a web-based process was ruled out as, despite the technological advances of the past ten to fifteen years, I knew from work projects, that there are many excellent VET practitioners and enterprise trainers without reliable computer and/or e-mail access. So I decided to use a questionnaire supported by reading matter, a video and phone support.

That way, I hoped that respondents would examine the model either by sight and sound (via the video) or through the perusal of a written paper depending on what their learning preferences were. They could contact me by phone if they had any queries or they could complete the questionnaire electronically or in hard copy and could return it via e-mail or the postal service. This would enable me to include respondents from all parts of Australia as well as a small group from other countries.

Once I started sketching out the questions I might include, it soon became obvious that this was going to be a very long questionnaire. It also needed some mechanism to 'ground' the questions within the respondents' experience. This led to a consideration of the use of Likert-scale questions and to the application of stories of the recipients' own experiences to statements derived from the stage 1 model, using these tools.

Before distribution, the draft questionnaire had been sent to three "critical friends" for their evaluation of it. Their feedback led to improvements in the document. None of them mentioned the word "long" in their critical appraisals. I expect that they recognised, as I had, that a shorter questionnaire would not necessarily invoke the quality and depth of response I was seeking.

However, the questionnaire was very long, and some of my respondents complained both of the length and the depth of it.

The questionnaire was designed as a learning experience in order to enable participants to think through the various aspects of the model, and to bring to the surface many of the tacit understandings which underpin their everyday practice. The “stories” which participants were asked to choose and record, provided a learning device to ensure that their responses were based on a consideration of practice, rather than theory or rhetoric.

Many of the respondents recognised this and expressed their concern that they may have chosen the wrong stories; thus assuming that there were “right” answers. There were not. What the internal variation (that is, the same item having two or three different responses from the same respondent) did show was that the experience represented by the stories was contextually based, and thus there are no “right” answers.

The items within the questionnaire were either statements of, or questions which were designed to probe, educational beliefs. Multiple responses for the same item given by the same respondent provided support for the belief that learning is situated and is shaped by the multiple contexts and contextual factors which impinge on the learner and his/her learning.

As a learning “device” or tool, the questionnaire was designed to draw people into Vygotsky’s (1978) zone of proximal development. That is, a cognitive zone, in which the difference between what the learner knows and what the learner has the potential to know, is highlighted. It is, therefore, a state of mind where certainties become less so and contradictions and paradoxes loom large and need to be resolved. As Illeris (2002, p. 118) argues, it is this tension which provides both the need and the motivation for learning.

### **3.5.2 Development of the questionnaire kit**

Once the questionnaire and the supporting paper had been written, a video of me reading the supporting paper was made. I had arranged for five of the respondents who worked in the same institution to attend the recording session, so as to trial the data collection process before the material was finalised. This session did not go exactly as planned as:

- it was re-scheduled at the last minute to the next day by those contracted to film the session which meant that two of my participants were unable to attend
- an urgent request (or demand) for information by the State Training Authority meant that the other three participants could not attend for the whole session.

The filming of my explanation of the model was, thus, interrupted twice by one of the “audience” rushing back into the room to record their “questions” before returning to their other tasks. For this reason, the questions and answers which were intended to be within the explanation of the model became a separate video file. However, this did not appear to influence the quality and acceptability of the kit.

The material was then packaged onto a CD-ROM. It consisted of a:

- video clip of my explanations
- video clip of the question and answer session
- copy of the paper in Word 2002 format

- copy of the paper in Word95 format
- set of diagrams in pdf format
- link to the internet to download the QuickTime software necessary to play the video clip
- link to the internet to download Adobe Acrobat in order to read the diagrams.

The CD-ROM is included in this thesis as Appendix 3.7. Appendix 3.8 contains a copy of the instructions page which was sent out to the participants for them to make sense of the material contained on the compact disk.

Participants who had reported that they did not have an e-mail address or a computer with a CD-drive were sent an equivalent package in the mail. It consisted of:

- a video clip of my explanation and the question and answer session
- the paper explaining the model
- hardcopy versions of the diagrams (in colour)
- a letter of explanation (which is Appendix 3.9).

### **3.5.3 Dissemination issues**

The distribution process took much longer than I had expected. In mid July 2003, I sent e-mails to approximately 400 people asking if they were willing to be participants in my research. In this letter I briefly described the nature of their participation if they agreed, including the length of time I estimated that completing the questionnaire would take them. By the end of August, I had 147 potential participants.

Unfortunately, the CD-ROMs were not finally delivered until midway through September. I did not receive the videos until the second week in October.

This meant that instead of the questionnaires going out to people in the first week of September, the recipients did not get their questionnaire packs until late September. This inevitably had an effect on the ability of the potential participants to complete them as, in Australia, the end of the year is a very hectic period, especially in the tertiary education sector (that is, universities and vocational education and training providers) as budget and organisational planning competes with exam preparation, marking and the recording of results for people's priorities.

The majority of the participants had no trouble using the CD-ROM but about a third of the participants did. Most of these problems arose from their use of "ancient" software; using Apple computers which were not compatible with Microsoft; failing to read the instruction sheet; and an inbuilt aversion to using technology. This meant that I spent over 100 hours on the phone; talking people through the process until they had the necessary materials downloaded and the video playing on their screen.

I had put the word documents, that is, the model explanation and the questionnaire itself, on the CD-ROM in two forms – one suitable for older Word software and one for Word 2002 onwards. This was supposed to make it possible for participants to select the one suitable for their personal computer. Many did, but others failed to read the instructions and, consequently, completed a questionnaire formatted in Word95 using Word2002 software. The result of this was that the fancy shading they used to complete the Likert-scale items did not survive its transmission to me via e-mail and I would be looking at a questionnaire with all the Likert-scale items totally blank.

This was remedied, in most cases, by my requesting the respondents to send another copy, preferably with the shading changed to the use of a tick or cross. Some participants had to resend several times until the problem was fixed (mainly because it took me some time to work out what the problem really was). However, three respondents had other priorities and did not persevere for long enough for me to receive a fully completed questionnaire. For these people, I have only been able to use the data from the open-ended responses.

Another problem was that I was moving between universities at the time the responses were being returned. This was not anticipated, as I had expected the questionnaires to be returned earlier, and it resulted in the loss of one returned questionnaire; a loss not realised until it was no longer possible for the document to be resent, as it had been deleted.

### 3.5.4 Participants

The original 262 people who were invited to participate in Stage 2 of the research fell into a number of categories:

- enterprise trainers
- vocational education and training teachers/trainers
- industry training consultants
- higher education lecturers in vocational education and training
- researchers of vocational education and training
- fifteen people who fitted into one or more of these categories and worked outside Australia.

The numbers of invitees from the first five categories were approximately the same (approximately 65 from each category). This even spread became less even when the distribution of the 147 acceptances was considered and was further skewed by the failure of many, who had agreed to participate, to return a completed questionnaire. The final breakdown of how the invited participants self-selected their eventual participation is given in the following table.

**Figure 3.3: Self-selection of stage 2 participants**

<b>Invitation to participate</b>	<b>262</b>	<b>100%</b>				
Unable to contact	32	12.2%				
<b>Contacted</b>	<b>230</b>	<b>87.8</b>	<b>230</b>	<b>100%</b>		
Declined			15	6.5%		
No response			68	29.6%		
<b>Agreed</b>			<b>147</b>	<b>63.9</b>	<b>147</b>	<b>100%</b>
Apologised & withdrew					20	<b>13.6%</b>
No response					36	<b>24.5%</b>
Completed questionnaire					91	61.9%

The invitation to participate came from business cards or contact details which I had collected over a four year period. They were given to me as expressions of interest in participating in my research project. Another twenty of the invitees were targeted by me for their interest in, and knowledge of, the phenomenon being researched. The invited participants covered all Australian States and Territories as well as contacts in Canada, Kenya, New Zealand, Norway and the United Kingdom.

The most slippage came from the international invitees, resulting in only four of these actually returning a completed questionnaire which was far too small a sample for valid comparisons. The breakdown of the occupations of the 90 respondents<sup>19</sup> is given in the table below (Table 3.4).

**Table 3.4: Occupations of participants**

occupation	no.	%
school teacher	1	1.1
VET/TAFE teacher/trainer	5	5.6
HE lecturer	12	13.3
curriculum developer	2	2.2
consultant	15	16.7
researcher	11	12.2
industry trainer	6	6.7
manager	13	14.4
student	3	3.3
administrator	3	3.3
retired <sup>20</sup>	6	6.7
industry worker	9	10.0
professional developer	4	4.4

The information contained in Table 3.4 has been taken directly from the questionnaire responses and the classifications are those which the participants gave.

Other useful demographics of the participant group include a median age of over 55 which is not surprising given that experience and expertise were an important factor in the initial selection of who should be invited to participate. A similar characteristic is that 50% of the participants have spent more than twenty years in their current industry sector, all have taught others and 78.4% hold post-graduate qualifications.

Appendix 3.11 contains an analysis of the stage 2 participants' responses to Part A of the questionnaire used in stage 2 of my research. This material gives the relevant statistics and commentary on the respondent's experience, qualifications, attitudes to formal and informal learning and current learning projects.

<sup>19</sup> Although 91 people returned the questionnaire, one of these was lost in transit. This meant that there were 90 participants whose data was analysed.

<sup>20</sup> Most of those who gave their description as "retired" had been either VET practitioners or industry trainers, and four of these had also participated in stage 1 of the research. Similarly, most of the consultants are industry training consultants.

### 3.5.5 Data collection

The responses came in very gradually and over a long period. The end of October had been the original deadline for the return of questionnaires. At the beginning of November, I sent out a very gentle reminder (Appendix 3.10) to all those who had not yet responded. A second gentle reminder was sent out in early January 2004, in the hope that some of those who had promised to complete it would find time during the January period when, traditionally, many are on holidays and work is much less stressful than the previous three months. This set a deadline of 10 February 2004 and by mid March I had received 90 questionnaires with another questionnaire having been sent by e-mail from Canada and not received.

Surprisingly, all those who received hard packs (ten in total), had responded by the end of November, even though their packs had not been sent out until the third week in October.

In the final analysis, the response rate of 91<sup>21</sup> returned questionnaires was very high, given that I had estimated that the questionnaire would take from two to four hours to complete, and nearly all the respondents have very demanding jobs and lives.

The uncertainty the respondents felt, as they realised that the questionnaire was probing them to make their understandings explicit, and to resolve contradictory actions and ideas, became apparent in their returned questionnaires. Reading and re-reading them I became aware that there was, for some of the respondents, a discontinuity, or a change in the depth of their responses, after the end of the section concerned with the initiation of the transfer/learning. It seemed as if, for these respondents, this was the moment in which they stopped and took stock; would they go ahead or was this going to be too hard?

To check my impression, I contacted three non-respondents and three respondents by phone. The three non-respondents admitted that they had got to this stage, looked at the number of pages of the questionnaire which needed to be completed, and put the task aside. Work priorities had overtaken them and they had not had the time to go any further. The other three contacted who had eventually completed the questionnaire, also admitted to having had a pause at this stage or at the end of the next section. However, either their curiosity had been aroused, or they felt that they had made a commitment to continue and so had gone on with the task, perhaps finding intrinsic rewards from the clarification of their own thoughts.

Further verification of my impression came from another three returned questionnaires which had responses for only sections one through to two, although, one of these also answered the Likert-scale items in section three, and a similar number of questionnaires where responses gave minimal information.

This suggests evidence of a conscious decision as to whether to proceed with a learning task when it becomes obvious that effort and a move outside of one's zone of comfort are required. It also indicates that this decision may occur after an initial enactment process; in this case about a third of the way through completing the questionnaire.

The following two tables (Table 3.5 & 3.6) provide an indication of the response pattern to the stage 2 questionnaire.

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<sup>21</sup> This figure includes the questionnaire response which was sent, but lost (refer p. 88).



**Table 3.5: Part A questionnaire responses**

	No. of responses	% of responses
1. current work	90	100
2. industry/professional area	90	100
3. length of service	90	100
4. age group	90	100
5. worked as teacher/trainer?	90	100
6. where	90	100
7. rating	89	98.9
8. highest qualification	90	100
9. satisfactory formal learning situation	90	100
10. pleasurable informal learning situation	90	100
11. self-description as learner	89	98.9
12. types of learning currently undertaken	90	100
13. teacher training	86	95.6
14. teaching qualification	86	95.6

**Table 3.6: Part B questionnaire responses**

	No. of responses	% of participants	<sup>22</sup> returned questionnaires
<b>1. Stories</b>			0
story 1	90	100	
story 2	90	100	
story 3	87	89.5	
<b>2. Initiation of learning</b>			2
Likert-scale items	78-86 <sup>23</sup>	86.7-95.6	
general comments	44	48.9	
specific questions	86	95.6	
<b>3. Initial internalisation</b>			4
Likert-scale items	81-85	90.0-94.4	
general comments	35	38.0	
<b>4. Validation etc.</b>			6
Likert-scale items	76-82	84.4-91.1	
general comments	30	33.3	
<b>5. Application in new context</b>			6
Likert-scale items	78-82	86.7-91.1	
general comments	29	32.2	
<b>6. Learning loop</b>			7
Likert-scale items	78-81	86.7-90.0	
general comments	33	36.7	
<b>7. Transferring competence</b>			7
Likert-scale items	81-83	90.0-92.2	
general comments	26	28.9	

<sup>22</sup> That is questionnaires which were returned with responses only up to and including this section.

<sup>23</sup> Because some people only answered some of the items, a range is given.

	No. of responses	% of participants	<sup>22</sup> returned questionnaires
<b>8. Learning for transfer</b>			11
specific questions	63-79	70.0-86.7	
<b>9. Research design</b>			20
Likert-scale items	66-70	73.3-77.8	
specific questions	41-66	45.5-73.3	

As the questionnaires arrived, the data was collated using an SPSS-compatible data base in which to store the Likert-scale item responses while the written responses were transcribed into files with a separate file for the responses to each open-ended questionnaire item. This process enabled me to read the returned questionnaires as a whole but also to have a method for being able to consider the all the responses for a particular item.

### 3.5.6 Data analysis

The responses to the Likert-scale items were analysed using SPSS software. Only simple descriptive statistics were generated, that is, frequency, percentage frequency, weighted means and measures to show the internal variation of the responses.

As described above, the responses to the open-ended items were collated item by item. These were then analysed for commonality of the responses and also to identify particular insights and understandings. The two sets of findings were then put back together to look for consistencies and inconsistencies in the two data sets.

An additional frame for the analysis was the use of three paradigms of teaching and learning. The questionnaire responses were analysed for indication that the respondent was working from a teacher centred; learner-centred; or learner activity-centred paradigm.

Both the Likert-scale items and the open-ended items were re-analysed for each of these three paradigms and compared to the overall analysis to see if any insights might be gained.

## 3.6 Connections

This chapter has been concerned with the design of the research process, the methodological approaches which informed it and the methods, tools and strategies used in both stages of the research. This has been done to ensure that the reader, understands how the research data was generated and how it has been processed.

The research design and process was customised and contextualised using existing, recognised (although not uncontested) research approaches and strategies. This was necessary to ensure the primacy of the research question and the need to shape the collection of data and its analysis around that question.

Chapters 4-6 look at the findings of the research and how these are underpinned by both the theoretical and methodological concept which give structure and meaning to the analysed data. The first of these looks at the findings from the stage 1 research and the remaining three chapters discuss the conceptual analysis of the stage 2 data.

## Chapter 4

### Findings from Stage 1 research

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#### 4.1 Chapter overview

Given that this thesis is focused on the transfer of competence across different work contexts – how practitioners perceive it and what implications that has for their practice - the stage 1 research centred on obtaining, analysing and interpreting unstructured, open ended accounts from practitioners about their perceptions of this form of transfer.

Thus, the objective of stage 1 of the research was to ascertain, from a small group of vocational education and training professionals, their perceptions of how existing knowledge and skills were transferred to a new work context (albeit possibly adapted and altered by the process). This objective was focused around three key research questions, that is:

- how does this transfer occur and how do people manage this process?
- what are the essential characteristics and conditions necessary for this transfer process to be effective?
- what processes, strategies, conditions etc. do the participants use within their training practice in order to develop and enhance the capacity of their learners to transfer their competence across differing work contexts?

The raw data was obtained using unstructured interviews and was collated and analysed using Engeström's (1999a) matrix for the analysis of expansive learning as outlined in the previous chapter.

This chapter begins with some comments on how the analysis was conducted. It then goes on to discuss the key findings from all twelve matrices, organised under the five principles of activity theory. This is followed by a discussion of the perceptions of transfer identified by this analysis.

These are organised under four headings:

- access to knowledge and skills
- initial internalisation of skills and knowledge
- validation and integration
- application in a new context/situation.

The findings related to the essential characteristics and conditions necessary for the effective transfer of competence across different work contexts are presented next, followed by the development of a draft model of how such transfer occurs as a formative tool for the next stage of the research. This is accompanied by a short discussion of the skills and knowledge which would best equip learners for the transfer of competence across different work contexts, including some suggested strategies for the preparation of learners for the transfer process.

This chapter provides evidence of the development of my understanding of the phenomenon being investigated, that is the transfer of competence across different work contexts. Most of this chapter, and Chapter 3, was written before the start of the second stage of the research. This was necessary as the outcomes of stage 1 of the research needed to be communicated to the stage 2 participants. I could only do this by writing an account of the nature of the research and

my findings to date. Revisiting this chapter to consider it in the light of my subsequent work over a period of more than three years, I decided it was, in itself, important evidence as to the developmental nature of this research and its impact on me and the participants. I have, therefore, kept it very much in its original form. It contains a description, not only of the participants' perceptions, but also of my formative understandings at this stage of the research.

## 4.2 Primary unit of analysis

Most of the data collected in Stage 1 of the research process was in the form of "stories". Participants narrated remembered events about learning and the adaptation of their competence within new contexts through narration. These narratives used metaphors to explain what they thought had occurred; the nature of these metaphors was often as revealing as the stories themselves. So the data collected was very rich and needed to be analysed in layers.

The primary unit of analysis for this stage was the set of twelve matrices developed using Engeström's matrix for the analysis of expansive learning. The description of how these were created may be found in §3.3.3 (p. 39).

Whilst time-consuming and difficult, the analysis enabled the recognition of the paradoxes and unresolved contradictions which were apparent in all the interviews. It also enabled the identification of emerging views, as the discipline of working through the concept of transfer and its manifestations gave rise to new insights and understandings.

One of the most intriguing things revealed by the analysis is that, for many of the participants, the multi-voicedness was internal, as they slipped between themselves as learners and themselves as facilitators of learning. Thus two clear systems could be identified, depending on the roles the participants were reflecting on, and these systems carried their own historicity and contradictions.

Appendix 4.1 shows a completed matrix for the analysis of expansive learning for one of the stage 1 participants. It is included with the express permission of the respondent. It illustrates the data collation tool which was used and how that tool provided a basis for the analysis of that data.

It should be noted that whilst the respondent uses the term 'workplace learning', she actually addresses 'workplace training' in much of her account. She also addresses the learning of others rather than her own. About one half of the Stage 1 respondents followed a similar approach, which, although outside my expectations, meant that their analysis of the transfer of what one knows and can do, focused at a relatively lower level of skill (but not necessarily of learning and/or understanding) than the reflections of the Stage 2 participants.

As was typical for all the matrices constructed during the analysis phase of stage 1, the respondents' unstructured responses did not always mean that the matrix was complete. After all, most of the respondents had not heard of activity theory, nor seen Engeström's (1999a) matrix for expansive learning, so their responses were hardly likely to fit neatly within it. To enable the reader to understand the type of comments which might appear within the different elements within the matrix (Appendix 4.1), I have included (in italics) a description of the activity system(s) described and have added (also in italics) appropriate comments in those matrix elements which were not discussed by the participant. My comments within the matrix have all been derived from an earlier research project on training reform within the Australian branch of a very large multi-national company (Down 1995; 1997b). They are included to provide a

completed matrix for the reader's benefit and have been selected to support the nature of the participants' response.

The information contained in Appendix 4.1 provides us with a view of learning within a large manufacturing organisation. Each of the twelve matrices or primary units of analysis, which were developed, were different; presenting the respondent's understandings and experience of learning and the transfer of what we know and can do into different workplace contexts. The rest of this chapter discusses these understandings and then presents a model which encapsulates these understandings.

### 4.3 Principles of Activity Theory

Contexts can be seen as activity systems. Thus, the conceptual framework, which I have used to analyse the stage 1 data, considers the context in terms of an activity system. The questions which form the basis of the analysis (in no particular order) are:

- What is the particular activity system in this case?
- What community, rules and division of labour is operating?
- What are the key mediating artefacts?
- Who is the subject?
- What is his/her object and how does the context shape the achievement of this objective?

The subject is the person who is making the transfer across the different work contexts. This may be the result of a change in job, in which case the different work contexts are physically different.

However, in the case of a change in job role within the same work community, the context may be physically the same. In this case the alteration arises from the change in reporting and accountability structures. When a person's job role changes, then new working relationships have to be established and there are, of necessity, quantum changes in personal relationships within the workplace. Working with someone as a colleague is not the same as working with the same person when you are his/her supervisor. Nor is it the same when your new role means that you work more closely with others and less with someone who was previously a collaborator on a daily basis. The changes in this type of context change are much less obvious than in a location change. Because the changes are less obvious, such moves are often fraught with difficulties resulting from a misreading of the situation.

In analysing the data, the objective under consideration was the transfer/adaptation of existing competence and its application to the new context.

The mediating artefacts, of the learning and of the change in competence which accompanied the change of job or job function, are the structures and infrastructures of the new workplace or context. The nature of the work, the existing overt and covert hierarchies within the work communities, and the artefacts and tools through which the work is done, all mediate and shape our learning and may thus be considered mediating artefacts.

The following subsections look at how the principles of activity theory have been reported on within the collected data.

### 4.3.1 Activity systems

All but one of the stage 1 participants described more than one activity system as part of their responses. These covered a wide range of situations including:

- their current workplace
- a former workplace
- formal learning contexts
- home situations
- social and community activities.

One of particular interest was the shift from 'brownfield' site to a 'greenfield'<sup>24</sup> site within the same company which one of the participants had experienced.

They were moving towards what was called a technical organisation which was based on the concept of team-working. They were very, very heavy into formal training, as I said, and I was part of a very, very large group that started a new factory on a greenfield site. And we were lucky to be part of that.

(s1p 03)

In a subsequent discussion, this participant described the differences between working in the new factory as compared with the same company's brownfield site.

It wasn't so much them and us. It was at the team level that most problems were raised and resolved. They were the people you knew and worked with, so it was easier to work things out. Because we weren't rule bound, we grew to trust each other and we knew each others capabilities. So if Tom was better at something than Bill, even though it was Bill's area of responsibility, he'd suggest that Tom might work on this tricky situation. This worked much better than when people insisted on resolving their own problems for fear that it might give them a reputation as a poor worker as it would [have] in the old site.

(s1p 03)

So that even so it is the same company, the community, the rules and the division of labour have all changed in specific ways within the factory.

Another participant described her move from paid work to domestic responsibilities on the birth of her first child:

I've never been domestic – luckily Fred [husband] is and we'd just muddled along until then, doing chores as we needed to. Now with the complete care of Sophie and the house in my hands – I just didn't know how to cope ... so I thought "what would it be like if this was work?" In my own mind I set Fred as the quality inspector and Sophie as the customer and tackled my new life as if it was a job ... even though the hours were irregular and I had to take a lot more responsibility that I had had to at work

(s1p 15)

In this case, the participant has constructed in her mind an activity system in which she works and establishes her community, the rules and the division of labour. The activity system, however, is a real one as she notes later on in her account.

I soon found that even though I might manage my role, I didn't have things my own way. Sophie was determined from the start to set her own set of rules like when she would and would not sleep and Fred had expectations of coming home from work to a peaceful environment and a nice meal.

(s1p 15)

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<sup>24</sup> A "greenfield" site is one which has been newly set up to minimise adverse historicity. An existing site is usually referred to as a "brownfield" site.

Formal learning situations were identified as often giving rise to the activity systems in which the transfer was involved, especially in respect to apprenticeships. As one participant said:

The teachers at school [off-the-job apprenticeship training] didn't want to know about our work. If I asked why we did it differently at work – they didn't explain – just said we'd best do it this way if we wanted to pass our trade exam. So you were learning different things on school days as when working on the floor and so it was hard to adjust to the two different contexts that we went back and forth between.

(s1p 05)

Doing an apprenticeship meant transferring what you learnt at school - mainly theory with some practical stuff – to work where it was “get this job done my way and be sharp about it”. There was no bridge between the two modes of learning so we had to adapt our learning to the different situations or contexts.

(s1p 04)

These last two comments illustrate the dilemmas and issues raised when we move between different activity systems. The participants have to adjust to different communities, rules, division of labour and mediating artefacts and are expected to have integrated the learning achieved within the different contexts by the time of the trade exams.

This raises the issue about the degree of difference between the activity systems between which we oscillate throughout our working and other lives. As an example of extremes, one participant reflected on her experience when, at the age of eight, she woke up for the first time in her new boarding school, a French convent in Egypt.

The hardest part was that everyone spoke French and no-one spoke English or no-one was prepared to listen to me in English. I got up the first morning and I asked when breakfast was going to be and something went on in French and a girl who spoke English said to me “You have to ask to go downstairs in French.” I said, “Well, I have no idea how to do this.” So she said, “well, I'll teach you” and I learnt “est-ce que je peux descendre peut mon petit déjeuner, s'il vous plait.” And I never forgot that and I also can remember the event because I can remember this nun being extremely resistant to my moving from the dormitory until I actually said it.

(s1p 01)

All the participants in Stage 1 made the association between the community, rules, division of labour and the mediating artefacts, which shape the transfer of learning across contexts, in their accounts, without actually using those terms. The accounts showed that the participants considered the context as instrumental in shaping the ease or otherwise as the transfer and the learning which accompanied it.

### 4.3.2 Multi-voicedness

In their accounts of their experience and understanding of the transfer of what they knew and could do across differing work contexts, the stage 1 participants identified one of the constraints as the multi-voicedness of the context into which they were moving. The voices of the others in the new context were varied and diverse. This meant finding a balance, an acceptable way to act in order to find one's way in a new environment.

When you first come into a new situation, a new working context, you need to navigate a path between the different things you are being told. The managers tell you one thing, then the blokes on the floor tell you ' don't worry what he says – if we did what he says, the whole process would be up the creek', and then the maintenance crew comes round and gives even different directions. Then there are the administrative people running round telling you what to do and not do about their blessed paperwork and the QA [quality assurance] people, the OH&S reps, the union blokes, etc.

You have to find your own path and learn who you can trust and who would like to see you with egg on your face. Workplaces are like having your family and the in-laws round for a barbie [barbecue]. Separately they are OK people, but put them together and it can be murder. So in the workplace, you need to be accepted by a fairly powerful set of blokes and you need to decide fairly quickly which ones are going to be the best bet and listen to them.

(s1p 04)

Thus one of the qualities this respondent thinks is important is the ability to “read the context” and be able to forge the associations you think are going to help you most. This concept is also picked up by another participant whose job as a management consultant means that with each new assignment, she has another context to read.

OK. Look, I usually panic. And, I think, every time I go into a new job ... I've had to create or find out everything from scratch.

And then there is a whole lot of conflicting information coming from the different players and you don't have a clear handle on what they want of you except in broad generalities. So I've discovered that the best way to learn about a job is to actually go and talk to people who are the key stakeholders, or key people who might know about one area of the particular job. And what I've discovered pretty soon is that if you talk to enough people, no matter who they are, and it doesn't have to be a huge amount, just a representative sample, that patterns and things will emerge about what the key issues are, what it is that you need to actually address. And from there you have a starting point.

(s1p 10)

The need to be alert to the multi-voicedness of contexts is not something that is necessarily valued or made overt in formal education except, perhaps, in the matter of presenting opposing views within an academic essay or research report. Yet it is a social skill that is vital in our working life. My experience, from consulting within industry, is that some of the best people from whom to find out about the diverging views and issues within a company is to chat with the ‘old lags’ – the group who do their work (and have done so for 20+ years) but work strictly to rule and never volunteer for anything over and above the minimum necessary to keep their job safe. I find that they “see all and say nought” (Down 1997b) – officially, that is!

Along with the multi-voicedness present in any activity system, is a set of multiple language forms, which Deakin (in Sefton; Waterhouse and Deakin 1994pp. 71-72, 107) calls the “lingua franca” of the workplace. Whilst such language forms can be quite specific to a particular enterprise, they also differ within different sites of organisational units within the organisation.

Examples of the effect of these differing language forms were common within the stage 1 transcripts. For example, one participant, talking about the effects of the national training reform agenda on the way people worked, noted:

Learning a whole new language and with whole new concepts means they have to be convinced, usually of the value of what they are doing.

(s1p 10)

Another participant noted the need to change one's language when moving between the different groups of internal training clients he works with:

Because a number of us are doing courses about training at different universities, we often talk about the concepts we have learnt about and how useful they are here. So we use highfalutin words like pedagogy and paradigms and all the acronyms involved in vocational education and we have fun trying to find the longest word (hermeneutic-interpretism is still my favourite!) or most incomprehensible concept. ... But when we go out to work with tradespeople and production staff, we talk quite differently. Like we did when we worked on the shop floor ... And its different again when we talk with management because its important that they think they know more than us.



(s1p 04)

For those coming into a context from outside, as with VET trainers working within enterprises, reading the nuances of language and the multiplicity of voices within a training situation is important:

For each new group you work with there is a time when you need to listen, to identify the issues and meanings behind the words, so as to determine the approach you will take ...

Then, just as for any group of learners, there are the day to day fluctuations caused by the environment and working community – it's no different when a group of machinists are grumpy because the supervisor has been on their backs as it was when I was teaching preps and the bigger children had taken over their play spot. But it is important that you try to address it in some way – release the tension - otherwise you won't get much from the group.

(s1p 12)

Multi-voicedness within work contexts also covers the differences between what is being said and what is being meant and/or what is being said and what is being done. The disparity between rhetoric and meaning and/or rhetoric and practice needs to be understood, if the worker is going to be able to find his/her way in the new context. As one participant notes, when a supervisor or manager is promoting a change, it doesn't necessarily mean he/she either understands or supports the change:

Because they know that the person who is sponsoring that change is using them. But, it's a way of, maybe, filling in their career – and they couldn't care a shit about it. They just want the bottom line to improve. So they are not genuinely, really interested in, for example, setting up team-based environments because this is a better way to organise work. They are doing it because it's a management "say so" – you know the sort of thing.

(s1p 10)

The transfer of what a person knows and can do, when crossing into a different work context, will be shaped by the multi-voicedness of the new context and depends on the person's capability to identify and find a balance within the voices, language and meanings of the new context. The capacity to do this is often part of the person's tacit knowledge and, as such, not consciously recognised by the individual.

### 4.3.3 Historicity

Our past experience shapes our present learning. Similarly when moving into a new context (or activity system), it is important to recognise that the new context has been shaped by what has happened within it in the past. Engeström (1999a, pp. 4-5) argues that the potential of individuals and communities to learn, and to change as a result of that learning, can only be understood by acknowledging their collective history and the events, practices, culture, etc. which have shaped that history.

This was identified by a number of the stage 1 respondents. Most commonly, these references accompanied examples of barriers to learning.

In the past it was just "We just want you to come here and peel tomatoes, eight hours a day, five days a week. You don't have to know why you are peeling them, it's not your concern what happens to the tomatoes once they've left your hands. We just want you to peel the bloody things and remove the bad bits, and drop them onto the correct belt".

Then, suddenly, the managers are talking about working in teams, caring about the customers, seeing the big picture, taking responsibility for the quality of the product. Why should the operators change? It's still the tomato line, they still remember being told at

school that if they didn't work hard they'd end up on the tomato line - and now they are expected to care about their work?

(s1p 16)

While this is an extreme example, it is one I have heard from a number of sources and a variation on the theme of 'leave your brains at the gate – we just need your arms and legs' (Down 1997bp. 296); a common expectation of operators in the manufacturing industry pre ~1990.

Another barrier to learning, attributable to an older system but still influencing current workplace practice, is identified in the following comment:

Under the old system it was fairly trial and error, you often learnt by making mistakes. You didn't forget when you made a mistake, but it is a fairly expensive way of doing things. It also stopped the employer, or the supervisor, or the manager having any confidence in getting anyone but an experienced person to do an experienced job. He didn't want a new person doing the job because they [might] stuff up.

(s1p 02)

In earlier work (Down 1997bp.143), I identified the three shibboleths which are invoked as a means of resisting change: that is, "it will affect production", "it is an O. H & S issue", and "it has never been done before". The last of these was referred to a number of times as a barrier to the transfer (and adaptation of) a persons existing skills and knowledge as they move into a new working context.

Given that learning involves interaction (as discussed in §2, p. 31) with the work, intellectual, emotional, social and physical contexts in which we are situated and/or need to draw on, the transfer of competence into a different context is connected, rather than individual, learning and is multi-directional. That is, it is not only the person who is moving into the new context who must change and learn but also the existing community within that context. . Thus the initial probing and interactions of the newcomer are often resisted by his/her colleagues acting out their understanding of the historicity of the context. As one participant noted:

[There are] ... lots of people who are really resistant to complexity and ambiguity. ... So they get overwhelmed ... when it gets really hard and resist. One of the ways they do this is by falling back on past practices and attitudes. "This is not how we work!", "We have never done it that way", and "You think things should change but that is because you don't understand our way of working".

(s1p 10)

Thus, in any situation of change and/or learning, and the transfer of one's competence is a situation of change and learning, the connectedness of the learning needs to be considered as does the historicity of the context or activity system which will shape what changes are necessary and what are possible in the current context.

#### 4.3.4 Contradictions

As discussed earlier in §2.3.5 (p. 41), contradictions within context are the initiators of learning. It is in the resolution of, or the finding of balance between, some of the contradictions and paradoxes, which are present in any human system, that generates expansive learning.

Even though it was a greenfield site, we were not and there were sometimes conflicts between what we were trying to achieve and the baggage we had brought with us. So we had to work out how to proceed, which often meant changing our practice and learning to operate in a new way. We weren't taught this. We had to work it out for ourselves within the work team.

(s1p 03)

One participant described how the inherent contradictions between many of the older workers' perceptions of themselves as poor learners and their need to involve themselves in the new training in order to maintain (in real terms) or increase their pay levels within an industrial system where pay levels are tied to training qualifications.

At first, they lacked confidence in the classroom sessions ... [then] they realised that they had things to contribute to the discussion because of their long experience and common sense. For the trade facilitators, they were a gift as they helped the younger workers to understand the work within [the context of] the big picture.

(s1p 02)

The contradictions within a transfer situation (where the job changes) are usually characterised by paradoxes and a diversity of views. These often come from the assumption of roles and power by those introducing the change, which is not shared by the workplace community. As one participant describes it:

But if you are talking about people at work and somebody comes in with a new scheme saying "this is the way a company is going to work now and we all are going to have to manage it", that isn't quite as imperative as having to adapt to a new country or learn a new language. Because, in fact, people know the way something works now and, if they have considerable misgivings about whether it will work the way its supposedly going to, the legitimacy of what is being proposed may be challenged on every front. And the people, who think they are doing an amazing thing, bringing in a new scheme that has worked somewhere like Ford in Detroit or somewhere, think they have a legitimacy which they really don't have because they really think that you impose a culture top down. (I'll let the dog in, just a minute).

(s1p 01)

I have included the last part of this quotation as an illustration of how participants in stage 1 usually recorded their data as if they were having a conversation with me. I was usually given a reason for the tape having been switched off and greeted anew when they resumed their task. I have taken this as an indication that they were quite relaxed in their task once they had got over the initial inhibiting feeling of "what will I say?" I have also assumed that this relationship between the invisible interviewer and the interviewee gave rise to the rich data collected at this stage and was mirrored by respondents to the stage 2 questionnaire who addressed me by name in their comments, sometimes got cross with me for not explaining myself better, and inserted personal exchanges referring to shared past events within their responses.

#### 4.3.5 Expansive learning

Once I was in such a school, a State school, where there was such a sense of shared project involving the children, and it was a very exciting place in which to be. I began to see that I had to think about getting more control of the ways I made decisions about teaching at that place. ... I got a lot happier after I had been at that school [for a while] because I was able to see all sorts of things which said you could do anything as long as it fitted with what the school was doing. I thought "OK. This isn't just a lot of rhetoric". ... It was just conditions didn't look as if they could be changed.

(s1p 01)

This is an illustration of expansive learning in formation. The context is taking the participant out of her zone of comfort into a journey through Zygotsky's (cited in Engeström 1999a, p. 5) zone of proximal development to explore what are the boundaries around her legitimate decision making.

The transcripts and matrices which provided the data for the stage 1 analysis and interpretation provided a number of examples of expansive learning outcomes or processes. The one above relates to a situation where the school is the context. The same participant gives a second example which confirms her evolving ideas about the space she had in which to act and make decisions.

I remember being met by ... the Deputy-Principal, when he showed me round the school. He said, "This is a non-confrontational school." And I thought that it sounded nice but I didn't actually know what it meant so I had to ask him what he meant. He said that if a child is very angry or staff have got very angry that it is better not to have a battle at that point. It is better to withdraw a bit and not to deal with it whilst a little out of control – but to try to get to the root of the matter later. And I thought "Wow. This really suits me."

I had a chance later on to quietly ignore a fourteen/fifteen year old girl who threw a tantrum and lay on the floor and kicked the table and I noticed that the children didn't take a lot of notice of her - the students in the class – and I thought "Right. OK! I have full permission in this school not to actually do any more than I would do with my own children at home if they were throwing a wobbly." And I just got on with it and dealt with the others. Eventually the girl got up and went out and slammed the door. And she came back into class the next time we had a class and she seemed to be quite settled and calm. And we never had any more wobbles.

... I asked the staff about it and they said "Oh. She's having a very difficult time". ... It seems when I look at it with hindsight that she was possibly testing out to see whether someone else was going to be angry with her. And I had no investment in being angry with her so I had all the space to act the way I wished to act in that situation.

(s1p 01)

The learning described above is clearly very context specific. In a different school, a teacher might be severely criticised for non-intervention in a similar situation. The learning in the next extract from the collected data is also context specific and relates to a large multinational concern which went through a major training reform process in the early 1990s. The participant was appointed to a training position from a shop floor tradesperson's role during this time.

The interesting bit about this is that the classroom becomes less relevant in the early stages [of] actual[ly] doing of the job - and I have noticed that the classroom based learning is more effective after they have learnt the job. If you get a new operator, say a die setter<sup>25</sup>, and you say you are going to make him a die set operator and you give him all the classroom training. If they know very little it is very hard work for it to all sink in, confidence level is very low, or they don't know the questions to ask, or if they do it is a battle. Whereas if they actually learn on the shop floor from VIC sheets<sup>26</sup>, then you give them a die set class, ... [It] is an extension for them – an add-on. You can see that they know something, that they feel comfortable and confident in their classroom [and the] study that the class is doing. Therefore they are able to learn the theory behind some of the things they are doing better, they are able to participate in the class situation so much more strongly and therefore they will enjoy the class and actually gain a lot ...

(s1p 02)

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<sup>25</sup> Die set refers to the removal and replacement of dies in a stamping press or similar equipment. The die is the mould that will bend (under pressure) the metal to its required shape. In this case, the dies referred to weigh many tonnes, the presses are the size of a small house and their manipulation is performed by a team of at least two die setters and/or press operators.

<sup>26</sup> VIC is an acronym for Vehicle Industry Certificate. These sheets contain job instructions but also are written to include all aspects of the job, including OH&S, housekeeping, waste minimisation and the work group issues and duties which fall into the job role.

This particular participant was originally trained as a toolmaker in an apprenticeship system which rigidly divided theory from practice. Theory was learnt at 'school' (a vocational education and training college) whilst practice was your job. The two rarely were concurrent and there was little attempt to draw links between the theory and the practice. So he is now part of a new training approach which differs from his own experience of this learning. He and his fellow trainers are involved in expansive learning as they implement training in a very different form from that of their own experience in learning their craft.

The third example of expansive learning selected from the data comes from a participant working in the same company as the previous participant. In this example, the expansive learning is both his and that of the people with whom he is working.

We're involved in lots of different change programs and we are trying to encourage people to utilise their competencies and skills that in the past have maybe been stifled. So the people on the shop floor – through Total Productive Maintenance - ..{are} working together in groups to collect data, to analyse data, to look for some goals and targets to improve the processes and the machinery that they are working with and to use all of the skills and competencies that are already there in the groups.

So, ... what we are trying to do, I think, is to facilitate and allow people to do things that they are really good at. In the past they were sort of stifled and held back.

So there could be some people in the group who are very, very good at figures and working out things, or some people who have very good analytic skills and competencies and we're, sort of, bringing those people to the fore. Allowing – not bringing them, - allowing them to come forward and to put their hand up and say "I want to do that, I want to be part of that".

In that context, others start to see that they can have a little go here and that they can be part of it. So they bring their skills out and allow it to happen again. So I think we are all getting better at it. The strategies which we are using at the moment is, ... in the true sense of it, to empower people, to let them to be part of it, [that] is the key. I love being able to be part of the decision and as long as I have been able to be part of the decision then I can buy into it. I can live with decisions which, if I hadn't been part of it, I would be criticising. [Otherwise], I would be saying "I don't want anything to do with this. It's not my decision. I knew it wouldn't work anyway and all the rest of it."

(s1p 03)

Whilst the concepts this participant is talking about might not seem particularly new or ground-breaking, they are for him and they are for the workforce of that company, used to a more task-centred approach. So within the workplace context, the community of practice is finding how they can work more effectively by bringing individuals into an equation which has been exclusively concerned with product and profit in the past. Such expansive learning is connected learning (see §2, p. 39), that is, there is a strategy for enabling people to be listened to and their contribution valued.

The five principles of activity theory can thus be seen to contribute to establishing a connected 'knowing' within a specific context. The unit of activity describes the context and those salient features of it which will mediate the learning which accompanies transfer. The multi-voicedness of the system reminds us that work contexts are not benign environments (Billet 1999), that they are contested environments and that such contestation results in a diversity of views and voices. Contexts also carry with them the cultural baggage of past shared experience, of the rationality of past decisions whose effects are still prominent, and the alignments and realignments of people within the community of practice. Finally, it is the recognition and need to resolve contradictions and paradoxes within a context which can initiate learning. Within an activity system, such learning will be both expansive (by leading to innovative behaviour and new

understandings) and transformative (by changing the way the learners or community of practice operate).

#### 4.4 Perceptions of transfer

In the former section, I have identified parts of the stories that stage 1 participants told to explain the context of their perceptions of the transfer of what people know and can do across different work contexts. Only one of these participants tried to explain the phenomenon of transfer outside of a particular context. It is unlikely that many of the participants knew the terms 'situated learning' or 'polycontextual boundary crossing'. Yet their experience had taught them that learning is situated in a context and that transferring what one knows and can do across contexts is, necessarily, a process of adaptation and new learning.

The participant who attempted to describe the phenomenon tried to do so using an abstracted process. However, she included examples to illustrate her ideas. Thus her account became more of an allegory than a theoretical discourse. She was the only person to outline a distinct process of the transfer of competence across work contexts. When she wrote:

On the basis of this assessment [of the context], the person then applies, or adapts and applies, knowledge and skill developed in other contexts to the new work context and work task. The process is:

1. the determination of the extent of contextual fit
2. modifying existing knowledge and skill to meet the current situation
3. applying competence
4. critical reflection on success or otherwise of strategies employed.

(s1p 05)

As outlined in §3 (p. 82), the material for this section was collated by sorting comments made by participants into four piles and then pasting them on to butchers' paper. Once this had been done and the comments read several times, temporary headings were given to the four quarters of the butchers' paper.

In this section, perceptions articulated by the participants are discussed under four headings: access to knowledge and skills, initial internalisation of skills and knowledge, validation and integration, and application in a new situation. These headings are the names I gave to the groups of ideas which seemed to be related. However, the ideas expressed in the following four sub-sections are those of the participants.

##### 4.4.1 Access to knowledge and skills

Nearly all the participants specified the need to seek out information within the new context. They needed to determine what knowledge and skills were needed of them if they were to successfully integrate into the new context. This usually occurred immediately they entered the new context. However, if the transition needed to be a very rapid one, as in the case of consultants whose credibility often depended on their being able to rapidly inculcate knowledge of the new context into their practice, then the gathering of information about the new context was often started well before they actually crossed the boundary into the new context. In both cases, they were acting as legitimate peripheral participants of the community of practice with whom they were to work.

## Motivation and confidence

The two most common terms used by the participants in association with regard to accessing the skills and knowledge they would need in a new role and/or context were motivation and confidence. In the sense they were using it, motivation was the drive to fit into the new context and to be able to perform their new work role satisfactorily. Such motivation was both extrinsic and intrinsic. It is the key to Engeström's second question, that is, 'why do they learn? What makes them make the effort?' (1999a, p. 1).

The majority of those involved in stage 1 worked with operatives and tradespersons within large enterprises. Many of these enterprises were highly organised in the industrial sense. So basically, the prime motivator for learning and transfer, for these tradespeople and operatives, was to improve their pay. In addition, many were working under 'grandfather' clauses within industrial agreements which meant that their current position was protected only insofar as the actual grade or level. However, they would not receive any further increases in pay until their recognised skills and knowledge matched those required for their current grade.

They are often angry and are clearly [only] there to meet the company requirements. So it is our job to get them to value and enjoy the training experience. It's difficult because they are often the leaders on the shop floor and if they are resistant, the younger ones will be too.

(s1p16)

In many cases, their motivation to improve their knowledge and skills (and for these workers the emphasis was on the underpinning knowledge, contextually integrated within a big picture view of the enterprise's goals and operation, rather than actual skills formation) was counteracted by a fear of losing their status if they were seen to be learning.

Another barrier which often needs to be overcome is the apprehension engendered by past experiences of learning within a formal educational system.

The implications here for employees is that to stay employed, one must undertake further learning and training. For most people over thirty five years of age or thereabouts, education and/or training is a daunting notion because prior learning and training experiences have not always been positive ones and imposed training and education in order to "keep pace" (irrespective of where the imposition comes) immediately acts as a barrier to learning and hence a barrier to subsequent transference.

(s1p08)

So, what were the motivational factors identified by the stage 1 participants that caused people to learn and to adapt their current competence so that they will be able to operate effectively within the new context?

The factors identified by participants as important for motivation were:

- the need to fit within the new context
- the need to be accepted by the community of practice of that context
- the need to regain a sense of control
- basic survival in a new environment
- interest in the new context
- curiosity about the new context

- self motivation as in 'I'm not going to let this beat me' (s1p16)
- confidence which came from having previously negotiated changes in context satisfactorily
- the similarity of the context with previously experienced contexts
- promotion or pay increases
- retention of current status.

(suggested by stage 1 participants)

This list includes those intrinsic concepts such as interest, curiosity, persistence and feelings of control cited by Russell (1999, p. 98). It also contains a number of extrinsic factors, supporting the view of Smith and Spurling (2001) that 'the potency of motivation comes from being purposeful, focused on a particular action or goal' (p. 2).

In real life, motivation is not just a person's keenness for something; it always favours that action or goal against some perceived alternative (s). Such alternatives will sometimes be clearly perceived, sometimes not. ... Motivation is always relative to an alternative or alternatives which have been, or which can be, rejected.

This means that an action or goal has no inherent ability to motivate – it is the context which makes the difference.

(Smith and Spurling 2001, p. 2)

This gives support to the following comment about motivation changes across contexts

Whereas she was highly motivated in her previous role and often made suggestions for improvements, the difficulties she has encountered [in the new context] have lessened her motivation and she is content to do her work without getting involved with the others.

(s1p07)

According to learned helplessness theory (Abramson; Seligman and Teasdale 1978; Seligman 1975), the reason for this effect is motivational. As Foster (1999) explains:

Failure causes an expectation on uncontrollability, that is, the belief that success and failure are independent of ones action; this expectation is generalized to subsequent tasks, where it undermines the participants' motivation; that is, their willingness to expend effort. The withdrawal of effort results in poor performance.

(p. 3)

This accords with the views of participants that it is past performance that shapes current performance and that without specific intervention, the fear of failure becomes a self-fulfilling prophesy. All theories of motivation share an underlying core which includes cognitive triggers which activate when failures occur. These triggers exhibit as low self esteem, self blame and anxiety under pressure among others.

The underlying premise is that failure, past or present, undermines an individual's willingness to expend effort: and the more failures a person has experienced in their life, the less effort will be expended.

(Foster 1999, p. 7)

Thus the confidence to enter into, and persist with, new learning in a new context is tied to the historicity of the main actor in the transfer process and, if this confidence is low, requires some sort of intervention to reverse a negative cycle.

### Need

This was a common term used by participants to describe the factors which initiated learning as part of the transfer of competence across different work contexts. In many ways, it might be a



subset of motivation insofar as it is the need, rather than simply a desire or keenness, to reach a goal or achieve an action which is the driving force.

### Affordances

As Billett (2000b) argues, work contexts are highly contested and the opportunities for participation in its activities (which are commonly described as affordances) are 'shaped by workplace hierarchies, group affiliations, personal relations, workplace cliques and cultural practices, as well as the kinds of activities in which individuals are able or requested to engage' (Billett 2000b, p. 31). This was noted by a number of the participants who said:

The quality of my reconnaissance when I go into a new workplace is dependent on who I am able (or allowed) to talk to and how freely these people will converse with me. Tea rooms are great in providing opportunities to find out what is happening - my experience is that informal encounters can be very informative.

(s1p10)

The process was designed to open the process up to everyone but that has not necessarily happened. Supervisors, leading hands and even union reps make it easier for some than others to move into new roles and thus increase their skills.

(s1p07)

I do see changes in the possibility of participation. ... Certainly, in what I call impossible conditions of working ... I can see signs that make me hope that people can be more humane in their decision making and ... offer more opportunities to people.

(s1p01)

### Personal agency

Personal agency can be considered the obverse side of the coin to affordances insofar as no matter how many affordances might be offered them, it depends on the personal agency of the individual whether such affordances are taken up and transformed into opportunities to learn. Alternatively, personal agency can be used to create affordances. As one stage 1 participant notes:

I see it as part of my job to encourage people to stand up for themselves and take up opportunities to learn and to better oneself. This is the coaching or mentoring side to my work.

(s1p02)

### Participatory practice

As well as confidence, there are basic skills one needs to participate in group learning such as listening and knowing when to speak and when to shut up. Others waffle on and waste time ... and there are those who stay quiet, until agreement has been reached and a decision taken, and then they suddenly burst into numerous reasons as to why this is a bad decision.

(s1p04)

The capacity to engage in participatory practice is both context and individually based. The positive invitational qualities of a workplace will assist in enabling workers to work together and engage in group problem solving and decision making. Alternatively, where the community of practice is not empowering, it is unlikely that newcomers will engage freely, even if they have the necessary skills and abilities.

## Learning competence

Workplace learning is often undirected and the learner is expected to be able to learn on his/her own initiative. This is especially true under current conditions where the rate of change means that our knowledge is relative to the times and contexts with which we interact. As Carl Rogers (2002b) expresses it:

The only man (sic) who is educated is the man who has learned how to learn; the man who has learned how to adapt and change; the man who has realised that no knowledge is secure, that only the process of *seeking* knowledge gives a basis for security.

(p. 26)

It is, therefore, vital that workers have the necessary skills and knowledge to learn for themselves within their work context. Learning in this sense might best be understood as the learner interacting in a meaningful way within the work, social, intellectual, emotional and physical contexts in which he/she is situated in order to better understand and work within them.

Such interaction is a reflexive process, both the learner and the context change as an outcome of such interaction.

You've got to be able to find things out, learn about the political realities of the workplace ... I read somewhere that it's like walking on eggshells and I thought that was a good description.

(s1p15)

Skills identified by the stage 1 participants were:

- context-based research, that is, finding out how the workplace community does things, their shared values and goals, etc.
- reflection on action and on interpersonal working relationships especially when things have gone, or are going, wrong
- observation and patterning
- remembering – facts, processes and procedures
- interpersonal skills – getting on with colleagues
- being able to function as part of a team.

The skills in this list are not generally those emphasised in formal learning situations, which I find interesting given the rhetoric of school learning being preparation for life. Given that a large proportion of school leavers enter the workforce straight from school, it is seems reasonable to suggest that they may not be prepared for learning at and through work.

### **4.4.2 Initial internalisation of skills and knowledge**

The data analysed under this heading was usually preceded by terms such as “at first”, “initially” and “at the beginning”. It described the tentative implementation of what the transferee has found useful in the old context, sometimes in the same format, sometimes altered by the addition of new skills and knowledge or sometimes contextualised by using the same knowledge and skills but putting them together in a way more compatible with the new working environment.

As one participant described it:

At the beginning, if it is a reasonable workplace, you are given some time and space to adjust. So that after, you have decided that there is a contextual fit for some of your

competence, you start trying it out and listen for people's reaction to it. You need to be able to pick up negative vibes quickly and adapt what you are doing so as to fit within the workplace [community]'s expectations.

(s1p10)

The data which was analysed in this stage was also characterised by uncertainty with many participant's describing it as being out of one's comfort zone. This degree of uncertainty may be quite containable or it might give the transferee a feeling of panic. One participant described it as ... composed of times when you wonder if you were right to commit to the change interspersed with feelings of elations that this is what you really wanted. And all the time you are trying to determine how to fit in – trying out ideas from the past but modifying them for this new future.

(s1p18)

A number of participants interviewed felt that this was a stage characterised by working towards a sense of "ownership" of and engagement with the context and the new and adapted skills and knowledge being put into use. It gave rise to such comments as:

- I am learning how to survive in the new environment
- I have gone back to being a beginner whereas in the old context I felt I had recognised expertise
- they are beginning to accept some ownership of the context – saying 'my work' and 'our workplace'
- they are still observing and listening and modelling what they do and say on others in the workplace
- I'm doing things which feel strange – I need to start thinking about whether I am outside my normal behaviour.
- they try to fit in – to keep a low profile – not to be noticed.

(stage 1 participants)

There was a strong feeling that this stage was transitory and provided a space for the transferee to catch his/her learning breath before developing a working persona or identity within the new context and work community. It also allowed them to consider what 'role' they might play within the new work community.

#### 4.4.3 Validation and integration

The comments which ended up being sorted into this stage on my butcher's paper were very much shorter, than for the previous groups of comments, and were not part of the 'stories' told by the stage 1 participants but, instead, appeared in their accounts as comments on these stories. Most of these comments were used in the Stage 2 questionnaire. In many cases they were preceded by phrases such as: 'after', 'when you are feeling more settled', 'after the panics of', 'much later you may'. Reading these comments within the context in which they were made gave me the strong impression that these comments were a form of double loop learning. That is, once the initial adaptation and learning was over, there was a period of reflection when the activity of stage 2 was compared against what was already known about the skills and knowledge and about contexts and communities of practice.

Looking for similarities helps you survive in the first instance – but your deep understanding and ability to recognise how difference needs to affect your practice enables you to survive

(s1p18)

Many of the comments were directed at the necessity of systematic reflection (that is, making reflection on work practice a habit that you do on the way home from work, before going to bed,

showering in the morning, travelling to work or as the first task of the work day. One of the participants noted that obvious reflection is not encouraged within his workplace:

While the rhetoric about thinking about your work might be fine - if you are found sitting idly at your desk or work station then you can expect trouble. If your supervisor doesn't tell you to get on with your work, your workmates will get stuck into you.

(s1p4)

The list of the key comments made by the stage 1 participants, which were chosen for validation in the stage 2 questionnaire, is as follows:

- no-one can do this step for you – you have to be an active learner
- it is about what is different in the new context
- you need to compare what you did and what you now need to do and figure out the difference
- reflection is very important
- reflection needs to be systematic – you need to think through what is different and how you are adapting
- you have to make judgements about what is different and how to react
- it is constructive learning – you are building up your understanding and competence from each situation
- it is not just learning in an academic sense – you need to use a number of different intelligences
- you need to feel the difference – through sight , sound and even through the soles of your workboots
- it's about problem solving and reflection on what works and what doesn't
- trial and error is important – you need to be able to accept that you will sometimes get it wrong
- working in a supportive work group is important – you need to be able to talk about what is happening
- applying your political antennae is important – there are those you can ask and those you can't
- the people dimension is much harder and more complex than the technical knowledge
- mentoring helps – you need someone who will help you through the maze
- it's much easier when there are others working with you. When you're the only person doing that particular job, you have to figure it out for yourself
- it's about the people, rules and who does what
- you need to establish a supportive group – your community of practice
- the rules may be processes and procedures, but they might also be about the culture and how things are done around here
- knowing who knows what and who to ask. Once you know that the rest is relatively easy
- the more times you go through it, the easier it becomes
- you are on your own – so you need to analyse what you know and can do and re-assemble it in a more appropriate way
- no-one can teach you how to adapt – the learning you are doing is specific to you – it's unique.

(stage 1 participants)

These comments are suggestive of workplace learning over a long period as a deeper exploration of the context and practices of the workplace is undertaken. Whereas, in the two earlier stages, the transferee was peripheral to this community as he sought entry by way of adopting their practice, he/she is now less on the periphery and more integrated into the community of practice. Accordingly, the actions and activity of the transferee are more directly affecting (and including) the workplace community and, therefore, contributing to contextual change.

#### 4.4.4 Application in a new context/situation

This stage represents the achievement of the original goal. One of the difficulties with the stage 1 responses was that their objectives were often large ones. Hence the recognition of the achievement of these objectives is unlikely to be clear. If, as it once was, my ambition is to be a good teacher, the achievement of that goal will be confused by other goals which have been added over the seven years I gave myself to achieve that goal. Therefore I will go on still seeking the goal but its definition has changed out of all recognition.

However, if the goal is more achievable in a shorter period, such as I will sharpen my skills as a research report writer, then its achievement is likely to be recognised. This, in turn, gives the transferee more confidence to address the other goals he/she made; either concomitantly with the research report goal but also subsequent to it.

Because learning is not one dimensional, nor does it occur linearly, we are simultaneously poised on the learning spiral within a multiple of loops and at a multiple of stages within that loop. After I had shared the evolving model with a number of the stage 1 participants in a focus group, one participant noted that:

I'm not sure if I ever get round to stage 4 because my objectives keep expanding.  
Celebrating our learning achievements (both individual and group ones) is something that we should do and yet rarely get around to doing.

(s1p10)

This throws up one of the paradoxes of learning. In adult life, learning is holistic and multidirectional. Yet our motivation for learning depends on us having a sense of confidence in our capacity to learn in non-formal situations. Celebrations of achievement may be an important part of establishing motivation and yet, within many workplaces, they seem to have no place. The exception may be the celebratory drinks after work when the annual round of performance assessments have taken place. Yet even this is fraught with exclusion issues, because most of these assessments, although ostensibly criterion-based, are often of a normative nature, especially if bonuses or pay rises are involved.

The goal of being an expert needs to be seen as applying to the particular set of skills and knowledge involved; as is the achievement of autonomous and independent learning. The transferee has successfully moved into a new context but he/she will need to repeat the process the next time he moves to a different work context. The stage is a celebratory one – but not a final one.

One participant described the transfer process as often happening in a sub-conscious manner and based on an assessment that either:

- transfer of the competence in its present form is possible; or
- the competence has been developed and stored in such a way as to allow for its flexible application across different contexts.

(s1p12)

Certainly, this latter view supports the inclusion in any model of a stage where considerable unpacking and repacking of knowledge and skill occurs.

## 4.5 Characteristics and conditions

The characteristics and conditions for the transfer of competence across differing work contexts seemed to be largely prompted by the guideline sheet (Appendix 3.5) which they received after their initial interview and their acceptance of the invitation to be a participant. These factors are discussed under the following headings:

- personality traits;
- relative experience and expertise of the person making the transfer;
- the decision making needed, that is, what types of decisions and how these are resolved;
- nature of the competencies being transferred;
- the role and influence of the contexts involved;
- internal factors such as motivation, comfort with change etc.;
- external factors such as work and interpersonal environment, relative isolation, etc.;
- preferred learning and working styles;
- some other factors.

### Personality traits

The participants were divided on how important personality traits might be to the transfer of competence across different work contexts. Whilst many saw that an outgoing personality and a tendency to enjoy challenges would be favourable characteristics, others saw it as a “cop out” to blame one’s personality on one’s inability to successfully cross between different work contexts. For one participant, her rejection of personality traits as a factor was more intense:

The idea of agency would suggest personality traits, like intelligence and ability ... [Teachers] write five or six things on a check list which they say will lead ... to the learner being able to transfer or manage a process successfully. If you say things like “is your postcode included as a personality trait?”, they say “Oh, don’t be so silly. That’s not part of the personality.” And they also, while they acknowledge that your socio-economic status might have had something to do with it, always cite individual cases who come from some suburb which isn’t in the desirable postcode area who turned into a brilliant something and managed a transition very well. There’s a great lack of objectivity when talking about personality traits.

(s1p01)

The question of personality is a vexed one. Learning theories, such as behaviourist theories, cognitive theories, and humanist theories, focus on the personality factor whereas some of the newer learning theories, such as experiential learning and expansive learning, focus on the social or environmental context of the learner and his/her learning (Rogers 2002a, p. 12). A learning theory which focuses on the personality is *a priori* concerned with individual learning and fails to take into account how our personality alters according to the social group we are part of or legitimately peripheral to. It also fails to account for the development of connected learning through collaboration with others.

### Relative experience and expertise

This was considered important by a number of respondents. One person spoke about the Kolb (1984) model being used by him as a framework for the transfer of competence. He continued:

Skills transfer is dependent on the nature/personality/preferences/history/ experience of the student ... Also a person with some level of knowledge has a framework to hang the new learning on, there is already some level of understanding of the context.

(s1p07)

A second participant saw the importance of relative experience and expertise as being focused on the notion of estimating the contextual fit.

The determination of contextual fit implies the ability to analyse and understand the relational aspects of the characteristics and dimensions of a context. This, in turn, implies that the learner has developed this capacity, either through his/her formal or experiential learning. In addition, the extent to which the competency is grounded within and dependent on the context in which it has been developed and applied, and the learner's ability to recognise this, are also important.

(s1p12)

### **Decision making**

This obviously caused the respondents some difficulty as whilst most of them considered that it was probably important, they didn't explain why. One participant did give some explanation:

So I suppose the criteria by which decisions are made, and their nature, are relevant. But it's very nice if they are not so fixed as to make the whole business of decision making oppressive. And I think a spirit of shared decision making is what I learned to recognise. ...I heard the expression that assessment should be about shared decision making, ... rather than testing and using a sieve on people. It is about a positive process. It needs a bit of vision by everybody to keep that going, ... drawing on resources, ... using one's critical faculties and enjoying doing it, trying it out, and recovering when a mistake's been made ...

(s1p01)

### **Nature of the competence**

The responses to this prompt varied, with some agreeing it was a factor and others disagreeing. An example of support for the concept was given by one participant when she said:

The nature and complexity of the competence is also important. Paradoxically, more complex competencies may be more readily transferred across different contexts. This is because such competencies are inclusive of understandings about the nature of the competency and the context(s) in which it has been developed and applied. Simpler competencies may not include such understandings and this may hamper their transfer across differing contexts.

(s1p12)

However, another participant raises the question of levels of competencies and fast and slow learners when she states:

I'd really dispute the concept of a hierarchy of difficulty in these competencies. It's much more to do with the nature of identifying with the knowledge and the task. I talked to somebody last night taking a mechanics course on running a motor cycle. And he said that he would put me in the bottom group that might need one-to-one training because I'm not very mechanically minded but that he'd be teaching other people at a faster rate. I thought, "OK, different learners and so on". Some people need to make up some ground and may appear slow because they don't identify with the purposes of what is going on. That's not to do with difficulty or being slow. It's to do with ways of identifying.

(s1p01)

### **The role and influence of the context**

The general response to this prompt is that it was vital. As one participant noted, without giving any further elaboration:

I'm sure your next point, the role and influence of the context involved, are absolutely uppermost really.

(s1p01)

The context was seen to have an influence on the complexity of the transfer process. As one participant explains:

The context and the application of the competence have an influence on relative complexity. This is especially important where the new application of the competence is more complex than previous applications. The situation therefore requires both an adaptation of the competence and additional learning as part of the transfer. In another situation, the new application is simpler than previous application and thus the competency must be both rationalised and adapted as part of the transfer process. This "fine tuning" of the competence to meet differing complexities of application and contexts requires judgement and a sophisticated level of self-knowledge and self-awareness.

(s1p12)

That the context has a human form was recognised by another participant when she commented that:

Narrow thinking and narrow practice prohibit transfer. Unfocusing learners from the narrow is a very difficult task - many have a mind set that is unshakeable as well as inflexible as they have been trained in the notion, "I only need this much for my job, my personal life, to cook for myself, to draw, to write poetry, to read the SunHerald, to whistle Dixie".

(s1p08)

### **Internal factors**

This brought participants back to ideas of confidence and motivation, persistence and comfort with change which have been discussed in §4.4. One participant was concerned that internal factors and institutional factors were not confused. She used the example of membership of a community group to explain her point:

I would say that, of course, if you don't know how to access those community things or you're trapped in one particular community, such as a church, Union, or football team ... that doesn't allow you to move into [another] one. So that the barrier to change, or wanting to be happy with change, may actually be a belief system which is very far from being totally individual. It's an alignment with an external factor – an institutional factor. The idea, or perhaps even the belief, that you have to be totally consistent in each of these areas of your practice – ... won't let you move from one way of doing to another.

(s1p01)

### **External factors**

The external factors listed included rewards (money, career, satisfaction), organisational factors, access to advice, training, mentoring, etc..

External factors I'd put that more in terms of holistic objects of knowledge, things that you relate to and I would say that they were more like community things or things like bodies of knowledge or literacies.

(s1p01)



External space and motivational factors are also important. By space, I mean the psychological space to experiment, innovate, apply new ideas, etc.. This space is largely determined by the nature and culture of the organisational structure and the individual's ability to negotiate and use the policy, process and procedural gaps within that structure. Motivational factors might include the urgency and the priority of the transfer and include such things as the desired image and *modus operandum* which the person wants to create and market within the new organisation.

(s1p12)

### **Learning styles**

This was mentioned only by one participant, which surprised me, given its prominence in professional development programs in Victoria. Knowing that some of the participants take strong positions with respect to learning styles, I can only suspect that the participants were getting jaded and thought avoidance of the subject preferable to argument. The single voice for learning styles put his view as:

... you have all the different styles and things worked out, but they can still use their own style. The person who has to nut things out themselves, they have got the competency ... and they can nut it out. The person who learns by answering lots of questions they can learn that way. The person who lacks confidence can still learn - they will find a way between ... [reading] and gleaning information from an experienced tradesperson; they will find their appropriate way of learning.

(s1p02)

### **Other factors**

Other factors mentioned by participants have been dealt with elsewhere in this chapter. They concern communities of practice, the connectedness of learning, space for action, multiple intelligences and the rate of change. However, it is worth including the relevant passages from the stage 1 interview transcripts.

### **Communities of practice**

Another factor in the way in which individuals manage the transfer of competence across differing workplace contexts is the way in which people think of and understand the work context and their contribution to it. This is linked to the concept of communities of practice. If this is so, then the compatibility of how individuals think about their work with the ways their colleagues think about their work will be important.

(s1p12)

### **Connectedness of knowing**

The connectedness of a person's cognitive frameworks, knowledge and processes is also, I think, an essential factor in the transfer of competence across workplace contexts. If knowledge and skill are routinely appraised in terms of their connections with other knowledge in terms of likeness, difference, mutual reflectivity etc., then the transfer of competence is likely to be enhanced. Connectedness will strongly influence the internal space and motivation for the transfer of competence.

(s1p12)

### Space for action

Jean Lave... talks about legitimate spaces for action. You have to be shown that you are allowed to participate and be conscious of how an organisation works. They won't come in – even when they can see the way to do something, they don't speak up unless they really couldn't care less about the consequences which looks a little bit irrational sometimes. A reminder that you are not up to it, a lack of information to enable you to make a reasonable decision, a lack of opportunity to try making the decisions in the first place, a lack of opportunity to fail and pick yourself up and learn from your mistakes. I seem to know a lot about the negative ones – perhaps I've had a lot of it!

(s1p01)

### Multiple intelligences

The question of multiple intelligences is probably also an important factor. By accepting the hypothesis that there are a number of different intelligences such as factual, analytic, numerate, linguistic, spatial, athletic, intuitive, emotional, practical, interpersonal, musical intelligences, that people are endowed with different combinations of these intelligences and that all these intelligences contribute to workplace performance, then the transfer of competence across different workplace contexts will be influenced by the ways in which individuals exercise some or all of these intelligences.

(s1p12)

### Rate of change

I suppose one might say that it's safer to stay where you are. That did at least have credibility in the old order and you can be excused for not wanting to try out the new one. And anyway the new one – at the rate it comes in at the moment – might have gone out in five years time and if you can just ride through you might not have to make what appears to be a quite ridiculous transition. So the fact that the new instructions look ridiculous, that could be part of it.

I mean, I am looking at where I have just been working for the last twelve years. What the project of education is trying to do and how people are trying to improve their practice. Some of it looks pretty silly. I mean there have been opportunities in there but, there has been a state of transition ...

(s1p01)

All the factors, which have been raised by the participants in their interview transcripts, are legitimate factors which participants believe have an effect (positive and/or negative) on the transfer of competence across differing work contexts, and as such, need to be taken into account in the construction of a model which explains the data collected in stage 1 of the research.

## 4.6 A draft model of the transfer of competence

A key result of this analysis was the construction of a model of learning for “transfer”. The exercise of analysis through the expansive learning framework allowed me to give form to a model of learning which I believe starts to pull together a number of approaches to learning which are linked within the literature to learning for transfer.

The process of the development of the model has been outlined in §3.4.4 (p. 83). This development involved looking at the groups of participant statements and comparing them with existing models, such as those developed by Kolb (1984), proponents of action learning, and Engeström (1995). Whilst these models were supported by the data, they did not, in my view, provide a suitable framework. They seemed to offer little specific support to those in the process of transferring what they knew, and could do to, new work contexts. So a different model was constructed from the ideas which have been discussed in the preceding sections of this chapter.

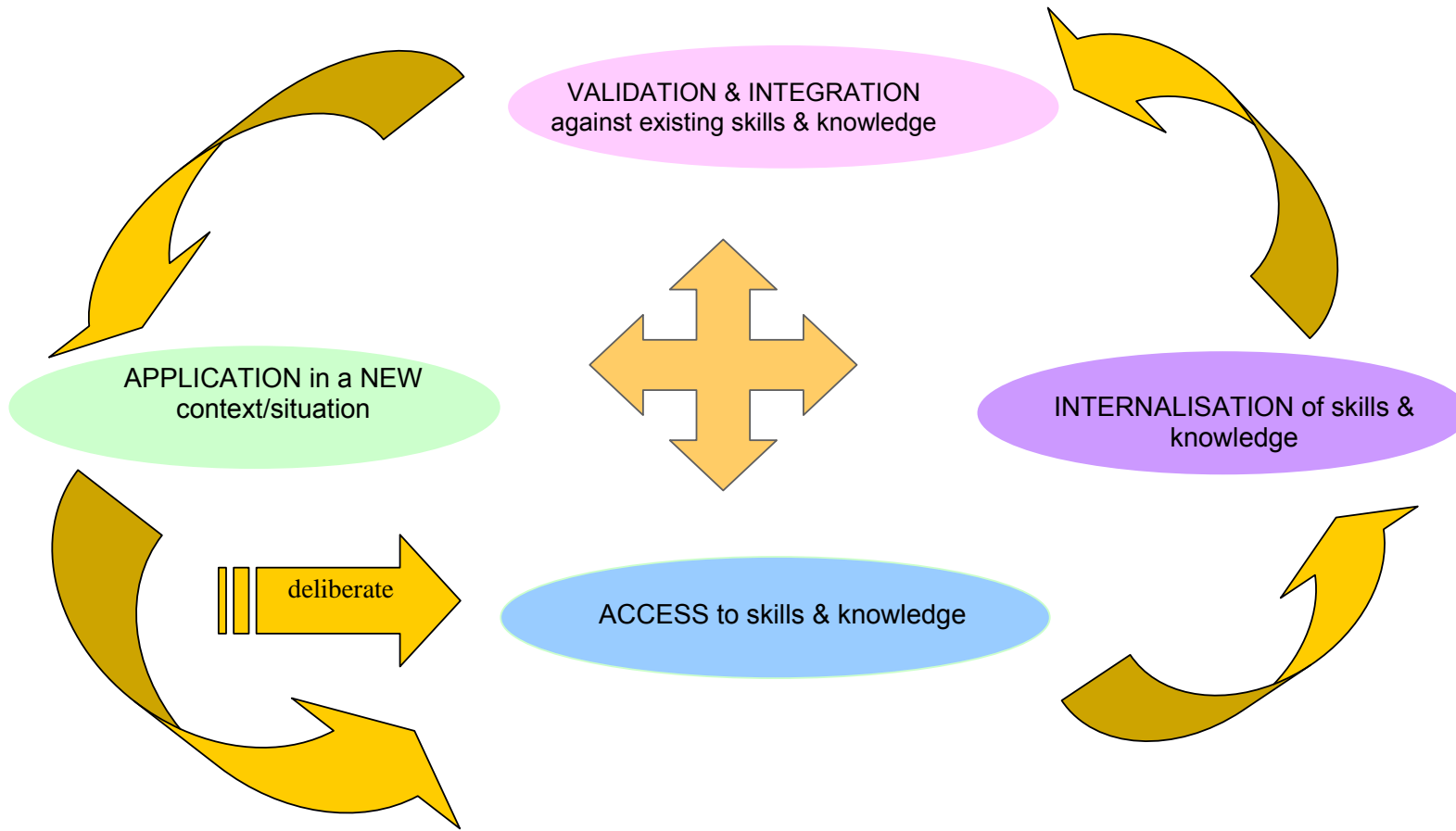
This model was presented to some of the stage 1 participants through a focus group. Their reaction was positive and constructive. I also presented the model to various vocational education and training research conference participants both in Australia and Canada, again getting a positive and constructive reaction.

The diagrams on the following pages show the bare bones of my understandings of the stage 1 data coupled with my own understanding and approach to learning in non-formal situations. The first diagram (Figure 4.1) attempts to represent a cross section through a learning spiral. The argument which underpins this diagram is that, if this is a reasonable depiction of how learning might be considered, we then need to shift our focus away from the provision of information to the facilitation of the learner's ability to unpack and repack, analyse and synthesise, or deconstruct and reconstruct in a different configuration, his/her current contextualised learning against existing understandings within multiple frameworks.

This deconstruction and reconstruction has multiple starting points and results in different configurations of learning. It is not putting the puzzle back again into a known form; it is the creation of new and deeper understandings. It is transformative learning as it involves a change in the learner's way of understanding the world and it is expansive insofar as it is not bounded and leads to new practices and understandings of the relationship between work and context.

The overall model might be thought of in terms of the four stages we might go through in order to apply our learning. This is represented in the overall diagram which follows. However, my depiction of these four stages suggests a false linearity as, although there is an overall progression from Stage 1 to Stage 4, the learner will also backtrack to earlier stages to repair omissions or to reassess previous understandings in the light of new experiences and emerging knowledge or may decide to abort from the learning experience.

The diagram is a cross-section through a spiral of learning where learning in connection with a number of things is happening simultaneously. What is being learned may be at different stages because learning is a process which occurs over time, often lengthy, but it is being linked together as the learning proceeds.



**Figure 4.1: Framework for transfer**

To understand the model, it is necessary to unpack it into its four stages. When doing this, it is essential that these four stages are recognised as progressive, rather than sequential or linear. In order to progress through these stages it is necessary to backtrack, to reconsider and revise earlier conclusions, and to continually test the validity of the assumptions being made and the understanding developed.

For the cycle to be commenced and carried to completion, then the learner must need (or want) to get to Stage 4, that is, he/she must need (or want to be able) to apply what he/she already knows and can do in a new context or to a new process (or processes). So, in order to describe the model, it is useful to start at the link between stage 1 and stage 4.

#### **4.6.1 Stage 1 of model**

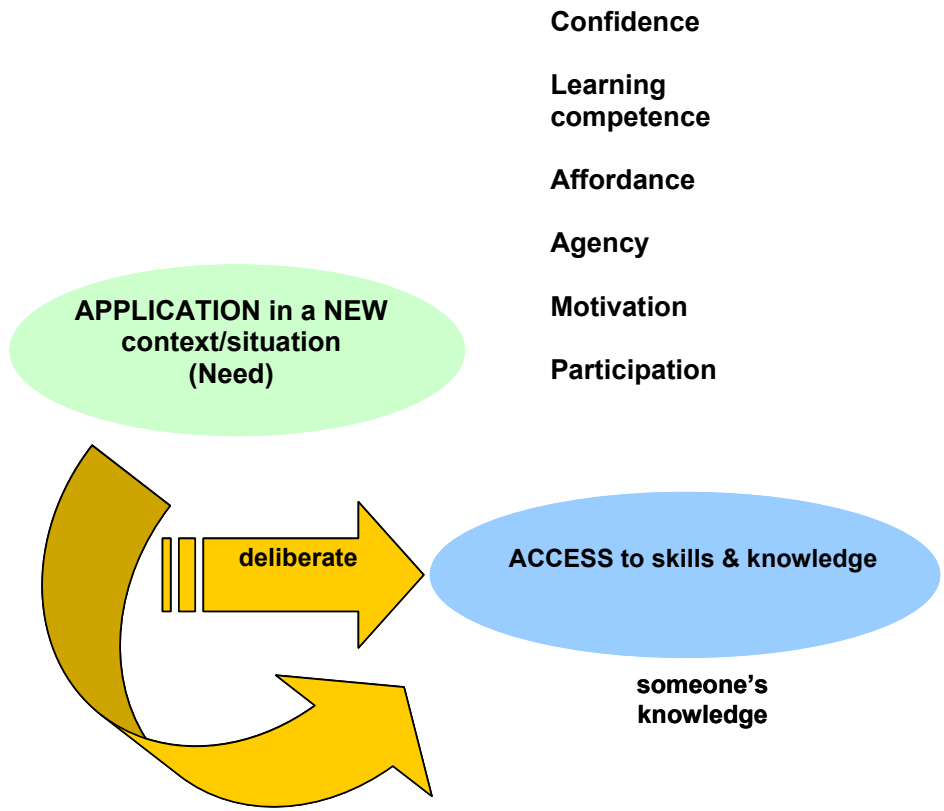
The commencement of a particular phase of one's learning journey usually springs from a need to act differently. When an individual is moving across different work contexts, this action will be shaped by the new context and the expectations of the community of practice which form the social environment of the new context.

Engaging in learning is a deliberate action. As Engeström and Middleton (1996) demonstrated, individuals are active agents in what and how they learn from work activities. Thus, one's motivation or willingness to learn is an important determinant in one's engagement to learn.

As has been seen in §4.4.1(p. 102), the factors identified by the participants relating to this stage were:

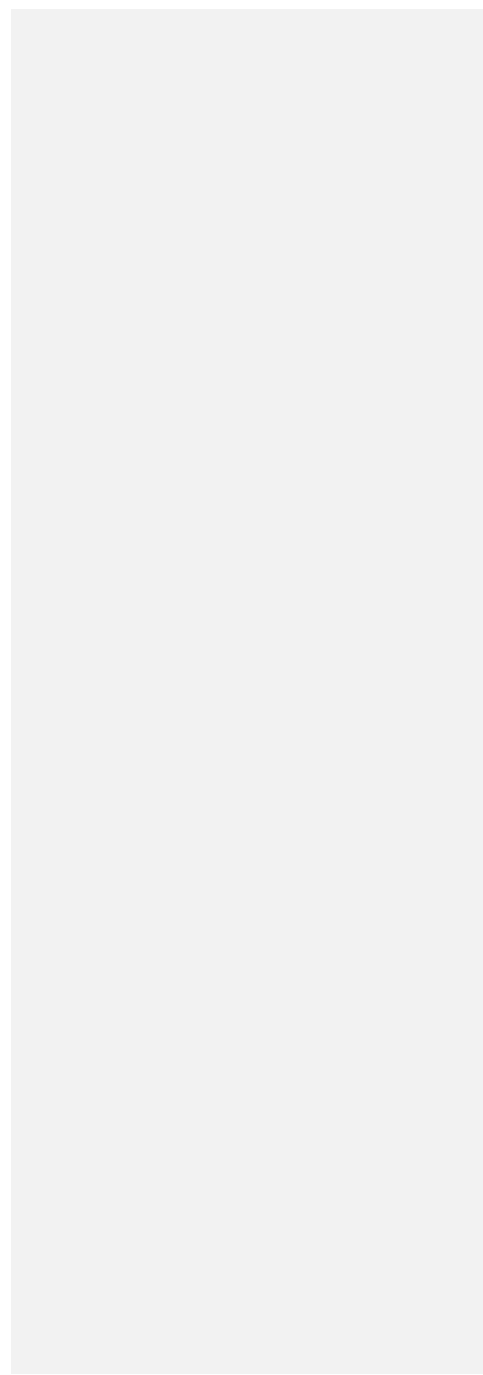
- motivation
- confidence
- need
- affordances
- personal agency
- participatory practice
- learning competence.

These ideas form the genesis of stage 1 of the learning model which is shown, in diagrammatic form, on the following page.



- Confidence
- Learning competence
- Affordance
- Agency
- Motivation
- Participation

Figure 4.2: Stage 1 of model



## 4.6.2 Stage 2

Within the model being presented, this is a transition stage. This stage is also characterised by learning which is bounded and based on patterning, as for example, when a new skill is learnt by watching a work colleague perform a task and then trying to pattern his/her behaviour. Even though the colleague may explain his/her actions and the learner asks questions, the learning is patterned on the colleague's performance and knowledge. Thus the learning is embedded in the way the learning has occurred.

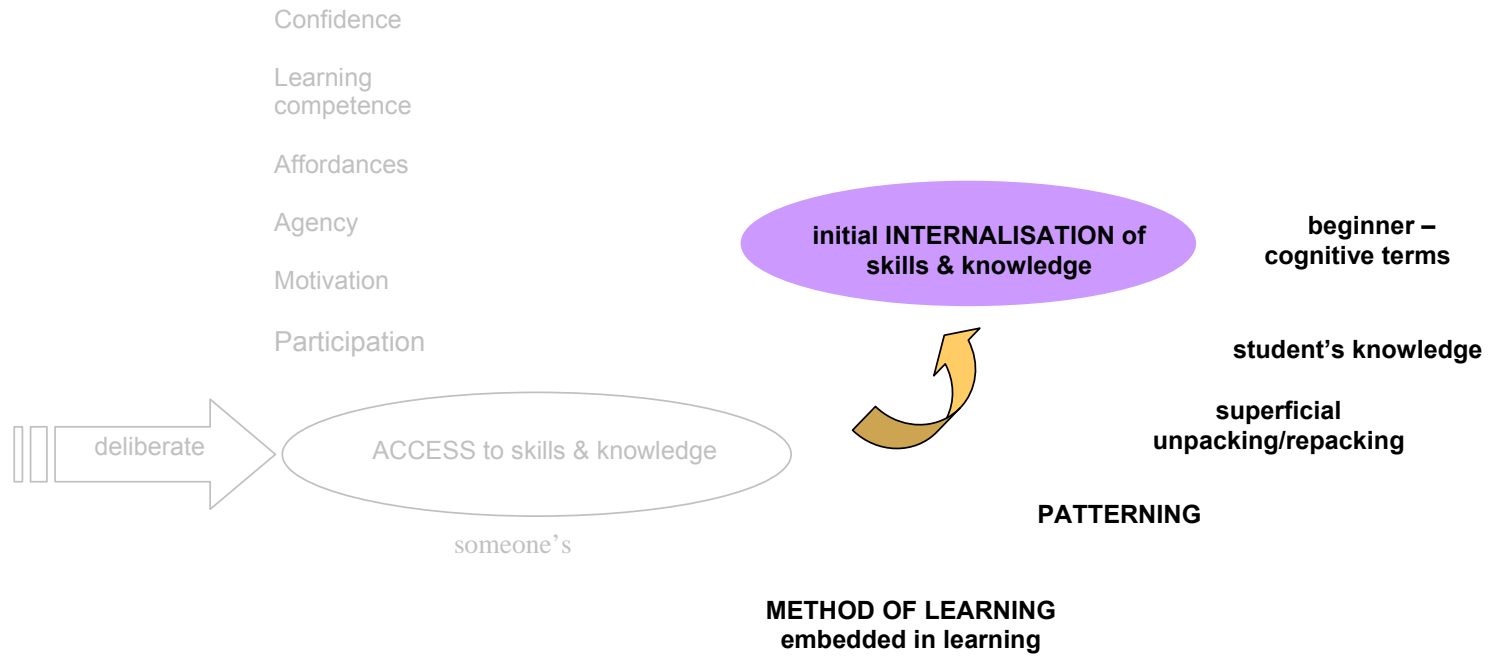
Whilst patterning is a very common and effective method of learning new skills and knowledge, it can become problematic. This occurs when it is not seen as a transitory stage but one of completion. A useful example of this stage of learning is the unpacking and setting up of a new DVD or VCR. Many of us do this by patterning the step by step instructions we are given. Such learning is fairly superficial and requires limited unpacking (or analytical thinking about). It does not necessarily prepare us for a repetition of the feat, unless this is required within a very short time frame. It does not assist us to deal with any contingencies which might occur, nor does it help us with the operation of the device. We have completed the task but we have not converted our activity to knowledge.

As seen in §4.4.2 (p. 106), this causes problems when the learner accepts this as learning and thus exits from further learning. While this is acceptable behaviour for some tasks, such as assembling and commissioning a DVD or VCR, it is problematical if the learner believes that this stage is sufficient and will enable the performance of the skills in differing contexts.

New entrants to the workforce are more likely to make this error than those with more workplace experience. Patterning and superficial learning are common within formal education systems. For example, it occurs in a school mathematics classroom where a model for how to solve a particular problem is given and students then practice and are tested on a variety of examples which can be solved by applying the model given to the posed question. Similarly with essay writing where a format and process is presented and students apply the model approach to different topics.

In addition, the formal school-based learning, to which the learner has become accustomed, is usually based in the context of the classroom, where questions have answers, given tasks are designed to fit within given processes and tasks are carefully graded as to their conceptual difficulty. This is not the context of adult life, which throws up problems without considering whether we have yet mastered the pre-requisite knowledge of skills and where the learning demands made of us are not organised into separate disciplines or graded as to complexity.

It might be argued that for much of our learning, especially within formal situations, this is also the stage at which many individuals (and their teachers) abort their learning. If the expectation (either overtly, or tacitly, of the educational system, teacher or learner) is for Bateson's Type 1 or Type 11 learning (see Table 2.2, p. 40), then it is at this point that assessment (usually by examination and resulting in a normative sorting process) will occur in formal learning situations.



**Figure 4.3: Stage 2 of model**



### 4.6.3 Stage 3

Marton & Booth (1998b) argue that it is through the experience of difference, rather than the recognition of similarity, that we learn. Certainly the third step in my learning loop represents learning as a result of the perception and experience of difference. The questioning of this perceived or experienced difference generates "puzzlement" and transforms it from fuzzy confusion to tangible questions which lead to interest, motivation to learn and the exercise of imagination. It results in the generation and consideration of innovative answers and alternatives.

The rationale for this is that the recognition of similarity (or learning through patterning) limits the depth of the learning, as it limits the learner's exposure to risk and prevents them from having to leave their learning comfort zone. Much of our conditioned learning during compulsory schooling is characterised by an emphasis on patterning and linear logic. Both these are learning tools which could be said to minimise the risk of getting the "wrong" answer and form the basis for the development of social conformity and adherence to social mores.

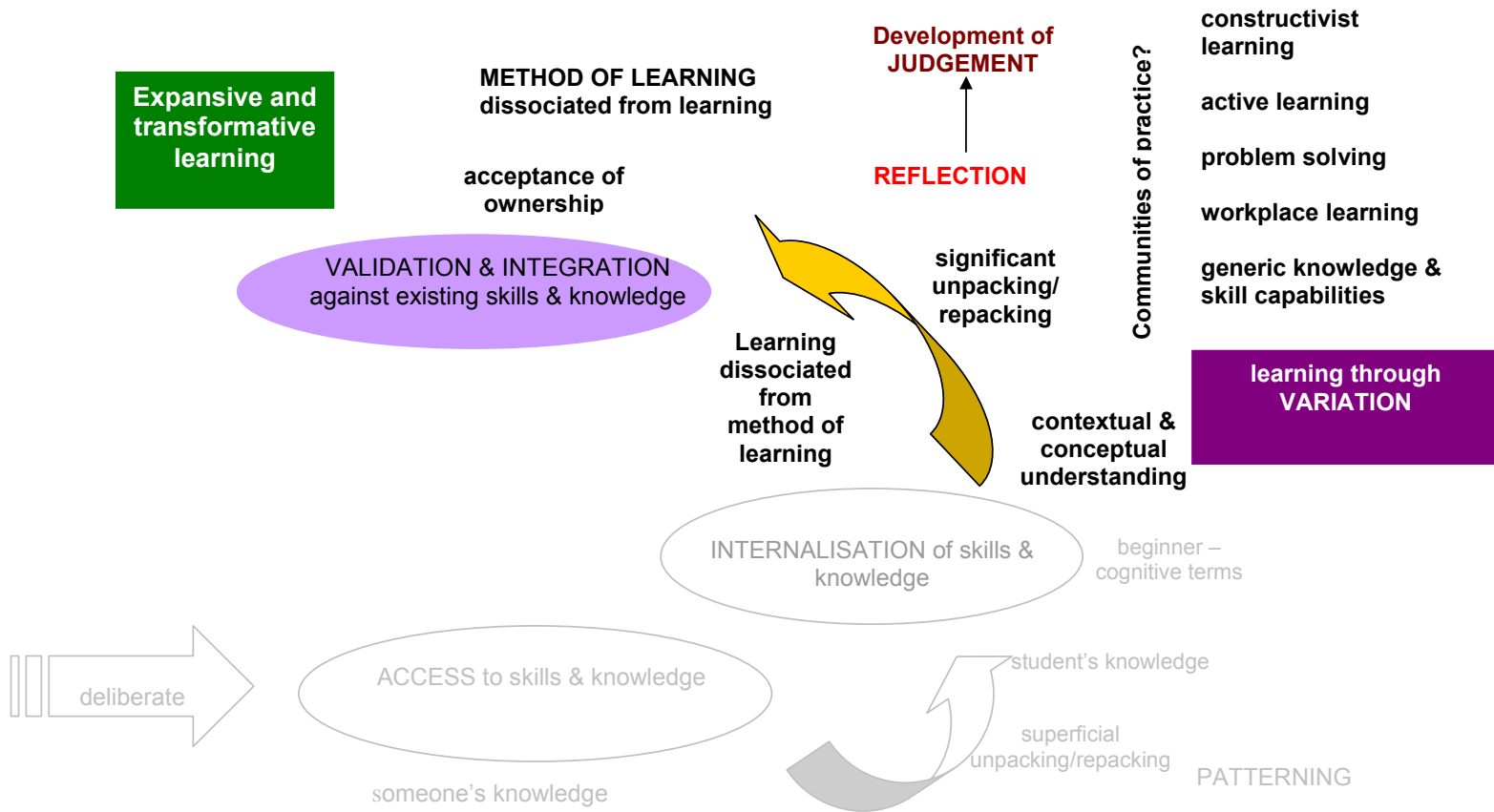
In contrast, our learning within non-formal situations is characterised by a "trial and error" approach, in which we accept that we will probably make mistakes but that we will learn through these. This is learning in the context of variation and is often characterised by lateral and innovative thinking. Learning through variation necessarily involves the learner in the double loop of problem solving and reflective thinking.

It also means that what is learned is disembedded (partially or completely) from the method of learning. By contrast, learning through patterning results in learning in which the method of learning is deeply embedded in, and not dissociated from, the learning.

It is also important to recognise that our learning is underpinned by unconscious modifications which result from an individual learner's experience and orientation, the language structure and medium through which the learning is expressed and the contexts and environments (physical, social, intellectual and psychological) in which it occurs.

Systematic reflection on our work and learning helps us to bring this tacit knowledge into the open. Similarly, our capacity to make sound judgements is strongly influenced by such tacit knowledge and thus, by developing habits of reflection which interrogate our experience, our judgements will become better informed and grounded in reality rather than merely in wishful thinking.

Learning can be aborted at any point along the loop. Stage 1 of this research suggests that failure to continue learning occurs when it becomes too hard or the risk is too great relative to the learner's motivation to learn. Thus, within the learning process, the learner must develop strategies to store and organise partial learning for later use.



**Figure 4.4: Stage 3 of model**

#### 4.6.4 Stage 4

The last step in a learning loop is the final breaking of the learner's dependency on the method or environment of learning and signals that the learner is capable of flexible, autonomous and independent transfer of his/her acquired competence. This involves "letting go" of his/her reliance on the learning props which have been used to initiate, motivate and support learning and includes undue dependence on:

- external motivators
- mentors and teachers/trainers
- co-learners and colleagues
- methods and strategies of learning
- "prods and pokes" which detract from learning independence and autonomy.

The concept of spontaneous transfer<sup>27</sup> (which is implied in the fourth stage of my diagram) is a contested one. A number of researchers, mainly cognitive psychologists, argue that it is a myth, maintaining that there is no empirical evidence that spontaneous transfer does occur (Brown 2000).

My experience (and those of students, colleagues and stage 1 research participants) is rich with incidents where, apparently, quite autonomous and independent transfer of competence has occurred. However, this may not be "spontaneous" as understood by educational psychologists but, rather, the outcome of an unconscious cognitive process that has enabled the learner to make the transition from one context to another without overt prompts. Thus, the transfer is autonomous rather than spontaneous and arises from an internal sense of 'puzzlement' combined with the need, imagination and initiative to make meaning out of diversity, paradox and multiplicity. This probably entails reflection which reflexively crosses the boundaries between linear and lateral logics, intuition and nous, "big-picture" and "fine-detail" thinking and reasoning both "within-" and "outside-of-the-square".

This leads us to consider the question of "what is learning?". Obviously, for some, learning is equated with remembering – for others it is understanding the reasons for actions. As discussed in §2, there are many different definitions of learning. My current definition of learning<sup>28</sup> is an amalgam of a number of definitions and might be formulated as follows:

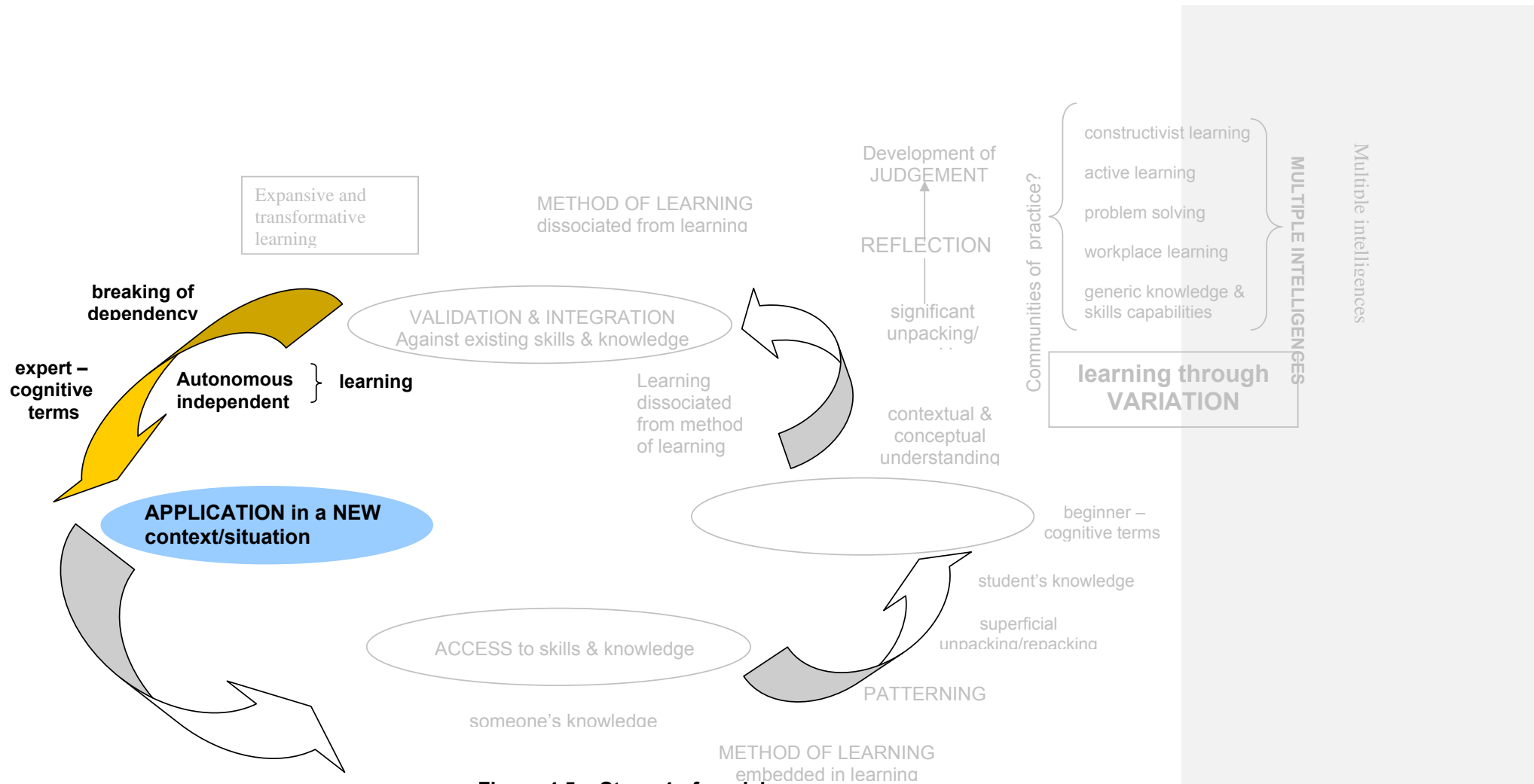
Learning is not remembering – nor is it a progression through a sequence of learning and assessment exercises. Instead, it is the learner interacting, in a structured way, with and within, a number of contexts – work, experiential, social, intellectual, emotional and physical – in order to better work within them and to improve his/her practice.

(Down 2002, p. 7)

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<sup>27</sup> Basically spontaneous transfer involves the subject transferring what has been learned in one context to another without prompting towards a recognition of the essential similarity of the two contexts.

<sup>28</sup> This definition has evolved over years of practice and has clearly been influenced by a number of theorists as has been discussed in §2.4 (p. 44). It is not an original formulation, although I have been adapting the wording over a period of years. Whilst I have outlined the theory behind this working definition, I don't know the actual origin of the form of words.



**Figure 4.5: Stage 4 of model**

## 4.7 Preparation of learners for the transfer of competence

My analysis of the data outlined above suggests that competence which:

- is grounded within a well-known and understood context;
- is comprehended with respect to both the specific and generic aspects of that context; and
- has been applied across a number of contextual dimensions

may lead more readily to transfer, than will learning which is specific, narrowly focused and not well grounded within the context in which it is being learned.

This suggests that the preparation of learners for the transfer of competence across differing work contexts should be directed towards ensuring that the learners have:

- the ability to analyse the competencies involved. Such an analysis involves such considerations as:
  - the nature of the task or application
  - whether it been done before in its entirety or will it require the collation of a set of experiences from a number of different contexts
  - the degree and the nature of adaptation necessary
  - whether a single, multiple or composite competency is involved.
- experience and confidence in using the competency or competencies involved. This implies some consideration of whether deep or shallow learning has occurred, irrespective of whether this learning was formal, informal, experiential or a combination of different forms.
- the relative degrees of separate and connected knowing which have contributed to the competence being transferred.
- experience, understanding and confidence in working within the context in which the transfer is to occur. Helicopter vision and a holistic understanding of the characteristics and dimensions of both contexts are likely to be advantageous.
- ability to make an accurate assessment of contextual fit. This implies a whole host of enabling competencies and abilities. The question of how this process can be fostered, developed and enhanced through formal learning needs to be considered. It also is attitudinal, which gives rise to consideration of how attitudes are best fostered and developed.
- experience in using a range of learning styles.
- relative sophistication of internal cognitive frameworks and structures.
- the psychological space and comfort to experiment, innovate and apply learning to new situations
- the imperative to transfer competence independently of specific training. "Needs must where the devil drives!"
- experience and confidence in the transfer of competence across work contexts
- high level skills in analysis, accessing information, communication and other interpersonal skills (for example, the Key Competencies)
- cultural understandings which enable and underpin contextual understandings.

Given the above, I argue that any educative practice must take account of the need to encourage learners to:

- develop connected ways of knowing which are inclusive and critical
- understand the context in which they are learning and applying the competence developed
- have a concept of learning which values the internalisation, validation and application phases of learning as well as the access to knowledge
- systematically and critically reflect on their learning and its implications and possible applications
- consider the "what if ..." and "maybe I/we could ...." questions as part of their learning strategies

- self-assess their own learning as both a formative and summative process
- learning with others in ways which reflect working with others

This can be done through the use of:

Participative learning strategies such as:

- use of critical incidents
- investigative or inquiry-based learning
- problem-based learning
- project learning
- reflection.

Contextualised learning strategies such as:

- analysis and discussion of case studies
- collection, analysis and application of workplace data
- obtaining feedback from work area participants.

Integrated learning strategies such as:

- structured workplace learning
- construction of scenarios and/or case studies
- action learning
- mind mapping.

Whatever strategies are used, obviously the key characteristic and emphasis of any learning needs to be the enhancement of the learner's confidence and capacity to learn independently.

Also, it is important to value the prior knowledge, experience and skill of the learners and to help them to see formal learning as the building of cognitive frameworks or scaffolding about what they already know and have experienced. This emphasis on their prior knowledge and current competence is intended to enable them to integrate and find the interrelationships between what they already know and to use this as a springboard for further learning. A useful technique is through a small group ( $\leq 12$ ) where learners report on what they have done and observed, the others question and discuss this, and then the facilitator helps them to consolidate the discussion into a cohesive whole. When this is done repeatedly with the same learners, I find that they often take over the summarising and integrating role as they develop purpose and confidence.

All of the above is concerned with developing connected knowing rather than with fragmented knowing. Thus all these strategies must be underpinned by an attitude which values the connected, the holistic, the integrated and which makes this explicit to the learners so that they can consciously develop these values. The use of journals can be helpful in this regard. However, there needs to be a further step, with some part of the learning process allowing for discussion of emerging ideas about connections between ideas, concepts, etc. and which allow for learners to explore below the surface and recognise the assumptions and political stances which underpin so-called facts. This making explicit that which is generally assumed to be implicit is an important part of all learning. I believe that those who have developed the facility for this type of thinking and who have incorporated it into their practice are able to manage the process of transfer effectively.

It is important that the connectedness of the knowing is also compatible with the community work practices and culture. For this reason, learning strategies which encourage and/or facilitate learners to discuss their emerging knowledge and skills with others within the workplace is important. This often necessitates workplace mentors whose fundamental focus is on learning and practice rather than career advancement.

## 4.8 Connections

The key concern of this chapter has been the analysis and interpretation of the stage 1 data. The chapter began with some comments on how the analysis was conducted. I then discussed the key findings from all twelve matrices, organised under the five principles of activity theory. This is followed by a discussion of the perceptions of transfer identified by this analysis organised under four headings:

- access to knowledge and skills
- initial internalisation of skills and knowledge
- validation and integration
- application in a new context/situation.

The findings related to the essential characteristics and conditions, necessary for the effective transfer of competence across different work contexts, were presented next; followed by the development of a draft model of how the transfer occurs. This was followed by an outline of the characteristics of learning and competence which I believe would best prepare learners for workplace participation based on the ideas emerging from the research.

The writing of most of Chapter 3 and this chapter over three years ago, has provided a record of my emerging understandings at the midpoint of this project. It is, therefore, important evidence of my ongoing transformation as a result of the research process.

The transfer of what one knows and can do across differing work contexts is a complex process of learning through change. Some of its complexities and challenges have been identified by the stage 1 participants. All these participants are vocational learning practitioners, whose everyday practice lies in assisting people to learn through work and about work. The picture that the participants have painted is a vital one if we are to understand how people learn outside formal education and, hopefully, how formal education might better prepare them for work and work contexts.





## Chapter 5

### Analysis of the Stage 2 research

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#### 5.1 Introduction

This chapter provides a summarised analysis of the data derived from the part B questionnaires<sup>29</sup>. It follows the structure of the questionnaire document (Appendix 5.1). That is, after an initial section which discusses the manner in which the data is analysed, it is then divided into seven sections, to mirror those sections of part B of the questionnaire which are directed at validating the model derived from the first stage of the research. These are the:

- stories on which participants focused their reflection
- initiation of learning for transfer
- initial internalisation of skills and knowledge
- validation, integration and repositioning against existing skills and knowledge
- application in a new context
- learning loop.

The following chapter (Chapter 6) provides a detailed analysis of the remainder of the data obtained from the completed stage 2 questionnaires. The findings from both chapters 5 and 6 are then drawn together and discussed in Chapter 7.

The purpose of this chapter (and chapter 6) is to present a summarised version of the analysis of the stage 2 questionnaire data. This is presented in descriptive form; either through descriptive statistics or extracts and explanations of the responses obtained. The transfer of one's competence across different work contexts is a complex process. It is also argued that it is context-situated and, therefore, any attempt to provide an overview of the participant responses necessarily over-simplifies the understandings required by both the learner and the facilitator/teacher/ mentor/coach/supervisor providing support to the learner, and the complexities which they need to resolve on a daily basis.

Thus the detail contained in the participant responses is highly significant because it illustrates this complexity. It also gives a snapshot of the respondents' understanding of a number of issues at the time they completed the questionnaire (late 2003 to early 2004). This provides an appreciation of where they were on the various continua of perception identified in chapter 2 and the baggage they might be labouring under from the barrage of educational rhetoric to which we are all exposed. As, for the purpose of this exercise, it was not possible to provide all the responses within this document, appendices 5.1 to 5.5 inclusive contain the full analysis for this chapter and are included for the readers' interest.

#### 5.2 Analysis of data

This section looks at the data collected by means of the questionnaire package after it had been collated. For those responses where a 5-point Likert-scale was provided, the data is described in terms of very simple statistical measures, that is:

- frequency
- percentages
- weighted means
- internal variation.

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<sup>29</sup> The responses to Part A of the questionnaire are analysed in Appendix 3.11.

The frequency and percentages enable a summative picture of the responses, while the weighted mean provides us with a tool to compare responses to the different questionnaire items.

The internal variation is provided to enable a more accurate picture of the variation between the three types of stories, namely:

- one where the participant is the actor in the transfer process;
- one where the participant is an observer, mentor, colleague, critical friend, etc. of the actor in the transfer process; and
- one which the participant is **intending** or would like to undertake in the future.

In addition, participants were asked to ensure that at least one of their stories was a type 1 story or at least one story was a type 2 story. The difference between type 1 and type 2 stories was clearly explained in the questionnaire document (Appendix 5.1). Basically, the two types of story are:

1. when a person moves to a new workplace in a role similar to previous work experience
2. when a person stays within their current workplace but undertakes a new and different work role.

In the following discussion about the statistical findings from the stage 2 data, variation is considered both summatively and on a case by case basis in order to show the variation occurring both within responses and between responses.

### 5.2.1 Statistical Data

Analysis of the Likert-scale items on the questionnaire involved the use of simple descriptive statistics. Such statistics are useful when trying to summarise similar data from multiple respondents and this is the use to which they were put.

The disadvantage of using statistical measures is that descriptive statistics are based on measures of central tendency and possible deviations from these. There is, therefore, the tendency to assume that measures of central tendency have significant meaning in the context being discussed. This is possibly the antithesis of using an approach based on activity theory where you are looking for the contradictions and tensions, inherent in activity, which give rise to learning.

So how can I justify the use of descriptive statistics in the analysis of the stage 2 research data? I believe there are two points to be made here. Firstly, the statistics have been used largely to summarise data. They are provided in conjunction with a more qualitative analysis which seeks to elaborate on, and make meaning of, the statistical values. Secondly, the variables are used to identify the contradictions within the statistical outcomes and the variability inherent in them.

The use of SPSS computer software was a steep learning curve for me. I am extremely grateful to the software specialists who tried to assist me in this task. In the end, however, I found I had to work it out for myself, as my mentors had always used statistical operations to find commonalities and patterns in the data and could not understand or empathise with my search for statistical operations which would help me unpack the statistics in order to find the significant differences, internal variability and contradictions from which I could derive meaning.

The key to the statistical variables and operations used within this chapter is shown on the following page (Figure 5.1).

<b>Key</b>	
N	= no of responses (frequency)
%	= percentage of responses (percentage frequency)
$\Sigma n$	= total number of valid responses
DU	= definitely unimportant
U	= unimportant
NS	= not sure
I	= important
DI	= definitely important
<b>OR</b>	
DD	= definitely disagree
D	= disagree
NS	= not sure
A	= agree
DA	= definitely agree
WM	= weighted mean
AWM	= average weighted mean

**Figure 5.1: Key to statistical data**

A key statistical value used is the weighted mean. Weighted means were calculated by assigning numbers to each of the possible answers, that is, either:

DD (definitely disagree)	= 1	or	DU (definitely unimportant)	= 1
D (disagree)	= 2		U (unimportant)	= 2
NS (not sure)	= 3		NS (not sure)	= 3
A (agree)	= 4		I (important)	= 4
DA (definitely agree)	= 5		DI (definitely important)	= 5

The weighted mean is the sum of the products of the number assigned to a particular response multiplied by its frequency divided by the total number of responses for that item. That is:

$$\text{Weighted mean} = \frac{\sum_{x=1}^5 n \cdot x}{N}$$

This produces a number between one and five which allows comparison between different items and within the items for the responses for stories in each of the three categories. If the responses were evenly divided or formed a normal distribution, the weighted mean would be three; if all the answers were "definitely disagree" the weighted mean would be one; and if all the answers were definitely agree, then the weighted mean would be five. Because the respondents answered each item three times (once for each of their stories), an average weighted mean has been calculated by adding the three weighted means for each item and dividing by three.

Thus, in discussing the implications of the descriptive statistics for each item, the weighted means have been used a simple but useful measure of comparison and variation. Other

measures of central tendency have been used in Appendix 5.7 which provides a summary of all the measures of central tendency used in the analysis of this research.

### 5.2.2 Qualitative data

The open-ended responses were analysed by sorting and resorting into different categories in order to try to capture the different voices. In general, the open-ended items acted to provide the understanding behind responses or to provide participant comments on different aspects of the transfer of competence across different work contexts.

The analysis of the responses to the open-ended items on the questionnaire involved grouping similar comments and reporting on these groups where there were strong links to the research questions or to the responses to the Likert-scale items.

Each section starts with an analysis of the Likert-scale items, followed by a discussion of the general comments made by respondents. A summary of the responses to the specific questions, asked within the corresponding section of the questionnaire, follows. The section ends with a short summary statement.

While it is not possible to include all responses in this account, every effort was made to ensure that the issues raised were at least listed and considered when developing the research findings.

### 5.3 The stories

In designing the questionnaire, I had seen the stories as mediating artifices through which the respondents would “ground” their answers so that they were speaking from a practice, rather than a theoretical, orientation. They would also provide me with a context which would assist me in the analysis and interpretation of their responses.

What I had not anticipated was the richness of the stories in themselves and the information and understanding of the transfer process they conveyed. Many of the respondents proved themselves to be expert story tellers, so that I could relate to the experiences and empathise with the actors from my own similar experiences.

This competence in story telling gave me confidence that the respondents had actually relived the experiences as they completed the questionnaire items. People who could write so vividly about their experiences would have little trouble in recollecting not only the facts, but also the issues and emotions involved. My confidence was further fuelled by comments from participants – both within their completed questionnaires and by e-mail - and from their pleas for additional time so that they could think through the items without having to rush. Reading the responses elicits a confidence that the greater majority of respondents did ground their responses through reflection on their stories. It also gives a strong impression of people undertaking a thoughtful, reflective journey based on lived experience.

As might be expected from any social group, the respondents can be grouped into three groups of story tellers, that is:

- the **non-tellers** who restricted their stories to a phrase or a single sentence
- the **selective tellers** who provided the framework and essential information but ‘held back’ on the detail which enables a listener or reader to understand and empathise with the stories
- the **tellers** whose stories are rich in detail and who use the stories not just to inform the listener but also to increase their own understanding of the experience.

The nature of the stories told ranged from stories about relatively “safe” transfer, such as learning to use different word processing software, to transfer situations which required a “leap of faith” that their existing competence and/or learning skills would be sufficient for them to manage the transition to a new context and a quantum change in their job role.

They also covered a wide range of situations involving a change of context and/or job role including:

- coping with organisational change – both minor and substantial
- promotion within the same organisation
- promotion which involves moving into a different organisation
- self-chosen job moves to increase experience or to move to a more challenging environment
- making the best of an unsatisfactory work situation
- becoming self-employed
- retirement
- protective changes in work role to decrease vulnerability
- moving out of the paid workforce
- moving to a new job as a result of a redundancy
- using redundancy as an opportunity to live one’s dreams.

In addition, many of the stories are concerned with the opposing and antipathetic concepts of trust and betrayal which are usually essential elements of a move across work contexts. As Lave and Wenger (1991) remind us, transition across contexts requires legitimate peripheral participation in a new community of practice. To participate, however marginally, within this new community is a risk activity which requires trust and which can easily result in betrayal given the competitive nature of workplaces as social environments.

The same is true for mentored situations. There were a number of examples where either the mentor or the mentored had felt that the trust they had offered had not been respected or honoured. This was a fairly common theme within the stories. Many of the stories demonstrated that even when the mentoring has produced a successful outcome, the organisation does not always recognise the value of the work being done:

Such stories included:

- mentoring of worker who had suffered acquired brain injuries whilst working at the company. The result of this intervention was that he was able to take up a responsible position only to be retrenched in the next down-sizing exercise (s2p008)
- mentoring a subordinate only to find that that person then actively sought to supplant the mentor (s2p035).

Another common theme in the stories was a lack of confidence in being able to manage the transition across work contexts; a lack of confidence which continues even after a successful transfer had presumably been made. For example:

I have worked as a colleague and supervisor with a person with very strong research and policy development credentials. He was able to establish very quickly his understanding of the central concepts underpinning the work and demonstrate very effective writing and policy development skills. Despite this, he is unhappy with his work precisely because he does not believe that he has been able to transfer the knowledge and skills in useful work-related ways.

(s2p077)

Stories, where the storyteller was the person making the transition, were generally accounts of positive experiences, although a few did refer to what they could have managed better given the wisdom of hindsight. Some participants referred to the model in the analysis contained in their story. For example, one participant described the transition from a project coordinator to senior management and made the following comments:

Listening to your video I also realised that I had underestimated that the context of my old and new job is different. I thought I knew how to operate in the university and understood its informal rules and culture. I thought I was quite well respected for my work. The culture always appealed to me – it encouraged learning, forgave mistakes, tried to be fair, provided development etc. However, I was shocked by how hostile the more senior managers are to each other and how competitive they are. ...

(s2p073)

A little later in her story she continued:

Looking at the model – I have realised that application of communication in this new role was blocked by failing to appreciate how the situation had changed and the level at which I am expected to work. I also am finding it hard to access others' knowledge and models to help me create my own working model. I feel blocked in unpacking what is going wrong and how to change. However, I do have a strong belief that I can learn, adapt and change. It has been a long time since I have hit this wall ...

(s2p073)

The participant went on to describe the understandings she had developed and then continues:

As I come to the end of this I realise that I have also been blocking myself from using some techniques like observation, heuristics to try new ideas and communication techniques. I do observe that some of the successful communication techniques used by others don't suit my ethics – but I have stopped trying to find my own route.

If I look at the model – one thought strikes me – there are no 'exit points' e.g. within a workplace perhaps sometimes skills can't be transferred or learnt and that the sensible route for an individual is to exit.

(s2p073)

Storytelling is not just an enjoyable activity for both the teller (or writer) and the listener (or reader); it is a learning process and a common technique used in order to think through issues and problems or to discover the relationships between different experiences. It is the "ah ha" realisation that often results from telling someone of your experiences and suddenly understanding their true significance. Telling stories is a powerful form of reflection and one which enables the teller to take control of events and activities by learning from them.

A number of participants found the hypothetical story difficult; both to think of and to think through. This surprised me as I had expected the participants to be skilled in creating cameos of future events. My expectations were based on my own practice which is to envisage the future and then work towards it – whether this is simply maintaining an argument at a forthcoming meeting, envisaging my students as competent workplace participants or, in the case of my consulting work, envisaging the outcomes of the change processes being introduced.

One participant selected her future scenario and then reported that she had resorted to answering the relevant items on the basis of generalised experience (s2p044). Most of the respondents were, however, able to envisage to a greater or lesser extent a future goal or change of work context. For example, one participant clearly outlined her goal when she wrote:

When, in mid life, I commenced studying visual art, I expected to know nothing and have to learn everything from scratch. I soon discovered that organisational skills were a significant part of the business, eg, being punctual, having disciplined habits, anticipating requirements and/or bringing appropriate materials to class, being able to estimate how much time certain tasks might take, asking questions, co-operating with other students, being able to reflect on experience, being able to conceptualise,

knowing how to handle written assignments - even just finishing things! These were the basic 'learning how to learn' cognitive components, I guess, which were transferable from my prior life and work. I had also been looking at art in galleries for many years out of personal interest, so I found I had a beneficial general knowledge of the contemporary art context.

(s2p037)

Another participant is already preparing for his self-directed work (that is, retirement) by engaging in legitimate peripheral learning with a group with the aim of becoming a worker with that group:

In the future, I see myself as working in a school and community setting. So far I have established relations with the Smith Family and do "pro bono" work for them. In the next little while I might see myself possibly taking a far more active professional role in their "Learning for Life" program. This would involve managing and overseeing this program at a state-based or national level.

(s2p057)

It is impossible for me to do justice to the wealth of information contained within the respondents' stories. Perhaps it is data which could form the basis of a future research project. It must suffice that comments made within the stories will, where appropriate, be used in discussions about the other sections of the questionnaire document.

## **5.4 Initiation of learning for transfer**

### **5.4.1 Statistical data**

This section is largely concerned with the factors and mindsets which initiate the learning process associated with the transfer of one's current competence across different work contexts. The Likert-scale items and the frequencies and percentages with which respondents rated them are shown in a series of tables. In addition, Appendices 5.2 and 5.3 contain all the descriptive statistical tables used in the analysis of the stage 2 research data.

Table 5.1 on the following page shows the frequencies, percentage frequencies, weighted means and average weighted means for the Likert-scale items 2.1 to 2.7. These items are related to the activity of "initiation of learning" which forms stage 1 of the model of transfer, proposed in chapter 4 (p. 117).

**Table 5.1: Initiation of transfer**

	<b>Σn</b>	<b>DA n</b>	<b>DA %</b>	<b>A n</b>	<b>A %</b>	<b>NS n</b>	<b>NS %</b>	<b>D n</b>	<b>D %</b>	<b>DD</b>	<b>DD %</b>	<b>WM</b>	<b>AWM</b>
<b>Ideas</b>													
2.1 the need to apply one's competence in a new work environment	<b>86</b>	66	76.7	19	22.1	0	0	1	1.2	0	0	4.74	4.62
	<b>84</b>	53	63.1	28	33.3	3	3.6	0	0	0	0	4.60	
	<b>80</b>	53	66.3	20	25.0	4	5.0	2	2.5	1	1.3	4.53	
2.2 personal confidence to learn from new and challenging situations	<b>86</b>	59	68.6	23	26.7	3	3.5	1	1.2	0	0	4.63	4.63
	<b>82</b>	47	57.3	32	39.0	2	2.4	1	1.2	0	0	4.52	
	<b>79</b>	59	74.7	18	22.8	2	2.5	0	0	0	0	4.72	
2.3 competence in undirected learning	<b>86</b>	40	46.5	36	41.9	7	8.1	2	2.3	1	1.2	4.30	4.28
	<b>82</b>	33	40.2	32	39.0	14	17.1	3	3.7	0	0	4.16	
	<b>80</b>	43	53.8	27	33.8	8	10.0	2	2.5	0	0	4.39	
2.4 affordances (i.e. opportunities for participation leading to learning provided by someone else through work)	<b>84</b>	30	35.7	27	32.1	18	21.4	7	8.3	2	2.4	3.91	4.02
	<b>80</b>	37	46.3	28	35.0	10	12.5	5	6.3	0	0	4.21	
	<b>78</b>	30	38.5	24	30.8	16	20.5	5	6.4	3	3.8	3.94	
2.5 personal agency (i.e. your ability to pro-actively access opportunities for learning through work)	<b>84</b>	53	63.1	26	31.0	4	4.8	1	1.2	0	0	4.56	4.49
	<b>81</b>	44	54.3	29	35.8	7	8.6	1	1.2	0	0	4.43	
	<b>78</b>	50	64.1	18	23.1	9	11.5	0	0	1	1.3	4.49	
2.6 motivation for participation and/or learning through work	<b>85</b>	47	55.3	30	35.3	5	5.9	1	1.2	2	2.4	4.40	4.46
	<b>81</b>	51	63.0	24	29.6	6	7.4	0	0	0	0	4.56	
	<b>79</b>	48	60.8	20	25.3	9	11.4	1	1.3	1	1.3	4.43	
2.7 capability for participatory practice	<b>85</b>	46	54.1	25	29.4	10	11.8	2	2.4	2	2.4	4.31	4.30
	<b>83</b>	45	54.2	24	28.9	11	13.3	3	3.6	0	0	4.34	
	<b>81</b>	41	50.6	26	32.1	9	11.1	4	4.9	1	1.2	4.26	



Whilst a table such as 5.1 can provide a lot of information about the responses to the questionnaire items, there is a lot which it does not show. In any amalgamation of responses from a group of individuals, the data does not show specific individual differences. In addition, once the amalgamation of the data has occurred then the internal variation in the responses from different participants is also lost. The implications of this will be discussed later in this section.

Firstly, let us look at what this table does show. In all the items, the majority of the responses were either “definitely agree” or “agree”. Given the tendency for people to choose midrange responses rather than more extreme responses (Kerr; Hall and Kozub 2002, p. 32), this can be interpreted as very strong support of the importance of:

- the need to apply one’s competence in a new work context (Q2.1)
- personal confidence to learn from new and challenging situations (Q2.2)
- competence in undirected learning (Q2.3)
- affordances (i.e. opportunities for participation leading to learning through work provided by someone else) (Q2.4)
- personal agency (i.e. your ability to pro-actively access opportunities for learning through work (Q2.5)
- motivation for participation and/or learning through work (Q2.6)
- competence in participatory practice (Q2.7)

at the beginning of a transition across different work contexts.

However, when the average weighted means are considered, it can be seen that the fourth question on affordances was less strongly supported than the others.

It is also interesting to note that people were slightly more inclined to see affordances as important when another person was making the transfer than when they were. As will be seen later, this slight difference was supported by some of the open-ended responses. Given that the participants in the Stage 2 research are competent and well respected as professionals, with many holding relatively senior positions within hierarchical institutions, they possibly don’t recognise their access to opportunities for learning as affordances but as a natural part of their work. The stories in which the data is grounded supports this, as those giving lesser weight to the importance of the affordances they benefit from, almost invariably give a higher value to the importance of affordances to people whom they are mentoring or advising.

The third question on “competence in undirected<sup>30</sup> learning” also shows lesser support than most of the questions, although the pattern here is less clear. Perhaps one of the participants summed up the contradictions and complexity embedded within this question when she wrote:

The reason I was not so convinced about the importance of competence in undirected learning in my first example was because I think at different ages and stages of careers this factor might be more or less relevant. As a young person, I was looking for every opportunity, undirected or otherwise and ... I was likely to seek out learning processes or have them initiated for me. ... As an older worker, I cannot admit with the same ease that I need training in certain areas (it leads to loss of face). Employers do not see older workers as a priority for spending their training dollars. So there is probably more emphasis on my competence as a self-directed learner. If I could not find out for myself, then if it were critical to performing my job, I would seek help. So my competence as a self-directed learner is a more important factor in the initiation of a learning process. Probably one’s competence as an self-directed learner increases with age and experience too.

(s2p031)

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<sup>30</sup> I am unsure why I used this term in the questionnaire as I usually think and talk about undirected learning. I think I was probably trying to include tacit learning as well as self directed learning.

Another participant indicated that he was not sure what was meant by “competence in undirected learning”. He hoped I meant ‘the opportunity to “seize the day” rather than be more calculating as is implied by some of the other statements’ (s2p057). Certainly, I do believe that to proactively create or take advantage of opportunities is one of the most important of learning skills.

#### 5.4.2 General comments

Just under half (44; 48.9%) of the participants chose to make comments about the statements which formed items Q2.1 to Q2.7 inclusive. Some of these comments referred to the importance of the activity of “initiation of learning” as, for example when one participant wrote:

This stage is pivotal to the effectiveness of the learning processes that follow. An absolutely essential stage to initiate the learning journey.

(s2p003)

On the other hand, another participant identified that some unlearning might have to occur when she wrote:

One’s competencies can be a bit of a hindrance when new learning needs to occur – a bit like the shackles of dogma, propaganda or superstition. Leaving prior competencies behind is sometimes very important, although mighty difficult to do, if new learning is to occur.

(s2p050)

This recognition that we sometimes have to unlearn before we can learn something new was recognised by other participants in response to later questions. It is a very important aspect of our learning as we move across contexts and our failure to unlearn or to put aside bad habits; our use of inappropriate approaches; and our holding assumptions which are not correct in the new context, are major barriers to transferring our practice across different work contexts.

There was some criticism of the form of the Likert-type questions. This may have been because respondents had not yet accepted my argument that the transfer of competence across different work contexts was a learning process, as both recontextualisation and adaptation of one’s competence, plus new skills and knowledge, were generally a key part of the process. As participants progressed through the questionnaire, there was evidence in their responses that the two who had protested at this stage had accepted the nexus between transfer and learning.

Others felt the language of the questions was faulty. Three participants indicated that they did not understand the statement “capability for participatory practice” and one questioned its validity noting that one can learn by oneself. Such comments came from only a small number of participants, all of whom were drawn from the higher education sector. Whilst this reflects that, within this sector, one can still shut one’s door and view oneself as an individual learner; it denies the culture of institutions and the impact of the interpersonal environment, collegiality, culture and work organisation on their practice. Another participant (s2p078) suggested that a ranking system might have been more appropriate.

One participant gave her list of factors which initiated work related learning when she wrote:

In the instances described, the initiation of learning was related to:

- my need for survival in new work contexts;
- the desire to prove myself as a competent worker;
- resenting the need to prove myself over again but feeling an underlying confidence in my skills and experience, based on previous status and success;
- recognition by others of the superiority of my insights and experience (i.e., why I got the job);
- the need to use my wits to solve the problems at hand and complete the job;

- personal commitment to achievement at a high standard;
- the need to perform well to ensure future work contracts [when working as a freelancer].

(s2p037)

Motivation and personal confidence were seen as being extremely important by those who made general comments. The nature of the required motivation was specified by one participant as being:

- a sense that some achievement, satisfaction, benefit will accrue;
- a sense that the benefits of the learning have the potential to initiate some sort of change.

(s2p010)

A second participant reported being loath to let down the faith and trust of others by a failure to learn through and from work. At the same time, she recognises that she will:

make mistakes because I don't know enough about [such] work. I will be depending on honest open feedback and my own critical observation to understand errors and right them. My relationships, therefore, have to be sound.

(s2p045)

This is an important point because it is one's relationship with the community of practice in the new, or changed, workplace that will enable the necessary legitimate peripheral participation (Lave and Wenger 1991) which will lead to learning.

A third participant identified a number of strong motivators of learning. These included survival, the opportunity to learn, to develop relationships, the desire to move location, and remuneration (s2p074).

Personal confidence was seen to be important in different contexts of learning. One participant (s2p005) wrote of the role of affordances in the development of personal confidence. This link between personal confidence and affordances was picked up by another participant who wrote:

Affordances, as discussed by Billettt, are important. However the issues of personal agency and confidence ... also come into play here. I suspect there is, perhaps, a kind of dialectic or dynamic at work which sees those with the personal agency and confidence 'receiving' the affordances – they seem to be in the right place at the right time. Also those with greater levels of confidence, autonomy, personal mastery (such as Senge (1990); Kearns (2001);) call it what you will, are better able both to take advantage of circumstances or affordances that arise, to turn half chances into full chances, and to create their own opportunities.

(s2p069)

Other factors, identified by participants, which influence the initiation of learning, as a result of crossing between different work contexts, are:

- the willingness to learn
- sufficient skill and knowledge to learn within a specific context
- the absence of negative expectations from significant others such as the common perception by employers that those over 40 years of age are not employable because they are not flexible enough and adapt too slowly
- the willingness to work and learn with others and to share ideas
- personal choice to participate in workplace activities
- the culture of the workplace
- a sense of future and the need to equip oneself for it
- the 'freedom to embark on approaches which extend or are totally outside of the defined parameters (by agreement) is extremely important' (s2p034)
- permission to explore the new context
- the knowledge that others are depending on you learning to adapt to the new context
- the intrinsic challenge of learning

- the need to correctly identify what Sefton, Waterhouse and Deakin (1994, p. 105) describe as the “lingua franca” of the workplace, that is, the use of language to encode workplace practice, culture and interaction so that it is only partially understood by those outside the workplace community
- initiative on the part of the person involved
- An ability to ‘listen to instruction, the absence of ego when being directed, gender difference when mentoring/being mentored and associated age all impact when the learning process begins and how effective it is (especially my story 2)’, (s2p086).

Learning as part of moving across differing work contexts is not always deliberate or consciously directed. As one participant wrote:

There is another aspect of all of this that it seems to me is under-explored. That is the potential for powerful and significant learning to occur unintentionally through simple interest and engagement. ... The ‘learning’ is an outcome, a side benefit as it were, of engagement in something worthwhile (to the individual).

Secondly there is also the powerful learning that comes of things going wrong, painful experiences which no-one in their right mind would wish for or intend – often it is the crisis, the problem, the disaster which precipitates the learning and the need to learn. (s2p069)

This is overt recognition that it is the involvement of the learner in an activity, which gives rise to learning. From this point of view, which concurs with my own, then it is the actor’s preparedness and will to be involved in situated activity with other members of the workplace community of practice, that is the initiator of learning, and the factors discussed above are those which enhance, or detract, from this process.

One participant reminded me that the seven items in this part of the questionnaire come from specific discourses of learning and that the relative importance given to them is related to the discourse of the respondents when she wrote:

Specific discourses of learning surround each of the categories above. Each of the given categories is important depending on your discursive frame. From a psychological perspective, “need”, “personal agency”, “personal confidence” and “motivation” are very important in initiating learning. From a socio-cultural perspective, affordances might be considered central. From where I sit, learning is initiated in and through practices (in an ecology of practice). This practice is workaday, mundane (eg. learning about accrual accounting; learning to read budget figures – story 3). It’s also socio-material.

(s2p033)

Accepting this, then the responses to the Likert-scale items indicate that the psychological perspective is the dominant discourse of participants. This is not surprising given the dominance of this perspective within everyday educational discourse. Yet the mode of learning and adaptation within the workplace is largely based around activity and interaction with different contexts. This indicates that in the analysis of responses, it is important to be aware of the dominant discourse and its apparent effect on the perceptions of the participants. The contradictions, which arise from the prevalent use of the discourse of cognition in contexts of learning, where it is interaction which shapes learning and attitudes to learning, will be explored for each of the sections of the questionnaire.

Another participant introduced the importance of dispositional states in shaping both discourse and learning by quoting from both David Perkins and John Dewey:

‘Dispositional states affect competence and adaptability, with conscious and unconscious components operating in different settings. Learning strategies (habits of mind) are crucial. Thinking dispositions are tendencies toward particular patterns of intellectual behaviour, such as to be reflective, to seek reasons, to be intellectually strategic, or to be intellectually adventurous’ (Perkins 1995, p. 278).

John Dewey (1933) in *How We Think* wrote about the significance of these habits of mind or “intellectual virtues” as he called them. ‘When thinking-rich language pervades a learning environment, it provides not only information but also an invitation to embrace and cultivate certain habits of mind. Through education in a specialised language, people become fully awake to their intellectual potential, even as they begin to recognise that this world is also rich in its variety of challenges’ (p. 9).

(s2p026)

### 5.4.3 Specific comments

#### ***Are there additional concepts which play a role in the access to new knowledge and skills?***

Many of the issues raised in response to this question were also raised by participants as general comments and have been discussed in some depth above. Such comments are listed in this section but, generally, without further discussion.

Issues raised in response to this question have been categorised into five groups in order to give structure to the discussion. However, there is a lot of overlap, with many of the comments crossing between the artificial boundaries caused the grouping of like concepts. The five groupings are as follows:

- attitudinal factors - including attitudes to learning and change
- learning skills and processes
- workplace culture
- work practice
- other factors.

#### **Attitudinal factors**

Attitudinal factors referred to by one or more participants were as follows:

- degree of personal choice
- ambition
- willingness to help and/or work with others
- interest in the activities undertaken and the learning concomitant with them
- self assurance
- commitment
- parochialism such as the ‘not invented here/by me syndrome’ (s2p014) which is generally a barrier to learning and results in resistance to workplace change
- challenges. Whilst most participants who mentioned challenges appeared to do so in terms of challenges being a source of motivation and/or a cause of learning. However, one participant recognised that the contexts we find ourselves in, often challenge our prior knowledge and assumptions:  
Challenges to prior knowledge, skills, values and behaviour are constantly thrown up by new contexts that are significantly different to previous ones. ... Each of these transitions is accompanied by significant confusion and challenges from very early in the piece.  
(s2p018)
- ‘personal interest in acquiring the new knowledge. If the skills or knowledge are interesting to a person, they are more likely to access the knowledge’ (s2p039). Another participant queried whether such personal interest was a value judgement embedded in this concept when she wrote:  
I wonder if there is a concept of worth that needs to be applied, i.e., I need to feel this learning is important and worth struggling for.  
(s2p045)

Yet another respondent linked personal interest with personality traits such as one's approach to learning when she noted that:

A third [issue] is learning style as it is determined by personality. Not so much the learning channels stuff, but whether you are attracted by new facts; if so, whether you like to dig deep in one field or flitter across the meadow (the badger or butterfly styles); and whether you then have the urge to apply your learning in practice or go on to the next interesting thing.

(s2p080)

- the need to be part of a social group. This was a popular response and in a number of cases was accompanied by concepts of fitting into the group and adopting the behaviours and interests of the group
- preparedness to take risks and admit to mistakes plus the 'ability to minimise risk for others and plan for contingencies' (s2p043)
- 'preparedness to proactively seek information from whatever sources are available, including those outside one's organisation' (s2p038)
- political nous in order to understand the political dimensions of the workplace environment
- tolerance for the associated level of ambiguity was nominated by one participant as an effective dimension of learning:

When the questions are set out like this, it gives the impression that the newness of the situation is clear and that this provides motivation for learning something the contours of which are also clear.

From my experience this has not been the case except for very specific activities. ... For me the nature of the newness has been ambiguous and unclear and the desirable ways of acting and using my existing competence and the skills or new competence needed also unclear and ambiguous. In fact, in most of my experiences these things have been the subject of active contestation within the work environment with different people, immediate colleagues, direct supervisor and higher level supervisors having rather different views of the role and what it required and thus different expectations for my learning and the ways in which I might transfer my existing competence.

I think a tolerance for this level of ambiguity is probably another concept that is worth considering. If we rush to impose expectations on the situation rather than being able to live with the ambiguity and discover what is needed, we may not learn effectively or develop our abilities in useful ways. I also think that this is an aspect of the affective dimension of learning that seems to get a bit lost in the model. As does the impact of the political context for transfer.

(s2p044)

- persistence and resilience. As Billett notes, 'rather than benign, social practice such as workplaces are highly contested' (2000a, p.31). Thus, as many participants recognised, persistence and resilience are needed if learning is not to be aborted when difficulties arise
- pre-existing tendencies or characteristics which arose from our genetically-based behaviour were noted by four participants. Interestingly, all were men. One participant expressed his belief that such pre-existing tendencies affected how one approached learning as follows:

The hard wiring of the individual mind i.e., talents, socially gifted; systemising etc. and the match of that mind with competency required. Also, the cultural bias of each mind that embraces or inhibits learning of some knowledge concepts.

(s2p025)

- personal constructs which activate learning or are conducive to new learning (s2p087)
- awareness of such motivations as 'alertness to possibility; the thrill of the unknown; the Foucault moment of laughter at the familiar being made strange and the possibility of the absolutely other' (s2p088).

## Learning skills and processes

Unsurprisingly, comments on learning skills and processes were more numerous than the other categories. The learning skills and processes referred to by one or more participants were as follows:

- ability to network both within and outside of the work environment
- personal organisational skills
- the ability to access the underpinning knowledge and understanding when needed. One participant illustrated this with a story about a ski class having trouble learning to turn:

At no time had the instructor explained how and why a ski turns! I had a short discussion with him and together we discussed the shape of the ski elaborating how this shape will assist in turning once the ski is weighted.

I had an ha-ha experience – I only need to put the ski into the right position and it will turn, I do not need to turn it! Bingo, I was turning and not falling over. The instructor had never looked at the physics behind the ski design and shape.

(s2p008)
- ‘familiarity and competence in the process of self-assessment or performance evaluation’ (s2p003)
- strategic thinking and planning
- awareness of personal limitations and strengths in relation to the new role and/or context
- perspicacity, or at least the ability ‘to view things from various perspectives, e.g., the glass is half full or half empty – the situation is a problem or an opportunity’ (s2p011)
- previous work and learning experiences
- readiness for learning
- ‘the extent to which the new situation or role is similar to or different from your previous role and context is important. If the work and context are very similar then you may accommodate / assimilate new knowledge, skills, etc with little conscious awareness or effort.’ (s2p018)
- access to role models and mentors and others willing to share knowledge
- ‘leveraging off existing skills, knowledge, processes, and procedures.’ (s2p021). This includes the ‘use of past schemas for interpretation’ (s2p041)
- a change in identity. Through learning we enhance or change our identity with respect to the workplace and often outside of this. One participant related a change of career path to her need to be, and to be recognised as, creative.
- rewards of learning. These were seen as being important in the initiation of learning by a fairly large group. One respondent stressed its importance in the productivity of workplaces when she wrote:

In a consideration of the transference of skills from different workplaces, I think the social and spiritual dimensions of (applied) learning, in terms of motivations and rewards for the person doing the learning, should not be overlooked. Humans are emotional, self-centred beings and we all find very subtle ways of resisting, avoiding and subverting situations with which we’re uncomfortable, don’t fully understand, or when we don’t feel appreciated. The wholesale down-sizing and attrition of human capital from organisation in the past 15 years, in favour of mechanistic skills profiles (pegs in holes) has in my view tragically missed the key point about productivity. People don’t just work for money!

(s2p037)
- reflection was mentioned by several participants who had not responded to the general comments section. One participant wrote of the:

capacity to reflect on experiences and outcomes which in turn informs the development of options for further learning and action.

(s2p043)
- actively taking “ownership” of the knowledge. The concept of ownership was a disputed one. This is probably because ownership implies that knowledge is a commodity which can be acquired. This represents the language and concepts normally associated with

a psychological, or cognitive, approach to learning, and is indicative of learning about instead of learning how. There is currently no established term or alternative discourse yet evolved to express that the ownership of knowledge implies that, through activity, it has been unpacked, reshaped, contextualised and integrated into one's existing understandings and actions. This view of the "ownership" of knowledge (s2p045) is acknowledged by the research participants

- opportunities and capacity for learning with others, including group learning, was a common response to this section. A 'common journey of discovery stimulates learning on behalf of those participating. The notion of "bouncing off one another" is a powerful motivation for learning and for engaging in learning activities' (s2p046). For another participant, group learning was:

an important element in all three stories and, in fact, in my whole mode of operation is the importance of being part of a group situation. It brings a whole new element of contribution (from others) and provides a sharper cutting edge for transfer/initiation of learning.

(s2p075)

- 'capacity to think imaginatively and laterally' (s2p081) and the desire to innovate and experiment are important factors in a person's decision to initiate a learning process or journey
- psychological issues were also mentioned as affecting whether or not we decided to embark on a learning journey. One participant noted that such factors might enhance or impede group processes when he wrote:

The issues of the unconscious also play their part don't they? Aren't there places that we (psychologically) just ... "don't want to go there", the points of "resistance" both individually and within organisational cultures which 'prevent' access – eg. in the case of a workplace meeting/discussion where those present might claim it was a full and open discussion – but the really critical questions and issues didn't get discussed at all.

(s2p069)

- learning independence 'in tension with interdependence' (s2p070). This comments supports the reasoning of Illeris, who maintains that it is the tension field between 'the cognitive, the emotional and the social' (2002, p. 9) which leads to learning
- reflexivity, that is, to 'engage in on-going personal interrogation of my own practices and beliefs' (s2p070)
- ethics and integrity were mentioned by a number of participants. This reminds us that, unless the learning process is an ethical one and one which actively seeks out the best explanation and does not ignore other explanations, then it is not an educational one. As one participant reminds us, this is equally true in the workplace as in academic activities:

The concepts which come to mind is that of **relationships and opportunities which emerge from carrying out one's current work with ethics and integrity** [participant emphasis].

(s2p079)

- capacity to learn including an 'individual's capacity to tap into the tacit knowledge that resides in all organisations. This is often the most valuable source of learning but is not always recognised as such' (s2p062).

## Workplace culture

Aspects of the workplace culture specifically referred to by one or more participants were as follows:

- negative attitudes towards new entrants to the workplace questioning how and why things are done a certain way
- tolerance and respect from managers and co-workers is important
- recognition that supporting new entrants to the workplace, such as 'mentoring and helping others learn and adjust to new roles' (s2p032) or 'someone else who believes



in the quality of your work and who is willing to set up a team work or sponsorship relationship' (s2p079), is important

- attitude to sharing ideas and working collaboratively
- the extent to which shared understandings are valued within the workplace
- availability of information, training opportunities, and support
- 'I suspect that there is a sense of reciprocal "fitness" with the context. That is, is the learner "fit" to interact with the context and does the context aid the learner?' (s2p023)
- 'a culture that supports and rewards staff for assisting others to make the transition to a new learning and teaching environment' (s2p032)
- opportunities for practical application of new or emerging competence (s2p075)
- status within the workplace was recognized as being important in so far as access to appropriate people and other resources were concerned. One participant noted that one's status:
  - can influence access to new knowledge and skills. Transfer of knowledge and skills is arguably of more importance to an organisation at the higher levels and therefore more resources are likely to be devoted to it.(s2p031)
- the concepts of affordances and agency as important in being able to integrate into the new context were also noted. One participant wavered between the concepts of affordances and the provision of support when she wrote:
  - here the support of others and encouragement has been critical – and building trust in that support. Perhaps [the term], affordances, covers this, but in this case the potential for initiating learning came from the trust in the process outside work.(s2p053)

### Work and workplace practice

Surprisingly there were very few comments about the impact on work practices on learning. This was, perhaps, because the link between work and learning was so obvious that participants didn't refer to it. The comments that were made referred to:

- the need for a hands-on approach or the 'possibility to observe other's practices followed by opportunity to do them oneself (having responsibility) (s2p042)
- allowing or enabling workplace discussions and other support mechanisms such as critical friends (042) to enhance conceptualisation
- recognition that it is the learner's activity which enables the learning.

### Other factors

Other factors which did not sit easily in any of the previous category were also mentioned. These were:

- the effect of external (to the learner) value systems which one respondent commented on when she wrote:
  - In my own experience ..., the ephemeral factors, not directly concerned with learning processes, were very important, much more so than I would have credited if someone had tried to explain this to me prior to this move. The value given to management style and leadership are quite disproportionately important in this type of situation.(s2p083)
- unassociated events can also have an effect on the initiation of learning as a participant recognised as:
  - being in the right place at the right time; the accident of meeting the person/people who can provide access(s2p088)
- recognition of possible support structures was identified by one participant who wrote:
  - If a person lacks both confidence and competence, then understanding the importance of support structures in assisting with learning is critical to success. It is

not that the support structures are not there, sometimes disempowered learners do not understand how to access support or ask for help.

(s2p076)

***What are the barriers which might have limited (or might limit) the initiation of learning leading to “transfer” in your stories?***

Many of the issues raised in response to this question were also raised by participants as general comments or as additional factors and have been discussed in some depth above. Such comments are listed in this section but, generally, without further discussion.

The comments made by respondents have been grouped into internal/psychological barriers, external factors, barriers which result from both internal and external factors and those which arise from previous workplace experience.

**Internal/psychological barriers**

The internal/psychological barriers identified by participants were:

- ‘inability to break into the culture of the new organisation’ (s2p002). Such an inability is usually the result of perceived difficulties and where the motivation to do so is not particularly strong. This was described by another participant as a ‘lack of self-confidence or “levels of doubt” to the extent that it outweighs the strength of need and motivation (s2p003)
- ‘simply the absence of any of the significant factors identified in the table<sup>31</sup> above’ (s2p003)
- ‘not enough time allowed in your contract to immerse yourself in the workplace culture’ (s2p045). Although this may be a physical constraint, it is generally an individual’s perception that there is not enough time. Opportunities for agency, affordances and priorities can create time in this respect. It is more likely to become a barrier to consultants whose time in a particular workplace may be restricted than to those taking up a position within a specific workplace
- difficulties with understanding the language of the new context such as ‘misunderstandings or lack of knowledge of the ‘language’ or ‘jargon’ being used (s2p013). Language can be a powerful barrier as can the mystification of the practices of a particular workplace or occupational group
- ignoring the lessons of past experience and applying them to the new role
- lack of commitment to the new situation and, therefore, the need to situate one’s work and understanding within it
- not recognising or accepting the changed circumstances (s2p016)
- lack of understanding of the requirements of the job
- lack of cultural understandings of the new environment (028; 069)
- workplace relationships and the need to be in the ‘in crowd’ (s2p049). The need for peer acceptance is a strong driver within workplaces and can result in the adoption of negative behaviours as well as more positive ones
- psychological barriers including, those identified as being outside of existing frameworks or experience (s2p031). This is the concept of whether the new experience is within one’s ‘zone of proximal development’ (Vygotsky 1978; Wertsch and Tulviste 1996). Such barriers may be deeply embedded in an individual’s psyche to the point that they were not necessarily aware of them. Aptitude and disposition are clearly important factors in one’s ability to learn in situ. But they are not absolute and learning for transfer is influenced by a multitude of factors. The following participant has identified a combination of factors which include:

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<sup>31</sup> Table 5.1 (p. 136)

- Individual blockers where the individual is not open to change and transfer of skill development
- Fear of failure or personal inadequacy
- Lack of resilience to keep on with the critical path of change and adaptation. (s2p079)
- idealistic, moral and/or ethical barriers. One participant wrote that ‘the barriers for me might be idealistic or moral ones – say, lack of agreement with the purposes of the project, leading to an inability to engage with tasks, exercise appropriate skills, finish work, etc.’ (s2p037)
- lack of challenge (s2p080) as contributing to one’s lack of motivation to transfer one’s competence except at a fairly superficial level. This might also be classified as a lack of interest as, for many of us, challenge and interest are complementary
- a lack of confidence in one’s ability to take independent action was also given as a possible barrier
- a perception that one’s contribution is not valued was also seen as a formidable barrier to learning from, and within, the new environment as noted by the respondent who wrote:
 

If I feel that my contribution is not being valued I tend to adopt the ‘stuff them’ attitude, and find other avenues in which to satisfy my drive to learn new ways of using my skills.

 (s2p052)
- ‘egocentricity, and overconfidence in one’s own truths’ (s2p070) was identified – a fault that it is all too easy to identify in others but hard to recognise in oneself
- stress was also identified as a barrier to learning by one participant who wrote:
 

If one is too busy or the mind is too full for other reasons, then learning will only be undertaken either when it is absolutely necessary, or possibly ... as a kind of escapism.

 (s2p080)

### External factors

Lack of support was the most commonly identified external barrier to the learning which enables the transfer of competence across different work contexts. This was described by one participant as ‘not having access to opportunities, either formally or informally, or support and encouragement from peer groups/ management’ (s2p075).

One of the areas identified by participants was the lack of support from their new colleagues and the organisation as a whole (s2p004; 031) Another participant was more specific as to what might cause this lack of support. In doing so, she identified both internal and external barriers which needed to be overcome when she wrote:

- insufficient basic skills and knowledge
- insufficient information on which to base a decision
- inability to articulate and/or visualise the problem
- lack of opportunity to discuss the options
- inability to articulate and/or present possible solutions
- lack of acceptance
- lack of feedback
- lack of confidence
- pressure of having to deliver on time. (s2p067)

The second most commonly mentioned external factor was the lack of time due to:

- ‘constant change caused by new technology and systems and organisational structures’ (s2p005)
- ‘multitask environment – don’t have the opportunity to complete one task and reflect on learning before having to deal with a new task’ (s2p005).

Both these, not unrelated, external barriers are endemic in current workplaces. Although a lack of time to deal with them has been identified as a barrier to learning, these are situations where learning is essential if the change is to occur. This produces the type of tension field which will either lead to learning or cause the individual to distance himself/herself from the change.

Other external factors identified by the respondents were:

- penalties for taking risks and making mistakes was identified by three respondents. Such external barriers support the continuation of the status quo and, thus restrict the possibility of change
- the opposition of “gate-keepers” and others with an interest in maintaining the status quo
- parochialism or the absence of thinking about the big picture
- lack of resources was also identified as a barrier to learning with the ‘resources not necessarily allocated according to need’ (s2p031). The nature of these resources was also seen as a barrier if they were not necessarily suited to the learning tasks. Such resources include the access to appropriate expertise who understand what was needed and which is not always available or affordable (s2p053)
- workplace culture was suggested by at least eight participants as being a potential barrier. As one participant wrote:

The biggest barrier here was the workplace culture. Although the person had worked in a similar role, the environment had been quite different (e.g. emphasis on face to face meetings as opposed to paper-based approaches, easy access to very senior people versus difficulty in gaining access to very senior people and having to pass through many “gatekeepers”). Also I think that the new environment stretched the individual’s written communication skills and provided a source of stress. Previously, the person had relied primarily on verbal communication methods and found it difficult to adopt the right kinds of written language and tone.

(s2p031)

Another participant from a university workplace identified an academic culture as being a barrier to the learning of newcomers to the workplace because of the individual, independent and competitive nature of academic work (s2p032)

Another participant identified barriers to learning as the absence of appropriate strategies or approaches within the workplace culture such as:

- systemic blockers
- inadequate credible role models
- lack of support mechanisms.

(s2p079)

- The perceptions of the newcomer by those already in the workplace were seen as a barrier in one of the “stories” on which this data collection and analysis is based. Where the workplace community of practice closes ranks and excludes the newcomer (s2p077), then learning as situated and legitimate peripheral participation (Lave and Wenger 1991) becomes very difficult
- barriers caused by the lack of appropriate infrastructure to support the learning of those entering the workplace
- poor management was also seen as a barrier by not establishing a suitable cultures and specific support mechanisms to support learning from work. One participant described the management in relation to one of her stories as an ‘overbearing and inquisitorial management regime’ (s2p043) which was clearly not conducive to learning through work
- risk averse environments (that is, those where failure or non-achievement results in criticism and negative repercussions) might also be attributed to poor management. These act as a barrier for learning and inclusion in the workplace community as learning itself is a risk and so such environments stifle learning

- 'a distrust of training and education in the workplace. A belief on the part of management that real learning is found in books and consists of filling in blanks in text books, submitting written tasks and sitting tests' (s2p045)
- restricted freedom to "move", particularly in a large bureaucratic organisation was identified by one participant when she wrote:
 

However, on one such occasion, my move into the state central education agency coincided with a monumental change within the organisation, whereby many of the old structures had gone. This, together with my relative lack of knowledge of the organisational culture and 'respect' for the rules of day-to-day operation meant that there was a brief window of opportunity to transfer more freely. In my [subsequent] time in the organisation I saw that freedom being eroded – personally and for others coming in with fresh ideas. I guess there is something here about opportunity and the degree to which individuals can find 'space' to transfer skills, etc.

(s2p075)
- other external variables identified by participants were an 'external threat to the security of the new job' (s2p064) and a context which lacked the opportunities and motivation for learning (s2p057).

### Combination factors

Factors, identified by the stage 2 participants, which were a combination of both internal and external forces, were as follows:

- the expectation, by both the individual and the organisation, for the newcomer to "hit the deck running" and the consequent lack of time to explore new context and develop new skills' (s2p023)
- 'time to practice, review, document and reflect' (s2p021) was identified by four participants including one who wrote:
 

One major barrier to learning in all instances is the availability of time. Often learning is limited by the time available for reflection and even initiation. Competing responsibilities and priorities result in decisions – consciously or unconsciously - to curtail learning. Transfer is likewise limited by external factors e.g. too many other tasks to be done to enable effective transfer to occur.

(s2p046)
- Others expressed this same factor as time for the appropriate professional development which was needed. However, it was unclear as to whether this development was self directed, provided by others, or both
- failure to recognise the need for learning, and the type of learning required, was not necessarily an internal factor as one participant pointed out when she wrote:
 

In the case of the first story the major barriers to the initiation of learning were a failure to recognise the need for learning, not on my part, but on the part of the organisation ... {and} a very strong difference in how management {and I} understood the competencies necessary to manage.

(s2p044)
- ambiguity in the work environment was identified by one participant (s2p044) as being a barrier to learning which in one of her "stories" led to diminished opportunity and motivation for learning
- cultural/ideological barriers which lead to a lack of relevance to the learner was acknowledged by one participant who wrote that 'the nature of the work on offer may not hold sufficient meaning and purpose for any new learning to occur!!' (s2p033)
- lack of imagination and vision was identified by two participants as a barrier in their respective stories. As another participant wrote, in answer to an earlier questionnaire item, this impedes the learners' ability both to visualise the learning situation and thus enact it and to be able to understand one's learning and actions in the context of the big picture of what is happening in the workplace, in the enterprise and in the wider world
- a lack of suitable role model or mentor was seen as a barrier by at least five participants, although only two of these explained why this should be a barrier in their

“stories”. One participant described the barrier as an ‘inability to locate a workplace mentor or champion who has the time, interest or availability to spend time with you’ (s2p045). The second participant saw herself as the mentor for her work team but described the barriers which impeded her ability to act effectively when she wrote:

It was expected, [in story 1], that I would be innovative and increase the productivity of the team ... I was clearly on a high learning curve as the priority tasks had tight time-lines and additional very onerous and labour intensive tasks had been added to [the work] of my team members, with no time or opportunity for their up-skilling.

(s2p035)

- attitudinal problems, brought about by both the individual’s attitude to the move to a new workplace and the attitudes of the other workers in that new workplace, (s2p035)
- personal style, while usually considered an internal factor can provide an external barrier when it is not that of the workplace community. One participant identified this in one of her “stories” when she wrote:

Another barrier was the individual’s personal style, which was more outgoing and demonstrative than the majority in her work group and while this did not bother colleagues, it was sometimes an issue for managers, who were used to projecting a particular corporate image in their dealings with other parts of the organisation and external organisations.

(s2p031)

- existing competencies and the difficulties of “unlearning” can be both internal and external factors in creating a barrier to learning. One participant, who has recently shifted to self-directed work (retirement), discusses this in terms of the writing skills she will need in her new work, when she wrote:

My existing competencies in the areas of writing and research will transfer readily to the new context. However I will need to overcome the stylistic inhibitions and sublimation of self that were developed to a high degree for writing Ministerial Briefings and Cabinet Submissions. Such documents are characterised by the use of carefully selected facts that are enhanced with a subtle spin to ensure that any ‘bad news’ aspects are presented in the best possible light. The key objectives of this style were to secure endorsement of the paper by the Director and Departmental Secretary and hopefully, to save face for the Minister.

(s2p035)

Another participant saw the barrier in one of her “stories” as related to ‘being branded as a “specialist” in an organization, therefore only being allowed to work on certain projects or tasks.’ (s2p049).

### **Prior workplace experiences**

One’s prior experiences in other workplaces can have a considerable impact on our attitudes and our ability to change and learn in order to fit into the new contexts. A number of these were identified by participants in stage 2 of the research, namely:

- not fully anticipating the complexities of the change in context and/or practice is a barrier which can come from one’s previous workplace experience. One participant wrote that his existing constructs about managers and their role acted as a barrier to new learning when he was appointed to a managerial position (s2p069). Another participant identified that such barriers may need time (which is not necessarily available) for resolution, when he wrote:

The difficulty in understanding just exactly what it is that you need to know/learn in the new position. There have been many instances where this is only revealed through the passage of time, or a particular circumstance arising.

(s2p090)

- ‘unwillingness of others to share what they know’ (s2p002) can also arise because of past experiences. For example, if one moves from a supportive to a more competitive workplace, the unwillingness of others to share what they know may act as a barrier to the newcomer’s ability and motivation to integrate into the new workplace

- insufficient exposure to situations, activities and contexts was also identified as a possible barrier. As one participant who identified the barriers as:
  - limited exposure to a range of situations and activities within a new context limits the extent to which you are exposed to situations that challenge your knowledge and practice
  - prior experience in a role doesn't mean that you have a sufficiently explicit understanding of what it is that you know about your work
  - motivation to succeed in a new situation and learn doesn't mean that you are consciously able to articulate and reflect on what it is that you are seeking to understand - unless you are exposed to differences in the new situations
  - personal risk of exposure in a new work situation ... [so that] it can be extremely difficult to lose the basis of your confidence and reputation ... [This] doesn't really exist in a new context until you've earned it. (s2p018)
- lack of pre-requisite skills. While participants sometimes identified technical skills such as computer literacy, most of the skills identified in conjunction with this factor were learning or other generic skills. As one participant observed from one of her "stories": Lack of co-operation, or assistance by some of the 'gatekeepers' to information and procedures, as they felt threatened by a new staff member (I've observed this since when other employees have joined the organisation.) (s2p083)

However, another participant warned that proactively seeking to remedy this situation may, inadvertently, create another barrier when she wrote:

Actively seeking out self development opportunities was attacked in the corporate culture by some individuals (who never thought to do so for themselves).

(s2p087)

- 'An insufficient understanding of the workplace processes, values and culture resulting in the application of inappropriate generalisations in the new context (s2p045)
- 'Workplace technology that is too complex and far removed from your current store of understandings' (s2p045). Given the rate of technological development, this is likely to be problematic especially for those who use technology but do not relate to it
- inability to identify the community of practice. This was problematic in one of the "stories" of the future. The participant recognises that he will need to create the opportunities through the exercise of his agency when he writes:
 

In my final example a key barrier is the apparent inaccessibility of the 'target' community of practice, the lack of a mentor or champion and the lack of opportunity or affordances – It appears I will need to create some opportunities and engage new networks to gain the support needed. These are outside my existing "lifeworld" or day-to-day practice.

(s2p069)
- the larger the disjunction between experienced contexts and new contexts, the less likely would be the immediate recognition of the capacity to transfer (s2p071). This comment suggests that "far" and "near" transfer might relate to the similarity or difference in the contexts being crossed rather than just the content of what is being learnt.

***What were (or might be) the strategies you used (or might use) to overcome these barriers?***

The strategies which this question elicited generally corresponded to comments made in answer to earlier questions and to the stories on which the participants' responses were grounded. This meant that their responses to this section were generally short and quite specific. The strategies listed below are only an overview of the responses because of the richness and diversity of the stories on which they are based.

The responses have been divided into three groupings, that is, individual strategies, workplace strategies and interactional strategies. In most cases, these strategies were specific to the barriers faced within the participants' stories. Such specificity means the acceptance that what works in one scenario, may not work in another.

### Individual strategies

The individual strategies identified by the participants were:

- 'being excited or invigorated by change means that the inevitable unease during the settling in period can be tolerated' (s2p001)
- approaching the barriers with 'determination and tenacity' (s2p002). Another participant suggested that prayer might help. Given the reflective nature of prayer, this may well be a useful strategy in conjunction with appropriate actions
- 'reflect[ing] on what it was like when I first came into [previous] jobs' (s2p004)
- 'relat[ing] explanations for complex concepts back to known experiences' (s2p008)
- 'promot[ing] self-confidence by emphasising strengths' (s2p006)
- clarifying objectives
- 'setting priorities, taking one task at a time' (s2p017)
- 'checking terminology and assumptions as I went – to look for differences' (s2p018)
- 'wanting to do the work. An attitude of being willing to give things a go and to do one's best to work towards becoming good at what one does' (s2p020)
- 'a willingness to learn, try, make mistakes (that one can live with) and learn more' (s2p020)
- agency of the learner. As one participant wrote:

If the learner folds at the first hint of opposition or indifference and does not persevere in trying to understand the context, what people do and what makes them tick, then the transfer of learning will at best be superficial and not long-lasting.

If the learner remains in the new context, and does not fully transfer his/her skills and knowledge in the face of barriers, then he/she will deliberately construct barriers to neutralise the change and to keep others at arm's length when possible.

(s2p023)
- analysis of the nature of the job within its specific context. As one participant explained it:

In the second example the barriers were addressed through a conscious process of deconstructing and reconstructing what it might mean to be a manager – and trying to construct a self-identity as a manager-which was true to self – yet still enabling the job to be done

(s2p069)
- the use of specific strategies. As one participant wrote:

The strategies 'to overcome these barriers' are specific to the situation. Informal learning strategies such as conversation and trial and error were (may be) used in most cases, e.g., Isobel & I spent the better part of one day talking about the way 'things' are done at [her university] in comparison with [mine].

(s2p033)
- deliberate action is taken especially when a significant change of practice is required. One participant explained her recognition that:

I realise that I must do whatever is required to develop my own ' voice' for writing. This will include formal and informal learning through participation in selected creative writing classes or workshops, reading relevant 'how to' stuff and lots of practice. Initially I will join a writing group that meets at licensed premises where we can all commiserate on the elusive muse and comment on each others' failures and celebrate the rare successes.

(s2p035)
- actively seeking information. This was described by one participant as:
  - being proactive about seeking information, even if the 'source' makes it hard
  - being assertive about information you need to know



- knowing enough to know what more you need to know i.e., consciously incompetent
- being aware of what you don't know
- knowing how to ask
- knowing how to find out information you need from other sources
- being able to 'experiment' with your new knowledge and accept feedback. (s2p038)

In a similar vein, another participant described the need, sometimes, to:  
Develop expertise independently of the 'guardians' – not difficult if you are more intelligent, read more widely and intelligently learn from trial and error and have had good role models of those who have survived in challenging situations. (s2p055)

- research, including the use of critical friends, was advocated by one participant as involving:
  - a lot of research, and private (deep and honest) thinking
  - paying attention to intuitive feelings about any one situation
  - knowing self well, including a well based belief in one's ability and recognition of shortcomings
  - personal thought, dialogue (and sometimes hot debate) with a few trusted friends and colleagues
  - lobbying and advocacy, in the case of opportunities for others
  - creative strategies, well discussed, in case of family needs, including the recognition of where and how the best balance between self/others is achieved, including where the bottom line is. (s2p070)

- using a multi-dimensional strategy was described by one participant as
  - working out who was the best person to approach (not necessarily a senior officer or your immediate work colleague)
  - using contacts from previous workplaces
  - combining forces with other officers with similar interest and needs
  - putting effort into developing good relationships with colleagues at all levels
  - using web-based information
  - staying positive and persevering – sometimes with more experience and as people get to know you, things can improve
  - trying to steer yourself towards work that allows you to demonstrate your strengths or that allows you to work with someone who could provide valuable information/insight. (s2p031)

- engaging with the work community (s2p007) so that it is possible to work through the barriers. Resisting taking the plunge may result in a loss of trust and confidence by both the individual and the workplace community

- awareness of one's professional boundaries and values:  
and therefore refusing to take on a contract project that I don't believe in 100%. Or taking a stand on principle (perhaps worst-case, finding a face-saving reason to leave the project).

Or else taking a completely mercenary approach – i.e., these people are dickheads/this project is worthless BUT this is what I need to do to earn a crust, it's only for the next 3 months, etc. (so making a minimal effort). (s2p037)

- develop and exercise patience 'through social engagement, lots of talking and interaction, getting to know the 'tribe' and sharing experiences, trying to find common ground' (s2p069)
- the importance of imagination and visualisation skills  
Even as I plan for a new course which I may be teaching, or an important meeting or presentation, I find myself imagining the group, the room, their context, trying to place myself in the situation, visualising what I might say, what I might do, how I want to behave. This imaginative process is an important part of my preparation to bring my

skills, knowledge to bear in a new situation. I think it is an important aspect of the 'transfer' process.

(s2p069)

- dealing with stress:

I think the most useful thing is to recognise that stress is part of the ebb and flow of life, so sometimes you're in a space where you can learn and transfer learning, sometimes you're not.

(s2p080)

- time management:

I have never learned how to deal with time and am buggered if I am getting any better at it – I have taken weeks to contemplate completing this questionnaire for example. Perhaps I think too much – hedge too many bets.

(s2p088)

- 'being gentle on self by keeping expectations at a realistic level' (s2p017)

- waiting 'for a more suitable time and seek[ing] out opportunities' (s2p019)

- the dynamics cultural interests:

It has taken me ages to see how differently I have to think to learn, what an institutionalised awareness can do to the whole person, and the relationships that flow from this socialisation. I would like Habermas' consciousness of modernity put into a curriculum ... as a means to opening up students' own awareness of the work practice and their potential roles in it. That would ... up the cultural-political in training, and enabling a fuller participation and ... more competent decision-making.

(s2p026)

## Workplace strategies

- 'support and encouragement offered in a variety of ways and forms to cater for individual preferences' (s2p003)
  - 'advocating that advanced notification be given of any changes to prepare as much as possible' (s2p005)
  - 'observing what is happening around you and relating that to past experiences to identify ways to assist or guide different behaviours to improve performances' (s2p008).
- One respondent listed a number of information eliciting strategies when she wrote:

**Transparency of what is wanted**

questioning – objective setting – of what could be tried and what has been tried developing a comprehensive induction that allows time for this to be examined

**Access to appropriate training and support**

I'm not sure what can be done if there isn't a willingness of others to help achieve this

**Assumptions made about skills**

In the future I would not make these assumptions about myself and I would be less quiet about accepting others views that no training is needed and that I have the skills needed. Also, I should have asked someone to review and adapt the job descriptions with me

**Time to initiate a sensible and suitable intervention for the individual and situation**

I'm not sure what can be done if there isn't a willingness to support this in the workplace

**Not knowing what isn't known and having no feedback to achieve this**

I'm not sure what can be done if there isn't a willingness to support this in the workplace

**A need to go back to what is familiar because of problems with transfer**

I can't decide if this is a sensible thing to do sometimes or a failure

**An unexpected alien sub-culture**

Be more alert to the sub-cultures within an organisation.

(s2p073)

- sharing ideas at formal meetings to let the other team mates know how the other is designing a solution/ approaching the task, and encouraging critical comment (s2p014)
- challenging 'old approaches with reference to new knowledge' (s2p016)

- getting 'into lots of activities that exposed me to as much of the business - & nuances - of the new situation as possible' (s2p018)
- paired with people who had credibility/expertise in these activities (s2p018)
- adopting an anthropological approach:
  - Every year I get involved in another adventure as a pioneer in what is at least new territory for me. I try to find experts and literature, and have on occasion done formal study in the area. Although this is never directly related it has at least introduced me to the key language concepts and identified where I can get more help, either from libraries, or people or both.
- (s2p028)
- holding 'regular reviews and the availability of people to talk and to check with about the new role and perceptions of their performance' (s2p032)
- 'helping people access my networks to build their own networks to access the support and knowledge of others' ( stage 2 participant 032)
- using role models
- identifying suitable mentors or coaches 'with similar passions' (s2p021; 039)
- using mentors effectively:
  - Look for a suitable mentor. Ask for feedback on my performance:
    - was my approach to that task/situation appropriate?
    - what could I do to improve my performance next time? (there is ALWAYS room for improvement)
    - build confidence via this approach.
- (s2p047)
- involving management in the learning process:
  - informing management of my rationale and intentions
  - working as part of a team
  - providing regular progress reports
  - researching context and strategic directions and ensuring best fit for innovation
- (s2p043)
- establishing dialogue with my supervisors.
  -
- (s2p044)
- initiating a program of management development
- dealing with ambiguity and uncertainty (s2p044)
- increasing contextual/cultural knowledge of the workplace by 'using every opportunity to observe and get involved' (s2p045) and by
  - developing relationships and networks that build your knowledge and political base and are personally supportive.
- (s2p074)
- acknowledging workplace learning as vital and desirable (s2p046)
- recognising and working through workplace politics (s2p062)
- taking responsibility for actions and outcomes:
  - Taking responsibility for own achievements/learning
  - Dealing with realistic/unrealistic fears
  - Learning negotiation skills / win-win strategies.
- (s2p072)
- using story-telling as analogy and to highlight similarity where it may not be apparent to others (s2p076)
- using appropriate strategies when work environment is hostile such as:
  - working longer hours
  - directing draft work (first few attempts at specific tasks) directly to manager (guy that hired me) outside 'proper' channels
  - developing different communication strategies (less inclusive than before).

- seeking allies
- seeking up-to-date info and other assistance from prior work colleagues
- developing collaborative associations with staff in similar organisations, doing similar tasks.

(s2p083)

- accessing appropriate resources.

### Interactional strategies

- ‘consultation and collaboration with leadership staff or management to negotiate and ensure workable goals and conditions prevail’ (s2p003)
- communicating with colleagues and asking clarifying questions
- creating appropriate spaces for reflection and problem-solving (s2p044)
- valuing learning and looking for opportunities to convince others that learning will be valuable (s2p057)
- consulting and involving of stakeholders:
  - Consult extensively with those organisations and support systems that you would expect to be involved with the role
  - Discuss the role with internal and external stakeholders to assess their attitude to the role and its strengths and weaknesses
  - Seek out support systems at the local or state level that may be able to provide additional information
  - Analyse all written documentation in the office pertaining to the role to provide historical information
  - Initiate meetings with all staff to assess their understanding of the role and how they support it.
  - Identify support systems that would be prepared to mentor the role.

(s2p067)

- making use of networks (s2p080).

### 5.4.4 Internal variation

Just as the open-ended responses provide information which augments the descriptive statistics and provide some of the thinking and understanding behind the participants’ responses, looking at the internal variability of the responses provides information designed to give additional meaning to the statistics. Table 5.14, which follows, provides this data.

**Table 5.2: Internal variation (initiation of transfer)**

item	all responses different		two responses the same		all responses the same	
	freq.	%	freq.	%	freq.	%
2.1	6	7.0	40	46.5	40	46.5
2.2	3	3.5	37	43.0	46	53.5
2.3	9	10.5	44	51.2	33	38.4
2.4	12	14.1	47	55.3	26	30.6
2.5	9	10.5	43	50.0	34	39.5
2.6	6	7.0	33	38.4	47	54.7
2.7	8	9.3	30	34.9	48	55.8

The table shows that those participants who gave identical responses for all three “stories” or scenarios numbered, at most, 55.8% or just over half of the respondents for that item. It also shows that for four of the items more than half the responses showed internal variation. These were item 2.1 (53.5%), item 2.3 (61.6%), item 2.4 (69.4%) and item 2.5 (60.5%).

So, what does this mean in terms of the transfer of competence across different work contexts? Firstly, this section had high rates of agreement in what was important to the initiation of learning. For example, for item 2.1, the average number of those responding as either important or definitely important was 95.3%. Yet within this statistic, 53.5 % of the responses indicated internal variation.

Situated learning theorists (such as Billett 1996b; Brown; Collins and Duguid 1989; Brown; Collins and Duguid 1996; Eraut; Alderton; Cole and Senker 2002; Greenfield 1984; Lave and Wenger 2002; Stein 1998) stress that learning is contextually derived and influenced. Thus for responses which are based on experienced situations, a reasonably high rate of internal variation supports the influential role that context has in a learning situation. The contextual variation in how learning occurs has been often used to criticise adherents to situated learning as being non-generalisable and therefore not adding to academic theory. Certainly, the reasonably high variability in the responses in this section, support the notion of learning as contextually based and non-generalisable across all circumstances. However, the degree of agreement in the responses to the items seems to indicate that we can find characteristics and commonality which may be present in a majority of learning situations. As Lave and Wenger argue:

The world carries its own structure so that specificity always implies generality (and in this sense generality is not to be assimilated with abstractness).  
(Lave and Wenger 1991)

That is, there is no such thing as certainty in learning as the nature of different contexts will demand different approaches and strategies. In addition, different learning may be required for differing contexts. However, it should be possible through this, and similar research, to identify characteristics and strategies of learning which might be useful across a range of situations.

Using a metaphor of a swamp, Schön (1987) noted that whilst the problems of the high ground lent themselves to solution through the application of research theory and technique, the problems of the swampy lowland defy technical solution (p. 3). The context of this thesis is the swampy ground of educational practice, which is the site of greater individual concern than that of the relatively safe elevated areas. As such, my research is not concerned with universal solution but with providing guideposts which point to a way through the swamp of everyday practice and learning.

## **5.5 Initial internalisation of skills and knowledge**

### **5.5.1 Statistical data**

This section is concerned with the nature of the initial learning related to the transfer of competence across different work contexts. The Likert-scale items and the frequencies and percentages with which respondents rated them are shown in the table on the following page (Table 5.3). In addition, Appendices 5.2 and 5.3 contain all the descriptive statistical tables used in the analysis of the stage 2 research data.

Table 5.3 on the following page shows the weighted means and average weighted means for the Likert-scale items 3.1 to 3.6 which related to the activity of “initial internalisation of skills and knowledge” which appears in the model of transfer proposed in Chapter 4 (p. 119).

**Table 5.3: Initial internalisation of skills and knowledge**

	$\Sigma n$	DA n	DA %	A n	A %	NS n	NS %	D n	D %	DD	DD %	WM	AWM
<b>Ideas</b>													
3.1 there is a change in ownership of the accessed knowledge and skills from someone else to the learner	<b>84</b>	22	26.2	27	32.1	18	21.4	13	15.5	4	4.8	3.60	3.65
	<b>82</b>	26	31.7	27	32.9	18	22.0	9	11.0	2	2.4	3.80	
	<b>82</b>	19	23.2	31	37.8	13	15.9	14	17.1	5	6.1	3.55	
3.2 the learning and the method of learning are embedded in each other	<b>84</b>	33	39.3	26	31.0	15	17.9	9	10.7	1	1.2	3.98	3.99
	<b>82</b>	38	46.3	27	32.9	12	14.6	4	4.9	1	1.2	4.18	
	<b>81</b>	27	33.3	27	33.3	15	18.5	10	12.3	2	2.5	3.84	
3.3 the learning is that of a beginner	<b>85</b>	8	9.4	16	18.8	16	18.8	36	42.4	9	10.6	2.74	2.82
	<b>83</b>	12	14.5	18	21.7	18	21.7	27	32.5	8	9.6	2.99	
	<b>84</b>	8	9.5	13	15.5	22	26.2	31	36.9	10	11.9	2.74	
3.4 some superficial unpacking and repacking occurs during this phase	<b>83</b>	20	24.1	41	49.4	18	21.7	4	4.8	0	0	3.93	3.91
	<b>81</b>	20	24.7	38	46.9	22	27.2	1	1.2	0	0	3.95	
	<b>82</b>	19	23.2	38	46.3	20	24.4	4	4.9	1	1.2	3.85	
3.5 initial internalisation depends largely on patterning the behaviour and knowledge of others	<b>85</b>	14	16.5	31	36.5	17	20.0	19	22.4	4	4.7	3.38	3.48
	<b>83</b>	14	16.9	35	42.2	20	24.1	14	16.9	0	0	3.59	
	<b>83</b>	15	18.1	34	41.0	14	36.9	16	19.3	4	4.8	3.48	
3.6 The link between the new knowledge and skills and existing knowledge and skills is not well established at this stage	<b>84</b>	10	11.9	32	38.1	15	17.9	25	29.8	2	2.4	3.27	3.29
	<b>83</b>	9	10.8	33	39.8	20	24.1	20	24.1	1	1.2	3.35	
	<b>84</b>	9	10.7	31	36.9	21	25.0	21	25.0	2	2.4	3.29	

As for the previous section, these statistics show central tendencies and are purely descriptive. However, compared with the Likert items in the previous section, there is a lot more uncertainty and disagreement. There are, however, four items where the majority of responses are either “definitely agree” or “agree”. This indicates relatively strong support for the statements:

- there is a change in the ownership of the accessed knowledge and skills from someone else to the learner (Q3.1)
- the learning and the method of learning are embedded within each other (Q3.2)
- some superficial unpacking and repacking occurs during this phase (Q3.4)
- initial internalisation depends largely on patterning the behaviour and knowledge of others (Q3.5).

Of the remaining two items, Q3.3 was not strongly supported, that is: ‘the learning is that of a beginner’, with 47.0%, 67.9% and 51.9% indicating uncertainty or disagreement for stories A, B and C respectively; whilst for item Q3.6, that is: ‘the link between the new knowledge and skills and existing knowledge and skills is not well established at this stage’, 67.9%, 74.7% and 72.6% indicated uncertainty or disagreement for the three stories respectively.

The relatively large proportion of those indicating uncertainty or disagreement in each of the items needs some investigation. For example, Q3.1 elicited a number of comments and rebukes about my use of the term “ownership”, such as the participant who wrote:

learning is not so much transfer from one individual to another but the transformation of an individual through a social context. The transformation is itself contextual with an individual performing differently in different social contexts. An individual is transformed within a social context and this in turn transfers differently to different social contexts.

(s2p016)

Another participant described her understanding of the learning taking place as being internal adjustments when she wrote:

I'm not sure that my situation is about transferring knowledge from one person or persons to another. Its about my own internal adjustments. Perhaps this is because of the individualised nature of my work and that I am not just following established procedures except in the most superficial and peripheral aspects of the work.

(s2p018)

Both “ownership” and “acquisition” are terms suggesting that knowledge and skills are a commodity. Whilst I tried to avoid the term “acquisition” except in those Likert items which were taken from the stage 1 transcripts, I did use the term ownership, in a sense which implied a commodity transaction. What I meant is that one takes ownership of the transfer process. However, re-reading the material given to the participant, this is not made clear. The following responses, quite properly, pointed out that learning and commodification are uneasy bedfellows:

I don't believe any one person “owns” knowledge. It is not a commodity. We fashion our own versions of the world constantly – partial incorporations and re-interpretations from the vast collective – not to mention mis-apprehensions, mistakes and misunderstandings which can be productive at times, too.

(s2p037)

Not sure that this is an issue about 'ownership, - suggests that knowledge and skills 'belong' to someone.

(s2p051)

Another participant, whilst considering ownership as important, had reservations with the way Q3.1 was worded:

I am not too sure about the 'changing of ownership' bit. It sounds like one person loses it while the other gains it. I think ownership is really important. You have to make the learning your own, otherwise it is like telling someone else's joke when you don't even know why it is funny.

(s2p045)

The wording of the second item was questioned by five of participants, particularly one respondent who wrote:

I am afraid that on a strictly literal reading the idea that "the learning and the method of learning are embedded within each other" does not compute for me. It is recursive, and therefore repulsive like a snake biting its own tail, or Escher's hands drawing itself. If I take a looser definition that the learning and the method are linked, I would have to agree as they are trivially true. If you mean that there is some sort of oscillation between the method(s) and the learnings, I would also agree.

(s2p028)

Three participants wrote that they were unsure what the term "superficial unpacking and repacking" (Q3.4) meant in this context including the respondent who wrote:

Not sure what "superficial unpacking and repacking occurs during this phase" [means]. Some testing of paradigms occurs, checking of shared realities, aligning of previous patterns/schemas to current situation to check for incongruity.

(s2p041)

Comments about patterning were made by five respondents. For example, one respondent noted that the patterning was not just concerned with the behaviour of others but also with patterning one's past behaviours and approaches when she wrote:

"initial internalisation" may partly depend on patterning the behaviours and knowledge of others but will also entail applying one's own behaviour and knowledge in the new context.

(s2p048)

Another of these participants (s2p045) reminded me that those who reflect on their learning will not necessary take a superficial approach simply because they are learning in a new context.

The two items, which raised the most disagreement and uncertainty, also resulted in expressions of concern as to how the items were phrased. They also resulted in definite refutations of the ideas embedded in the two items. The idea of the learner as a beginner elicited some strong denials. One participant wrote:

I have got to the stage in my career where there is very little learning that I ever approach as a beginner. In almost every context I am able to draw on something I have learned in the past - even if only to contrast what I'm now learning to something different that I have already learned.

(s2p052)

This equation of a beginner learner with an empty vessel is clearly one of the interpretations that was taken of the statement "the learning is that of a beginner", even if it is not what I had meant when phrasing the question or in my explanation of the stage 1 model. Yet the truth of this participant's response raises a question which I am implicitly exploring through this research and learning journey: how do people reach the stage of approaching very little learning as a beginner? What learning strategies have they developed (through experience) which enable them to do this?

The same participant equated a poorly developed faculty for picking up on the nuances of the contexts and the assumptions embedded in it with the status of a beginner learner when she wrote that:

the trainees had very different backgrounds to my own. For them, much of what they were learning was new and the learning was that of a beginner - to the extent that I had to explicitly articulate many of the hidden assumptions underpinning our workplace discourses (e.g. explaining why, in a workplace that formally stated there



were no dress rules, someone wouldn't be considered competitive for promotion to supervisor in a public contact role when they consistently came to work dressed in leggings and an old T-shirt).

(s2p052)

The question, of how new was "new", clearly confused many participants. One participant wrote that:

... we could debate how "new" new was. In many elements [of my case studies] it built on and developed further existing skill and knowledge and added richness. Other elements are new and in that sense the learning could be more like that of a beginner. The issue is how far the new skills and knowledge are from something that already exists. I'm not sure how much I relied on patterning the skills and knowledge of others. I did pick "brains" though.

Again it is too complex to be categorised as simply as it has been. Some elements might be like this – others may be at the next phase of learning. So you really mix and match.

(s2p057)

Responses, such as the one above and those following, pick up on the complexity and continual transition of the beginner – intermediate beginner – experienced beginner – expert continuum (Dreyfus and Dreyfus 1986) which was essentially developed for a one dimensional view of learning as "learning about". "Learning how" has a number of dimensions in which one might be a beginner including the subject matter; its fit or overlap with one's current competence; the context in which it is being learnt; and the community of practice the learner is peripherally participating in and with.

The following response indicates an uncertainty derived from an apparent attempt to simplify complexity and the distortions caused by such a process:

I have answered this section with a lot of "not sure" responses. I am not sure about the reasons for my lack of confidence concerning this stage of the model. In thinking about this, I suspect that as we gain experience in a wide variety of contexts and gain in confidence about our ability to transfer and learn in new ones that we may not be a beginner in new contexts but rather be able to enter the field at a more expert level. In other words, a level of conceptual sophistication achieved through engagement in a wide variety of learning contexts means that we are able to take in new concepts and relate them to the rich existing repertoire we have at a level that is beyond novice. This might be the "competence" we call wisdom.

(s2p044)

The concept that it is the new context which initially reduces the learner to beginner status was raised by at least three participants, including one who wrote:

I have taken the fourth statement to mean that the new learning is that of a beginner – as opposed to an expert – so I suppose I do agree because transfer is not completed at that step so the learner is starting again with a new context and a new set of behaviours, practices, relationships and knowledge to be turned into the learners own behaviour and cognition.

(s2p023)

The idea that it is the community of practice which bestows the title "beginner" to the learner and thus proceeds to control his/her access to learning was introduced by one respondent when she wrote:

I think that the idea of a beginner can be falsely constructed ... I prefer to consider a readiness to listen and to try out in the learner rather than the passivity of the constructed beginner. That readiness is dependent on behaviours by the inducting community... That community of practitioners allows and disallows certain forms of engagement with disciplinary tools (in the case of my own study of becoming mathematical).

(s2p027)

Surprisingly, there were only a few references to the sixth item in this section. One respondent noted the likely variability of the links when she wrote that 'for some aspects of the learning there were well-established links, for others the links were less well established' (s2p005). Another participant noted that the 'initial phase is largely associated with making broad links between what is already known and what is to be learnt' (s2p010).

I received a well-deserved rebuke from one of my participants for concentrating on the learning of the individual and neglecting the cultural politics of learning when she wrote:

Point 6 says to me, we are looking Platonist, mug and jug style at the learner; looking in the direction of more of the same positivist stuff, with little thought for the cultural politics of learning. The shift is in the questions we ask of how people learn in the context of much control of knowledge. I look as much as I can at how knowledge is controlled, i.e. to come with a better understanding of the social context, as insider and outsider.

(s2p027)

From an activity theory viewpoint, learning is always embedded in a human social system.

This idea is emphasised by the participant who wrote that:

as human beings, we do not experience learning development as an isolated individual in an impersonal event stream; we have complex emotional relationships with others and are influenced by their example.

(s2p026)

The initial level of the learner's competence and the nature of what is being learnt was identified by one participant as having a causal effect on the strength of the linkages between the new and existing knowledge and skills when she wrote:

...how well the link between the new knowledge and skills and existing knowledge and skills is made depends very much on the competence of the learner and the nature of the content. ... If I already have a strong set of cooking skills and I have cooked many types of cakes before, it will not be difficult for me to make a pavlova and then to make meringues and I am likely to approach the task with a degree of confidence. ... I [already] have a framework for this information and I ... [have]no problem with reading or understanding the language and cooking terms used in the cook book).

However, if I am expanding my knowledge of financial management processes, ... I will have to learn new jargon [and] it will take me longer to link those processes into my existing knowledge. However, if I have an aptitude for statistics and my ability to understand new concepts is high, I will have less difficulty doing so than my neighbour who struggles with the English language and has not passed Year 11 Maths.

(s2p031)

### 5.5.2 General Comments

Most of the comments made by 35 participants (38.9%), who used the opportunity to comment on the Likert-scale items, have been analysed in the previous section. However, there were comments made which were not item specific.

One of these questioned whether initial internalisation was the right label to give to the second stage of the model, which emerged from stage 1 of the research, when she wrote:

As I see it, learners don't internalise new knowledge & skills. They enact them. 'Transfer' is a matter of 2-way translation (2-way performances or enactments). 'Internalisation' implies a representationalist view of knowledge? As I see it, we 'do' knowledge & skills (we enact them) rather than internalise them. They are a practice not a substance.

(s2p032)

The concept of enactment was picked up by another participant when she wrote:

Internalisation of skills and knowledge happens with new life experiences. ... The learning depends on how well the learner is supported and is able to adapt existing skill sets to new contextual situations. The learner might have good or bad fortune and they need a certain resilience to make the adjustments or to move to another area of endeavour.

The learner needs to be able to exercise reasonable judgement and initiative to keep the development going in a positive manner.

(s2p079)

These two comments, together with the general trend of the responses to this phase resulted in a rethink of the nature and purpose of this phase of the transfer of competence across different work contexts. The outcome of this rethink is discussed in §6.4 (p. )

Another participant (s2p003) differentiated between the learning of skills and applying them through the medium of generic skills. Whilst this view of learning may be considered to be situated within formal learning approaches, the relationship between effective learning and generic skills is, perhaps, a key concept in the transfer of competence across different work contexts.

This participant also considered that the model on which the questionnaire was based worked better for those with less generic competence than he, as a experienced vocational education teacher, now possessed.

A third participant provided a reminder that the learning process being discussed is very specific to the learner when she wrote that:

I think this would greatly vary with the experience of the participant. ... You get to recognise the perils and the pitfalls and how to transfer your knowledge gracefully without offending those people who don't want to know what you have brought with you.

(s2p040)

Her final reminder - that those within workplace communities may not want to know about the skills and knowledge a new worker brings with them - is picked up by the following comment from yet another participant:

There is also a danger that skills and knowledge can be internalised to an extent that they are not used actively. I guess that people can learn not to use skills or some knowledge because of the culture and become withdrawn rather than actively use skill. I see this sometimes – someone is not well regarded in a team and then moves and skills that were unseen [in the team situation] come to the fore. I wonder how that happens.

(s2p073)

### 5.5.3 Specific questions

#### ***Is this stage a necessary one or do “good” learners proceed straight to the next step?***

The 80 participants ((88.9%) who answered this question were divided on whether the answer should have been “yes”, “no”, “maybe” or “it depends”. As it was, unfortunately, a composite question, this was inevitable and was a reminder to me not to use composite questions within questionnaires.

Most of the participants believed that the initial internalisation was a necessary step. Their reasoning (which is listed under 5 sub-headings) included:

### **A time for reflection**

- 'I think this is a necessary and very useful transition stage. It is a good time to sort out the gaps in one's knowledge and to identify what else needs to be understood and the sources of that required knowledge' (s2p078)
- 'it is a necessary step and needs to be taken in order to properly validate and integrate' (s2p002)
- 'it is a necessary step. Poor learners take the 'leap of faith' and at some point will need to backtrack as I sense this stage is essential to determining knowledge validity' (s2p050)
- 'certainly necessary for me, most of the time anyway. I need some digestion or settling time, when nothing is happening at a conscious level but some behind-the-scenes process is going on which is necessary before I am ready to take the next step. It varies a bit according to the nature and complexity of the knowledge acquisition' (s2p080)
- 'logically it is difficult to think how validation can occur if the new skill or knowledge is not 'accepted' or internalised by the learner. It is critical that the learner 'owns' their acquisition of new skills and acknowledges them' (s2p043)
- 'to take stock and reinforce knowledge learnt. Rushing off to the next stage may make the learning more shallow' (s2p014)

### **Developing ownership**

- 'the learner has to take some ownership for their learning' (s2p006)
- 'if the experience is "new" then this stage is necessary' (s2p009).

### **Contextualisation of new understandings**

- this stage is necessary as the learner begins to interpret the environment and develop their understanding of the role to be undertaken. This stage gives them the opportunity to access information and gain new skills and knowledge that will support the knowledge and skills that they already possess. It should exist, because we can rarely move into a new role without a need to acquire additional skills to perform the different role whether it is at the same level with a different audience or client group or at a higher more strategic level. (s2p067)
- 'it seems to me that internalizing is an essential step if new learnings are to be contextualized within the learners' own consciousness' (s2p010)
- 'it involves understanding the context and learning how existing staff behave in that context' (s2p016).

### **Considerations of transfer**

- 'a lot depends on the context and the degree of transfer required' (s2p020)
- 'I think that this depends on the extent to which the new and old situations are similar or different' (s2p018)
- 'this stage would provide a beneficial link to assist in the transfer of skills and knowledge. Time constraints and limited opportunity to reflect may hinder the process and force the learner to proceed regardless' (s2p035).

### Individual considerations

- 'an important step in learning (to remember)' (s2p058)
- 'this is a necessary stage because of the dynamics of the six enablers and the learner's comfort with each in applying them in a new context of environment and/or process' (s2p059)
- 'internalisation is a critical component of learning in all three situations I have described. "Good" learners would have to go through this stage' (s2p063)
- 'they do go through this stage but it is almost as if they are attuned to the new environment. They are good forensic learners and recognise "what" and "how" they know. These meta-skills ease the passage into new situations. Enthusiasm for finding out is a much valued predilection. (s2p071).

Most of those who answered in the negative, and explained their response, rejected the concept that learning can be reduced to a linear or stepwise model. Their responses included that of the participant who wrote, 'I don't believe that learning is in any way linear, so "necessary", "good" and "next" are not meaningful concepts for me' (s2p087).

A number of respondents questioned the term "good learner". As explained in §3 (p. 73), the term was used to describe the participants selected to take part in the research. In offering people the opportunity to volunteer to be part of the research, I tried to assess the reputation of the people on the basis of the perceptions of their managers, peers and co-workers. It is an inexact term and, as some of the stage 2 participants noted, it could mean different things in different situations. It is hoped, however, that this discussion of transfer of competence across differing contexts will paint a picture of what a good learner might be.

Respondents believed that 'learners proceed according to their needs and motivations' (s2p037) and 'how similar the contexts are; how broad our experience and repertoire are; and how confident we are as learners' (s2p044). There was also comment as to the use of the term "stage", this being viewed as analogous to a linear process. Most participants viewed learning as a messy, re-iterative and non-linear concept.

Whilst some questioned the term, others rejected the concept of "good learners" and expressed doubt as to the necessity of this stage (s2p028).

The concept of one's experience and context being more important than "proficiency" was identified by some of those who expressed reserve about the question discussed in this section. One such respondent wrote:

I think it depends on your experience. I've been in the workforce for nearly 30 years, in a wide variety of roles, so I tend to move quickly to the next step. Not sure this can be characterised as being a 'good' learner - maybe it's just that I have more of a foundation to build on.

(s2p052)

A number of those participants expressing reserve identified the conditions for transfer that can be found within the literature of educational psychology. For example, one participant noted that:

Missing from all of this are two key issues, namely the ability to identify similar stimuli (to indicate the need/appropriateness of transfer) and also whether we're talking about near and far (easy and difficult) types of transfer.

(s2p055)

As discussed in §2, during the last decade there has been a decided move away from the behavioural/individual approach of some educational psychologists who have focused on transfer. This was foreshadowed by Pea (1987) when he argued that transfer occurred within a social context and, thus, couldn't be explained in abstract terms. Others (such as Salomon and Perkins 1998) continued to explore the contextual nature of transfer. From this work has

come the concept of 'viewing the concept of transfer through the lens of consequential transitions' (Beach 1999; 2003).

Two participants expressed their reservations in terms of the learner's expertise (and experience) in transferring what he/she knows and can do across differing contexts. :

I am not sure of this. I suppose it depends on both the context and the expertise of the learner. Perhaps this is what is meant by the "near" and "far" context of the educational psychologists.

(s2p023)

Rather than thinking of it in these psychological terms, it is likely to be a question of experience and comfort within the new context. That is, if the learner is practised in contextual boundary crossing and the context is one in which he/she feels empowered, then he/she will move straight into the third step. However, if the learner is uncomfortable in the new context, then it is likely that he/she will learn enough so as to pattern the work practices of others in order to give him/her breathing space before digging more deeply. This idea was noted by another participant who saw experience and familiarity (s2p057) as a key to the length of time spent at this stage.

One participant's response reminded me that what we observe is not always the whole truth and that outward appearances can be deceptive. He wrote:

I'm not sure about this as I'm not sure about the notions of conscious and unconscious knowing/learning etc. Certainly it appears at times that 'good learners' skip this stage and move directly into validating and integrating what they know in the new/different context. But appearances can be deceptive can't they? Perhaps, the outward expression of confidence is not so cognitively? Perhaps the testing it out in practice stage is necessary for them before they can effectively internalise and 'own' the new knowledge?

(s2p069)

The reference to unconscious knowing/learning in the previous quote is picked up by another participant. She is concerned with the often tacit nature of this step and the probability that the learning might be unconsciously rejected, when she says:

I have a feeling that if this is missed out, then the integration is surface at best. I think good learners do stop – think about their skills, the context and have a good understanding of their abilities and what they need to do to develop new skills and integrate them.

I suspect that, sometimes for all learners, this stage is 'tacit' and unconscious – however, when learning is blocked or becomes 'difficult', then this is the stage which is most difficult. Knowing yourself and how you need to change isn't easy.

(s2p073)

The same participant also introduced an ethical aspect to the perceptions collected in response to this question. That is, do individuals abort the learning process when they encounter ideas and processes contrary to their ethical and belief systems?

This is a vital dilemma in learning. That is, when we encounter ideas contrary to our belief systems, do we simply reject and avoid them, or do we learn about them and how they affect contexts and actions in order to counter them more effectively? And, if the latter, does the learning of them affect our judgement and actions? The adage "if you lie down with dogs, you may get up with fleas" may be very appropriate in this situation.

Whether agreeing, disagreeing or expressing reservation, the responses of most of the participants seemed to agree that each individual situation is different:

For some a new learning experience will be a variation on a previously learned theme, readily taken on board, necessary competencies achieved and easily applied. For others what has to be learnt may appear confusing and complicated, even totally incomprehensible, so that the competency to be learnt may need to be broken down

into a series of easier to comprehend steps, or it may be that the learner will need to be taken back to an earlier point in that body of knowledge in order to be able to proceed. Some learners will take a long time to take on board new knowledge and be in a position to use it effectively.

(s2p084)

***Does this stage provide learners with a 'safety net' until they are able to explore the concepts more deeply?***

Nearly all the participants agreed with this question, although many wrote qualifying statements within their responses. Of the 78 responses (86.7%), there were six participants who indicated they were not sure and only three who definitely answered in the negative. The rest indicated a positive response.

Those who did not agree generally did this because the model did not resonate for them. For example, one participant wrote that the tacit nature of much of our competence makes it hard for us to look at this stage in the way the stage 1 model suggests. She argues that:

If I relate this to a formal learning situation, this language seems to make some sense to me. In the workplace settings in which my stories are situated it does not resonate strongly for me. Here, if we are talking about a quite discrete new skill, say learning how to read and review a budget, it may be that the learner keeps an account of an explanation or an exemplar demonstration as a reference point until they are fully confident. In the case of interpersonal abilities I suspect that this is less so and interactions are invented and reinvented over and over and not until reflection is undertaken is any pattern made visible. The knowledge on which the transfer is taking place is tacit and embodied and therefore, not able to be "parked" in the way you suggest.

(s2p044)

This, and similar responses, indicate that the ability to interrogate our learning processes, and to make explicit the tacit knowledge and skill involved in such processes, is a key step in improving our ability to transfer our competence across differing work (and other) contexts. Thus, the reflexive processes of enactment and critical reflection on that enactment, are necessary to increase one's awareness of knowledge and skill that lie deep within one's consciousness, and to make such awareness explicit and overt.

The need for challenge, contingency and risk was identified by a participant who wrote:

I think that if it is all smooth running then 'adaptation' / 'learning' is **illusory**. That the learner has merely transposed prior behaviour to the new situation, but has not been exposed to reasons for change at that time, and their transposed behaviour - while inappropriate or less effective than it might be - has not been exposed as such. This will inevitably come as the learner gains more experience in the situation and situations emerge where this 'transposed' behaviour is challenged by situations and individuals.

I think that what I am saying is consistent with your model, but I have a different metaphor that is less about consciousness in the learner and more about naivety of the new context and role.

(s2p018)

Other respondents questioned whether the terms 'safety net' and 'internalisation' were appropriate ones to use in this situation. One participant wrote:

[I] wouldn't have thought of it as 'initial internalisation', but certainly agree it is a time to be cautiously 'easing in' to a new situation or organisational culture while at the same time not losing sight of the unique skills, knowledge, etcetera one brings to the new situation.

(s2p075)

Similarly, another participant rejected the idea of a stage in a process being a safety net when she wrote:

There are no safety nets that are particularly to do with stages of learning – the only safety net that I am aware of is the scaffold of a trusted work group.

(s2p088)

Those participants who agreed with the concept of a safety net at this stage suggested its importance as:

- ‘the breathing space necessary to superficially adopt new practices until the necessary mutual trust and respect is established and a more probing approach leading to deeper understandings can be safely initiated’ (s2p023)
- space to reflect, pattern, test and enact (s2p046)
- assuring a degree of confidence. As one participant wrote:  
The ‘leap of faith’ poor learner fails to acknowledge the safety net and its purpose.  
The good learner knows that it is there!  
(s2p050)
- recognising the necessarily transient nature of such safety nets
- developing conceptual understandings, that is:  
many who are [assumed to be] competent never address the conceptual understandings at any more than a superficial level. How many (apparently?) competent maths teachers think that  $\pi$  is really 3.14159... , rather than the exact ratio of circle circumference to diameter?  
  
This is a safety net or a plank in the scaffold which secures/supports a level of engagement.  
(s2p061)
- an introduction to the new workplace community of practice (s2p027)
- providing “permission” for not being expert immediately. As one participant wrote:  
it is a stage when one can give oneself permission for only being part the way towards ‘mastery’. It can be a satisfying stage of discovery, if there is not too much pressure to perform. Personally, I feel I cope well with this stage, as I am used to putting myself into new learning situations and I know the stages I move through. But the person I mentored in Story 2 was not used to casting herself adrift from the jetty and her anxiety during this stage slowed her learning.  
(s2p078)

Some of those who questioned the concept of a safety net, did so on the basis of their perception of the workplace as a far from benign environment (s2p045). Other people’s responses concentrated on the negatives of an unsupportive environment:

If the context or work environment is aware and supportive then yes – it provides a “safety net”. If the work environment is hostile, having expected immediate competence, then it is not a ‘safe’ time – rather it is one dominated by anxiety.

(s2p064; also s2p038)

The short term nature of workplace decisions, was also commented upon by two respondents. One agreed that in an ideal world, or at least a benign context, then this stage would provide a safety net. However:

Most often workplaces require workers to be productive and efficient in a minimal amount of time, with minimal cost to the company/business re training/support or in relation to the environment (litigation, health etc). Often short-termism dominates the thinking (outsource some areas or head-hunt trained staff) rather than taking a longer term view and training their own staff, or using buddy systems or workplace mentoring.

(s2p005)

The other participant believed that a safety net was only possible if the workplace environment was tolerant of some mistakes. He wrote that:

however, to gain experience in new skills an environment should be established that allows for the making of some mistakes. Many organisations make the mistake of removing a person who has gone into a new area upon their making mistakes. IBM



[in the] mid 80's had a new manager who made a marketing fiasco and cost the company several 10's of millions. He tendered his resignation but the then CEO [said] to the younger person; "Do you think that after investing several 10's of millions of dollars into your experience, we are going to throw that experience out. No! We hope that such lessons are well learnt and will not be repeated. Your resignation is not accepted".

(s2p008)

A commonality of all these responses is that the recognition that one's response to the question is conditional on the nature of the context and/or the 'community' which works within the context. Those participants who referred back to their stories, were more likely to qualify their statements that a safety net had not been necessary or important, in one or more of their stories. Perhaps the need for a safety net at this stage may be summed up as being a very risky and exposed stage, requiring quite sophisticated questioning and responses (s2p073).

***Does this initial internalisation mark the end of formal learning and the point at which assessment appraisals are made:***

- ***always***
- ***often***
- ***sometimes***
- ***never***

***In which contexts?***

The questionnaire was tested with a small group of five people and, somehow, none of them protested about this question. Many of my later respondents did and quite rightly. For example, one participant wrote:

I think it's really two questions :

- does the initial internalisation mark the end of formal learning? and
- Is the initial internalisation the point at which assessment appraisals are made?

(s2p031)

This is not a well constructed question and one which the 78 participants (86.7%) who attempted to answer it found very difficult or confusing. It is not possible to analyse the responses to this question on the basis of the question itself since it is at least three conflicting questions. I have, therefore, only used those responses which add value to our understanding of learning in both formal and informal contexts.

Such responses can be categorised in three groups:

- those which bring new insights to the concept of internalisation
- those which relate to learning in formal and informal contexts
- those which discuss assessment in formal and informal contexts

### **Concept of internalisation**

There were only a few respondents who addressed the concept of internalisation independently from the concepts of learning and assessment. One of these was the participant who wrote:

I think people move back and forward through this stage, construct and re-construct based on reflection and feedback.

(s2p032)

This concept of the ongoing and non-linear nature of internalisation is picked up by another participant who wrote:

Internalisation is an ongoing process of reflection based around key concepts. It can involve formal and informal learning situations. It often involves assessment and appraisals.

(s2p079)

Some participants suggested that the end of the initial internalisation phase was a springboard that could lead to deeper learning or to initiate the learning of new things. Thus the learning could loop back to the initiation stage to bring in new concepts and ideas and to integrate them into the learning thus far (s2p038).

### Learning in formal and informal contexts

Many of the respondents noted that 'learning never ceases' (s2p007) even though there may be times when we consciously put some particular learning on the back burner until it again becomes relevant in our daily lives. One respondent noted that the end of the internalisation phase was the point where the student had to assume control of their own learning (s2p002). Other participants recognised that this was more common when the learning is undertaken in formal educational settings where 'the remaining half of the cycle is left implicitly for the learner to undertake' (s2p023),

However, some participants qualified their statements by the use of "sometimes" or "often" in recognition that this is not always the case. A number of respondents suggested that whether or not learning stopped at this stage was related to the motivation of the learner as in the following statement:

Formal learning can conclude at this point particularly if the acquisition of the knowledge or skills is as a result of an external demand placed on the learner. However if the demand is internally motivated or the learner has a degree of autonomy or open-endedness to the future use or application of this knowledge then formal learning may well continue.

(s2p046)

Another respondent noted that formal learning situations tend to be more about teaching than learning when he wrote:

I think this stage does sometimes mark the 'end' of the process in some types of formal teaching contexts – which are not really focussed on learning, but teaching – and (sometimes) verification of teaching (which is called assessment).

(s2p069)

Alternatively, other participants noted that it may be the experience of the learner and the learning environment (or system) in which he/she is situated which is important if the learning is to continue. For example, one participant wrote:

I think it depends strongly on how – and how well – the learning system is devised. It may also depend on the learners themselves and their relevant experience. It will depend on how unfamiliar all of this is to the learner, but also how much the learning and assessment system challenges them. In many cases, much of what is characterised here might be looked at as a formative assessment process and steps in the pathway to develop and embed knowledge and skills (as well as challenge attributes and values).

(s2p057)

There was also considerable challenge by some participants to the notions of "formal" and "informal" learning. These participants suggested that "formal/informal" described the context of the learning rather than the nature of the learning. An analysis of the responses shows that, although participants used the two terms, they did so either to describe the context or, in a way which place "formal/informal" not as a dichotomy but rather as the indicative end points of a continuum.

One participant, who opposed the notion of a dichotomy between formal and informal learning, recognised that this was a continuum along which one moved according to situation and personal beliefs and values rather than a choice (s2p003). Another respondent stressed that we should not take the stereotypic view, instead recognising the continuous and serendipitous nature of both formal and informal learning and that there are no demarcations between them (s2p045).

### **Assessment in formal and informal situations**

A number of comments were focussed on the nature of the assessment and who was involved in the assessment. This inevitably brought with it issues of whether or not learning in formal and informal contexts constituted variations on a theme or whether there was an irresolvable difference. One of those who considered the difference to be significant wrote:

Assessment is about satisfying the rules of the 'authority' not about clarification & internalisation/rationalisation on the basis of practice.

(s2p018)

Whilst this participant clearly saw assessment in terms of the satisfaction of external criteria, there were others who saw achievement, self-appraisal, external appraisal and assessment as manifestations of the same phenomenon. The different terms were simply symptomatic of the context in which the appraisal was being made and the person(s) making the judgement (s2p041).

This item on the questionnaire had been included to test whether the participants felt the assessment or appraisal occurred prematurely, that is, before the learner was able to apply his/her learned knowledge and skill in new applications or contingent situations. A number of participants commented on this including one who wrote:

This is often the case in formal learning situations. Initial internalisations are marked by assessment often prior to [when] the learner has had the opportunity to make a judgement or comparison with their existing knowledge.

(s2p043)

That this situation is influenced by the purpose and objectives of the assessment (and, thus, who is conducting the assessment and the infrastructure of the actual context (s2p052)) was noted by one participant who wrote:

It depends on what the objective of the particular learning focus is. For example, if the exercise is about somebody taking on board a set of basic concepts, without taking it any further, then this is a convenient point to undertake an assessment.

However, if the aim is to see if an individual can demonstrate competency of something that involves applying new knowledge in a new situation, it would probably only be appropriate to test this after the person had been able to work through the new concept as it applied to a new context.

(s2p084)

Another participant compared workplace appraisals with the assessment processes within formal learning contexts. In doing so, she identified the role that practice and experience play in workplace appraisals (s2p044).

A number of participants also recognised that the timing of the assessment process meant that assessment rarely occurred at the point where the learning was able to be applied to new problems or contexts. One participant recognised the pervasive effect of one's initial assessment of a person or his/her ability to work effectively (s2p028).

Additionally, the nature of the competency being learnt will also affect the timing of the assessment. If the competency is one which needs significance practice over a wide range of conditions, then it is likely that assessment will be deliberately designed to occur at the end

of this initial internalisation phase in order to enable further learning. An example of such a situation was given by one participant who wrote:

When learning a skill like driving a car, the assessment certainly is always aimed at that initial internalisation stage, which coincides with the end of formal training. It's often not until later, after more driving (learning) experiences, that some deeper realisations emerge about good driving, anticipating actions of other drivers, safer ways of driving on the road etc.

(s2p031)

The concept that learning and assessment in informal learning situations was more responsive and inclusive of both the context and the individual learner was identified by at least ten participants. For example:

Assessment in informal learning is ongoing through feedback from peers, work performance criteria, reflection, etc., therefore the assessment is more intuitively tied to the learning process than in formal contexts.

(s2p074)

This implies that despite the rhetoric around metacognition within educational institutions, it is a factor which may be more overtly involved in assessments which occur in informal settings – especially self-assessment – than in formal educational settings. The role of metacognition in informal settings was mentioned by one participant who wrote:

Learning occurs all the time but once the initial stage of starting on the learning begins, perhaps the ability to pick up on what has to be learnt or improved then occurs. Improvement in metacognition of the individual concerned is ... required at some stage for the individual to move into working out what has to be done.

(s2p020)

However, the important role that metacognition should play, in both formal and informal learning settings, was identified by the respondent who wrote:

If you consider that metacognition operates in all contexts (as I do) then I'm not sure that there is any convenient point for appraisals. Surely all sorts of external and internal appraisals occur in both formal and informal learning contexts.

(s2p055)

Despite working from a poorly worded question, the participants identified a number of factors which may or may not lead to compatibility between learning and assessment processes. These factors include the purpose of the assessment; the stakeholders in the assessment process; who is managing or facilitating the assessment, the timing of the assessment; the extent to which the assessment is collaborative or not; the role of practice and experience; and the role of metacognition. Perceived differences, between the processes of learning and assessment in formal and non-formal settings, were also deemed to be important.

While it was stressed by a number of participants that learning has no end, it was recognised by most participants that assessment should ideally occur when the learner is able to apply the learning in new or unfamiliar situations. This implies that the method of assessment should be focused on application and contingency if it is to be truly a measure of learning achievement.

***What role or roles does patterning (that is, looking at a similar situation and using the same method) have in learning situations?***

There were 78 responses to this question and those responses were generally longer and more confident than earlier responses. Just over half of the responses (55%) wrote positively of the role of patterning in learning whilst another 40% wrote of both positive and negative roles which patterning could take. The responses from the remaining four participants were concerned with negative effects of patterning.

Many positive aspects of patterning were identified by the participants, that is:

- facilitation of learning (s2p004)
- 'it is a major part of the way we learn' (s2p031)
- providing 'a beginning to learning to allow an individual to accommodate a new context' (s2p016)
- 'patterning is very much part of first stage problem-solving' (s2p050)
- 'learn[ing] what 'not' to do as well as what to do' (s2p001)
- providing a useful tool for myself as a young teacher 'when entering new territory, particularly when I needed to come to grips with something that was unfamiliar' (s2p035)
- using the same principles and applying them to different situations, 'e.g. using the principles of traction and applying them to different injuries' (s2p006)
- providing confirmation/doubt (s2p009)
- embedding new experience in previous experience (s2p010)
- using it 'as differential referencing or duplication. However, differential is usually better because it creates a devil's advocate situation and therefore critical thought' (s2p011)
- providing reference points – you look for the factors that seem to hold the process together and if they match another process (with which you are familiar) you 'click' and can start to do/practice the steps (s2p011, 059)
- providing 'confidence to the learner as some of the learning will be "familiar ground" and not totally foreign' (s2p014, 009, 039, 067)
- contributing 'to extending knowledge /skill by encouraging a trial and error approach' (s2p020)
- being 'a safe way to go' (s2p028, 074)
- providing 'opportunities ... and ... a safe environment in which to practice a new skill' (s2p047)
- playing a 'big role. In fact, most learning is looking for patterns' (s2p072)
- patterning plays a **primary role**<sup>32</sup>. Patterning represents learning enacted (learning done). It is not representationalist (s2p033)
- providing a teaching methodology – 'this was the only method of learning how to teach University classes that was ever offered and even then not formally' (s2p036)
- helping 'to link knowledge from past experiences to future teaching strategies' (s2p039)
- 'allow[ing] you to work from the familiar (the known situation) to the unfamiliar' (s2p080)
- 'testing of consistent assumptions' (s2p043)
- avoiding 'unnecessary mistakes if there is some guidance' (s2p058)
- 'reinforcing understanding' (s2p061)
- providing 'a scaffold' (s2p061)
- providing, for visual learners, 'a form of logic and completeness' (s2p061)
- providing 'a very behavioural way of learning. It enables people to reproduce competence quickly but it is not deep learning which is a cognitive process and leads to genuine mastery of the job' (s2p063)
- 'visualising what I would do in expected new situations' (s2p078)
- 'patterning is critical for the consolidation and re-vitalisation of learning. It provides the learner with the opportunity of consolidating their learning' (s2p079)
- allowing the learner 'to fit into new context and fulfil a different role' (s2p083)
- 'using a budget spreadsheet for a proposed project or setting up a cash flow document are actually hard skills that can only be learnt by patterning' (s2p090).

That patterning was an essential part of one's repertoire as a learner was clearly a perception of nearly all the respondents. One participant advocated that its use was not

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<sup>32</sup> The emphasis given is the emphasis of the participant

merely at the beginning stage of learning when he wrote that patterning followed by self-assessment of one's performance 'is an effective step in learning' (s2p003).

Another participant made a strong connection between patterning, roles and confidence. He maintained that people like to feel in control of their contexts. People who perceive that they are in control:

do cope better and more actively interact and challenge their work environments. Patterning and roles are strongly interrelated – roles again define behaviours and actions, and again give sense of control and that facilitates a willingness to engage in patterning.

(s2p032)

The concept of multiple intelligences and stimuli was introduced to the discussion by one participant when he wrote that patterning is:

the ability to 'see' and recognise patterns in all sorts of ways and circumstances; to notice, to 'see' similarities and differences, parallels and opposites, to see sameness in the midst of difference and difference amidst sameness. The recognition might have to do with the ear, with noticing language, or with body language and behaviour, or with group dynamics, or with numbers ... I think there are multiple intelligences at work in these processes – as discussed by Gardner (1993; 1999; Gardner; Csikszentmihalyi and Damon 2001)... Also the work of Goleman (1995; 1999) and others highlighting notions of emotional intelligence comes into play ...

(s2p069)

The social and contextual aspects of learning are also seen to be important and patterning was perceived by one participant as being an important way in which the tendency to social cohesion may be utilised to implement change when he wrote:

Patterning (as social learning) is safe as it shows "acceptable behaviour/activity". Innovation and adoption within social groups follow a process where an early adopter initiates the broader adoption through the trust other early adopters and later adopters have within their social groups. Social learning/patterning is therefore a very important aspect of social behaviour and our ability to learn new things.

(s2p074)

The link between group behaviour and patterning was also noted, albeit in a fairly negative way, by one participant who wrote:

Group factors will depend on the culture of learning in the group. For example I can imagine situations where all the members of a learning community are passive, and so dependent on the teacher/authority that they cannot easily recognise patterns, instead are dependent on external facilitators to point out patterns. Consultants make a lot of money by relying on the herd mentality of managements in crisis, in combination with a newly identified pattern, which they can point out to the gullible and desperate.

(s2p029)

Whilst most people apparently perceived patterning as taking known behaviour, learning, etc. and adopting it within the new context, others saw the learner actively involved in creating the pattern. This active involvement was described by one participant as:

... a way of finding yourself in the learning. You link it to something you have done before and reshape it a bit. So you are reactivating old patterns, learning new patterns from mentors and making alterations to old ones in the light of the mentor's advice. Maybe the new learning is made up of several previously unrelated processes you have done and you put them together in different ways. But there is usually a sizeable bit that is unknown and you have to stretch the boundaries. When the boundaries finally establish some level of fit, the pathway ahead seems clear, at least for a while.

(s2p045)

Just under half of the participants perceived that patterning in some contexts and/or situations was not necessary the right approach or that it, on its own, was not sufficient. This

is clearly seen in the response from one participant who saw patterning as an important strategy for engagement in innovation when she wrote:

Patterning is a very important component of learning, particularly for those who are either working in a new context or who have limited experience in the broad skill set. However the use of patterns is not as highly relevant when the learner is by nature or experienced in problem solving. Sometimes the inclination when looking for innovation is to abandon the pattern as it inhibits new thought and ideas.

(s2p046)

The concept that patterning might prove an inhibitor in many aspects of learning was noted by a number of participants. One of these wrote:

Many tasks require similar approaches or processes and are variations on a theme, so part of the educative process will often be organised so that learners come to recognise patterns and are able to exploit situations in a logical manner.

However, higher level activities such as fault finding, analysis, design of solutions to complicated problems will need to enable a learner not only to look for similar situations and patterns, but also be encouraged to look at other possibilities when approaching a task.

(s2p084)

Some participants pointed to negative aspects of using patterning without first exploring the new context to identify the differences from the previous context. For example, one respondent wrote:

I think that patterned behaviour is important, but mainly insofar as it throws into sharp relief the differences between the new and the old situations and, as you suggest above, provides a base to be seen to be doing the right thing while you are trying to find out what it should be, e.g. the strategy of checking out what experts in the field do.

(s2p018)

The importance of variation was noted by other participants including one who saw patterned learning as often superficial and having a short duration unless it is worked at and, thus, 'integrated and validated with other knowledge, and it is not integral to the practice of the learner' (s2p023).

The superficial nature of learning which has resulted substantially from patterning past behaviour or the behaviour of others was noted by a participant who wrote:

[Patterning] leads to those endearing episodes where small children tell you they "brought" their favourite toy to show you and "eaten" breakfast at McDonalds.

I think in the workplace we do something similar (and it can lead to some shoddy outputs) because we tend to follow the accepted formula and apply it whether it really suits or not. I think we have an innate ability to understand patterns of words, numbers, behaviours etc and this plays a key role in the way we learn. I suppose it is also the way we notice what is significantly different as well, and this can be incorporated as new knowledge too.

(s2p031)

Many of the participants supported patterning only if the learner realised that patterns were a springboard rather than a crutch. Learners need to be aware that patterns:

- are dynamic and they have the power to change them (s2p041)
- can lead to complacency and the failure to appreciate the newness of a situation (s2p071).

On the other hand, unless learners 'use reflection to significantly unpack the way that they pattern the response ... they are not able to interact with changing environments rapidly' (sp2041). Other negative aspects of patterning, identified by participants included:

- being influenced by the behaviour of the workplace group and thus failing to learn deeply and to be able to adapt and innovate (s2p038)

- substituting patterning for learning and, thus, failing to come to terms with difference, diversity, ambiguity and uncertainty. This means that they are not able to deal with contingency; an everyday occurrence in the workplace (s2p052)
- questioning whether we are learning to imitate or 'learning to be' (Delors 1996) (s2p008).

To sum up, it would seem that patterning is a valuable tool in one's collection of learning strategies, but it should be used wisely and in connection with comprehensive reflection on the nature of the learning, its context and to which activities it is to be applied.

### 5.5.4 Internal variation

Just as the open-ended responses provide information which augments the descriptive statistics and provide some of the thinking and understanding behind the participants' responses, looking at the internal variability of the responses provides information designed to give additional meaning to the statistics. The following table, Table 5.4, provides this data.

**Table 5.4: Internal variation (initial internalisation of skills and knowledge)**

item	all responses different		two responses the same		all responses the same	
	freq.	%	freq.	%	freq.	%
3.1	11	12.9	33	38.8	41	48.2
3.2	11	12.9	30	35.3	44	51.8
3.3	10	11.6	32	37.2	44	51.2
3.4	1	1.2	28	33.3	55	65.5
3.5	8	9.3	39	45.3	39	45.3
3.6	7	8.1	32	37.2	47	54.7

Table 5.4 shows that those participants who gave identical responses for all three "stories" or scenarios, numbered at most 65.5% and at least 45.3% for the relevant items. For two items, Q3.1 (51.8%) and Q3.5 (54.7%) more than half the responses showed internal variation.

These figures suggest a moderate level of variation in the responses given by the participants when different scenarios are considered when responding to the same item. The variation is probably sufficient to support the hypothesis that the majority of respondents gave consideration to their different "stories" when answering the items in this question. Certainly looking at a tabulation of the original data, there is a lot more internal variation than would be suspected by simply looking at the descriptive statistics.

Again, this supports the hypothesis that the context plays an important role in learning and in people's perceptions of how this learning occurs.

## 5.6 Validation, integration and repositioning

### 5.6.1 Statistical data

This section is concerned with the validation, integration and repositioning of learning as the learner unpacks and repacks his/her knowledge and understanding, and integrates it with what he/she already knows. Participants were asked to respond to statements which were derived from the Stage 1 transcripts and to rate their agreement with the given statement using a 5-point Likert-scale which ranged from strongly agree to strongly disagree; the intermediate ratings being agree, not sure and disagree.



The Likert-scale items 4.1 to 4.24 inclusive, and the frequencies and percentages with which respondents rated them, are shown in the table on the following page (Table 5.5). In addition, Appendices 5.2 and 5.3 contain all the descriptive statistical tables used in the analysis of the stage 2 research data. Appendix 5.7 provides tables showing measures of central tendencies for all the Likert-scale questionnaire items.

**Table 5.5: Validation, integration and repositioning**

Ideas	Σn	DA n	DA %	A n	A %	NS n	NS %	D n	D %	DD n	DD %	WM	AWM
4.1 no-one can do this step for you – you have to be an active learner	82	54	65.9	22	26.8	3	3.7	3	3.7	0	0	4.55	
	80	48	60.0	23	28.8	5	6.3	3	3.8	1	1.3	4.43	4.50
	81	52	64.2	22	27.2	4	4.9	3	3.7	0	0	4.52	
4.2 it is about what is different in the new context	82	28	34.1	36	43.9	16	19.5	2	2.4	0	0	4.10	
	80	31	38.8	36	45.0	10	12.5	2	2.5	1	1.3	4.18	4.11
	81	29	35.8	32	39.5	16	19.8	3	3.7	1	1.2	4.05	
4.3 you need to compare what you did and what you now need to do and figure out the difference	81	29	35.8	31	38.3	10	12.3	8	9.9	3	3.7	3.93	
	79	28	35.4	29	36.7	9	11.4	10	12.7	3	3.8	3.87	3.91
	80	28	35.0	32	40.0	9	11.3	8	10.0	3	3.8	3.93	
4.4 reflection is very important	81	57	70.4	18	22.2	5	6.2	1	1.2	0	0	4.56	
	79	54	68.4	20	25.3	3	3.8	2	2.5	0	0	4.60	4.58
	79	56	70.9	15	19.0	7	8.9	1	1.3	0	0	4.60	
4.5 reflection needs to be systematic – you need to think through what is different and how you are adapting	81	28	34.6	26	32.1	15	18.5	11	13.6	1	1.2	3.85	
	79	24	30.4	33	41.8	13	16.5	7	8.9	2	2.5	3.89	3.87
	80	26	32.5	29	36.3	14	17.5	10	12.5	1	1.3	3.86	
4.6 you have to make judgements about what is different and how to react	82	31	37.8	34	41.5	14	17.1	2	2.4	1	1.2	4.12	
	78	32	41.0	33	42.3	10	12.8	3	3.8	0	0	4.21	4.15
	80	29	36.3	35	43.8	13	16.3	2	2.5	1	1.3	4.11	
4.7 it is constructive learning – you are building up your understanding and competence from each situation	82	49	59.8	31	37.8	1	1.2	1	1.2	0	0	4.56	
	79	46	58.2	31	39.2	1	1.3	1	1.3	0	0	4.54	4.55
	79	48	60.8	28	35.4	2	2.5	1	1.3	0	0	4.56	
4.8 it is not just learning in the academic sense – you need to use a number of different intelligences	81	60	74.1	14	17.3	7	8.6	0	0	0	0	4.65	
	79	57	62.2	14	17.7	8	10.1	0	0	0	0	4.62	4.64
	79	58	73.4	14	17.7	7	8.9	0	0	0	0	4.65	
4.9 you need to feel the difference – through sight,	80	38	47.5	29	36.3	13	16.3	0	0	0	0	4.31	
	79	40	50.6	27	34.2	12	15.2	0	0	0	0	4.35	4.28

Ideas	Σn	DA n	DA %	A n	A %	NS n	NS %	D n	D %	DD n	DD %	WM	AWM
sound and even through the soles of your work boots	80	35	43.8	27	33.8	15	18.8	2	2.5	1	1.3	4.16	
4.10 it's about problem solving and reflection on what works and what doesn't	81	46	56.8	30	37.0	4	4.9	1	1.2	0	0	4.49	
	79	42	53.2	34	43.0	2	2.5	1	1.3	0	0	4.48	4.50
	80	48	60.0	26	32.5	5	6.3	1	1.3	0	0	4.51	
4.11 trial and error is important – you need to be able to accept that you will sometimes get it wrong	81	53	65.4	25	30.9	3	3.7	0	0	0	0	4.62	
	79	47	59.5	26	32.9	5	6.3	1	1.3	0	0	4.51	4.55
	80	47	58.8	28	35.0	4	5.0	1	1.3	0	0	4.51	
4.12 working in a supporting work group is important – you need to be able to talk about what is happening	79	45	57.0	22	27.8	7	8.9	4	5.1	1	1.3	4.34	
	77	46	59.7	23	29.9	5	7.8	2	2.6	0	0	4.43	4.35
	77	44	57.1	20	26.0	6	7.8	5	6.5	2	2.6	4.28	
4.13 applying your political antennae is important – there are those you can ask and those you can't	81	42	51.9	26	32.1	7	8.6	6	7.4	0	0	4.28	
	79	40	50.6	29	36.7	7	8.9	3	3.8	0	0	4.34	4.31
	80	42	52.5	25	31.3	8	10.0	5	6.3	0	0	4.30	
4.14 the people dimension is much harder and more complex than the technical knowledge	80	42	52.5	18	22.5	9	11.3	10	12.5	1	1.3	4.11	
	78	41	52.6	25	32.1	6	7.7	5	6.4	1	1.3	4.28	4.17
	79	41	51.9	18	22.8	9	11.4	11	13.9	0	0	4.13	
4.15 mentoring helps – you need someone who will help you through the maze	82	36	43.9	30	36.6	14	17.1	2	2.4	0	0	4.22	
	80	42	52.5	27	33.8	8	10.0	3	3.8	0	0	4.35	4.26
	80	36	45.0	27	33.8	14	17.5	3	3.8	0	0	4.20	
4.16 it's much easier when there are others working with you. When you're the only person doing that particular job, you have to figure it out for yourself	80	37	46.3	24	30.0	11	13.8	7	8.8	1	1.3	4.03	
	78	38	48.7	26	33.3	10	12.8	4	5.1	0	0	4.10	4.09
	79	39	49.4	23	29.1	9	11.4	6	7.6	2	2.5	4.15	
4.17 you need to establish a supportive group – your community of practice	81	32	39.5	29	35.8	13	16.0	6	7.4	1	1.2	4.05	
	79	33	41.8	30	38.0	11	13.9	5	6.3	0	0	4.15	4.12
	80	34	42.5	30	37.5	10	12.5	6	7.5	0	0	4.15	
4.18 it's about the people, rules and who does what	81	22	27.2	30	37.0	12	14.8	15	18.5	2	2.5	3.68	
	80	23	28.8	29	36.3	15	18.8	10	12.5	3	3.8	3.74	3.66
	80	20	25.0	28	35.0	15	18.8	11	13.8	6	7.5	3.56	
4.19 the rules may be processes	81	38	46.9	30	37.0	6	7.4	6	7.4	1	1.2	4.21	

Ideas	Σn	DA n	DA %	A n	A %	NS n	NS %	D n	D %	DD n	DD %	WM	AWM
and procedures, but they might also be about the culture and how things are done around here	80	34	42.5	32	40.0	10	12.5	4	5.0	0	0	4.20	4.16
	77	34	42.4	24	31.2	9	11.7	10	13.0	0	0	4.07	
4.20 knowing who knows what and who to ask. Once you know that the rest is relatively easy	82	28	34.1	29	35.4	9	11.0	14	17.1	2	2.4	3.82	
	80	27	33.8	30	37.5	12	15.0	8	10.0	3	3.8	3.88	3.84
	80	12	33.8	28	35.0	12	15.0	11	13.8	2	2.5	3.84	
4.21 the more times you go through it, the easier it becomes	81	28	24.6	30	37.0	16	19.8	6	7.4	1	1.2	3.96	
	79	28	35.4	34	43.0	14	17.7	3	3.8	0	0	4.10	3.96
	80	22	30.0	36	45.0	13	16.3	6	7.5	1	1.3	3.83	
4.22 you own the knowledge and skills by this stage, so it is about adapting your working identity	80	26	32.5	33	41.3	15	18.8	5	6.3	0	0	3.96	
	78	26	33.3	29	37.2	18	23.1	5	6.4	0	0	3.97	3.94
	76	20	26.3	34	44.7	15	19.7	6	7.9	1	1.3	3.83	
4.23 you are on your own – so you need to analyse what you know and can do and reassemble it in a more appropriate way	81	30	37.0	34	42.0	5	6.2	12	14.8	0	0	4.01	
	79	27	32.2	32	40.5	10	12.7	10	12.7	0	0	3.86	3.94
	80	28	35.0	30	35.5	11	13.8	11	13.8	0	0	3.94	
4.24 no-one can teach you how to adapt – the learning you are doing is specific to you – it's unique	81	29	35.8	25	30.9	12	14.8	9	11.1	6	7.4	3.77	
	79	26	32.9	24	30.4	17	21.5	5	6.3	7	8.9	3.72	3.75
	80	28	35.0	24	30.0	15	18.8	7	8.8	6	7.5	3.76	

In the following discussion, concerning the data contained in Table 5.5, the format has been to give the percentage of those who “definitely agree” followed by the percentage of both the “definitely agree” and “agree” responses. These statistics are averaged over the three scenarios.

There are nine items where the majority of responses are “definitely agree”. This indicates very strong support for the following statements:

- Q4.4 reflection is very important (69.9%; 92.1%)
- Q4.8 it is not just learning in the academic sense – you need to use a number of different intelligences (69.9%; 87.4%)
- Q4.1 no-one can do this step for you – you have to be an active learner (63.4%; 91.0%)
- Q4.11 trial and error is important – you need to be able to accept that you will sometimes get it wrong (61.2%; 94.1%)
- Q4.7 it is constructive learning – you are building up your understanding and competence from each situation (59.6%; 97.1%)
- Q4.12 working in a supporting work group is important – you need to be able to talk about what is happening (57.9%; 85.8%)
- Q4.10 it's about problem solving and reflection on what works and what doesn't (56.4%; 94.2%)
- Q4.14 the people dimension is much harder and more complex than the technical knowledge (52.3%; 78.1%)
- Q4.13 applying your political antennae is important – there are those you can ask and those you can't (51.7%; 85.0%).

The majority of responses to the remainder of the §4 statements were either “definitely agree” or “agree”. Of these, sixteen (including the statements listed above) averaged over 75% across the three self-selected scenarios and thus could be considered to be strongly supported. These additional statements were:

- Q4.9 you need to feel the difference – through sight, sound and even through the soles of you work boots (82.1%)
- Q4.15 mentoring helps – you need someone who will help you through the maze (81.9%)
- Q4.6 you have to make judgements about what is different and how to react (80.9%)
- Q4.19 the rules may be processes and procedures, but they might also be about the culture and how things are done around here (80.9%)
- Q4.2 it is about what is different in the new context (78.9%)
- Q4.16 it's much easier when there are others working with you. When you're the only person doing that particular job, you have to figure it out for yourself (78.9%)
- Q4.17 you need to establish a supportive group – your community of practice (78.2%).

The remaining items were clearly supported in that a majority of responses were either “definitely agree” or “agree”. However, the support for these statements was not as strong as for the previously listed statements. These statements are:

- Q4.23 you are on your own – so you need to analyse what you know and can do and reassemble it in a more appropriate way (74.1%)
- Q4.3 you need to compare what you did and what you now need to do and figure out the difference (73.7%)
- Q4.21 the more times you go through it, the easier it becomes (71.7%)
- Q4.22 you own the knowledge and skills by this stage, so it is about adapting your working identity (71.7%)
- Q4.20 knowing who knows what and who to ask. Once you know that the rest is relatively easy (69.8%)
- Q4.5 reflection needs to be systematic – you need to think through what is different and how you are adapting (69.2%)
- Q4.24 no-one can teach you how to adapt – the learning you are doing is specific to you – it's unique (65.0%)
- Q4.18 it's about the people, rules and who does what (63.1%).

Given the frequency of the response “definitely agree”, it might be predicted that “definitely disagree” might also be a frequent response. This was not the case; only two statements elicited more than three “definitely disagree” statements. These were the last two statements above for which the negative responses were 7.9%; 16.7%<sup>33</sup> and 4.6%; 19.5% respectively.

The statements used were all taken from the stage 1 transcripts, which meant that they were made in connection with workplace learning outside of educational institutions. Approximately one-third of the stage 2 participants have worked in educational institutions for most of their working lives. These people were less likely to respond positively to statements which reflected an oral learning process than the one-third of respondents who worked as trainers and/or consultants in blue-collar or collaborative enterprises.

### 5.6.2 General Comments

In addition, 30 participants used the comments section for item specific remarks. For example, item Q4.1 drew a number of comments. Some of these comments arose from a misinterpretation of the statement: “no-one can do this step for you – you have to be an active learner”. These respondents interpreted this statement as meaning that one had to learn on one’s own, something which the originator of this statement (stage 1 participant 03) would have been the first to deny. Whilst learning comes from social interactions, the outcomes of that learning are dependent on the activity of the learner and his/her interaction with and understanding of the social, cognitive, physical and emotional contexts with which he/she is interacting. Thus, an important point was made that there is no hard and fast rule about what the natural order must be (s2p027).

Another participant stressed that “the uniqueness of this situation means that you make it on your own and do it your way: but that you are not alone in this process’ (s2p057).

These respondents picked up on two very important issues. Firstly, learning is a deliberate act on the part of the learner to interact with and learn from work, social, physical, psychological and intellectual contexts; and, secondly, that such learning, whilst unique to the individual occurs through interaction with others.

A third aspect on the alone/together paradox of learning is group learning, that is, what we know only as a group. This was noted by one participant who wrote:

I find in my own experience that there are some things I only know as part of a group. Learning in this formulation is not just situated it is situational. In other words, I only know these things as a collective. From these collective experiences of learning I retain some learning that is “mine” but it is less than the collective understanding.  
(s2p044)

On the subject of moving across different work contexts, one participant noted that a new context ‘added scope for action in the new context’ (s2p027). Another respondent reminded us that it was sometimes necessary to ‘put aside what you did and to get into a different mind space ... and you just get on with it’ (s2p080). Both these participants have identified the essential active nature of learning and adapting one’s learning and the necessity of acting and thinking differently.

Items Q4.2, Q4.3, Q4.5, Q4.6 and Q4.9, touched on the concept of focusing on difference. These were relatively well-supported, but some respondents qualified this support by adding that it is ‘also about the similarities and patterns’ (s2p009). As outlined in §2 (p. 56), Ference Marton (Marton and Booth 1997; Marton and Trigwell 2000) would argue that it is focusing upon difference that allows our understanding to increase and that the consideration of

<sup>33</sup> The format used here is the % of “definitely disagree” responses followed by the % of “disagree” responses.

difference is necessary for deep learning. The comments about patterning contained in §5.5.3 (p. 172), suggest that perhaps patterning should be seen as a tool rather than a focus, and that Marton and his colleagues make an important point about the need to look for what is different in learning contexts and learning activities.

This is also linked to the concept of expertise and, perhaps, experts are those who focus on what is different in problem solving or expansive learning situations. Expertise was referred to by at least three respondents to this section, including one who wrote:

Work by Dreyfus & Dreyfus (1986) is relevant – concept of expert. In one context the learner might be an expert but in a new and different context, they might be an advanced beginner or competent

(s2p059)

Another stage 2 participant (s2p083) drew a diagram showing the five stages identified by Dreyfus & Dreyfus (1986) (that is novice, advanced beginner, competent, proficient and expert), through which a learner might progress. Whilst such a classification of expertise might be useful in some situations, comments from other participants would suggest that, since learning is socially situated with a community of practice, the development of expertise is related to the necessity to solve relevant problems and to perform at the level demanded by the work context. Other comments suggested that the development of expertise was also dependent on the curiosity and willingness to keep learning about a particular field of knowledge and skill. Thus the categorisations proposed by Dreyfus and Dreyfus appear to be more about structured learning than about our learning when crossing across contextual boundaries.

Items Q4.4, Q4.5, Q4.10 and Q4.11 were statements about reflection on learning; although item Q4.10 focused on problem solving and item Q4.11 was concerned with trial and error. Many of the respondents, who commented on these items, did so in order to clarify their understandings of or reservations with the statements. One of the participants expressed concern that reflection on learning and workplace performance would only result in 'questions and critique' (s2p027) rather than answers or validation. Whilst reflection often results in more questions than answers, it was recognised by others that it is only through raising questions that we move into Vygotsky's zone of proximal development (Engeström; Meitonen and Punamäki 1999d), which provides the conditions for learning to occur.

The framing of the statements about reflection resulted in a number of comments suggesting that the concepts being expressed were too simplistic, linear, and/or mechanistic. The issues introduced by one respondent – exploration, leaps of imagination, the ability to frame problems, the ambiguity of the context and negotiation of meaning (s2p044) – are indeed critical and were commented on by other respondents. For example, the use of the word "systematic" was rejected by at least three participants as having procedural overtones and suggesting a formulaic approach. This was not the case, as the stage 1 participant (s1p003) who made the original comment did so in the sense of committing oneself to the practice of reflection on a frequent and regular process – in his case, with his co-workers once or twice a week. However, the comments made by the stage 2 participants enrich and deepen the concept of reflection as an immersion in practice. For example, one participant wrote that:

comparing what you know to what you don't know about becoming so much a part of the work environment that you build up windows of knowledge. The knowledge might be founded on what you already know, but it is not necessarily conscious recall and repacking. It is often in retrospect that you realise the similarities to the store of experience you have accumulated.

(stage 2 participant 045)

One participant noted that reflection often required lateral thinking and imagination if it was to be effective (s2p080). A combination of systematic and non-systematic reflection was also seen by another participant to be preferable when she wrote:

I think you need to leave room for the intuitive 'aha' moments which arise spontaneously, as well as systematic reflection.

(s2p052)

Another participant reacted to the use of the term "systematic" by equating it to being procedural and inflexible (s2p035). This may have been due to her experience in working within a government bureaucracy for a number of years, as she admitted in her response.

The fact that reflection is a practice, often only undertaken by the proficient, was highlighted by one respondent when he wrote: 'Ideally, yes – but how often does it happen? – only with experts and the proficient?' (s2p055). This suggests that reflection is a habit which needs to be taught and valued within the context of institutional learning. The same respondent noted that, in his opinion, 'feedback ... obviates this [reflection] to a significant degree' (s2p055). This could suggest that feedback, accepted uncritically, replaces reflection for some people. This is unfortunate, because it is reflection on feedback, as well as reflection on what has been experienced through work, which enables the processes of transfer, adaptation and learning.

Another participant picked up on the concept of feedback as a need which some workplaces learners have whilst others are more autonomous learners when he wrote:

Regardless of the problem, or issue, some learners need continuous feedback/validation (reward) to build a sense of self-belief. They need to know that others know they are right.

On the other hand, others know when they have achieved the necessary skills and knowledge to a level where they can adapt and apply these tools to a similar or different situation with confidence. They can see how to add value immediately.

(s2p061)

Reflection is usually taken to be a conscious process. One participant questioned whether this was indeed the case when he wrote:

I have witnessed some occasions where individuals seem to almost unconsciously or intuitively 'slip' into the new space/role/task with relative ease – giving rise to the impression that transfer is both automatic and seamless. I find myself wondering about this and to what extent unconscious ways of knowing and doing come into play here. ... I [also] realise the significance of the unstated 'rules'; the things left unsaid which have to be somehow 'picked-up' by osmosis as it were ...

(s2p069)

Mentoring was another issue on which people commented. In most cases, this was a request for clarification of what was actually meant by mentoring. For example, one participant wrote:

There is a number of terms in this section that I do not feel confident about supporting without some clarification of how they are being used. If mentoring is taken to mean having someone with whom one can explore the issues then I would agree with this statement. If it is interpreted as having someone who can show you the way, I feel it is too limited.

(s2p044)

Given that the learning being considered in this research is both expansive and leading edge, clearly my definition of mentoring would be the first one provided by the previous respondent, as the breaking of frontiers requires co-learners (s2p001). The concept of mentoring needs to be broad enough to include communities of practice. These comments suggested that rather than a formal mentoring process, it was access to the 'experience of others' (s2p009) that was needed, whether this experience was prior to, or concurrent with, the learning task in hand.



Another participant looked at mentoring from a slightly different angle when she wrote:

Knowing who to ask is a huge part of the skill of learning. Also having someone you [can] trust is important, not just someone who you think you can trust.

(s2p036)

This is an important point because there is always an assumption that someone more senior will “know” but this is demonstrably not often the case. First, because their seniority will mean that they know differently and, secondly, because they may not want you to know as they do. This is particularly true of many supervisors who feel threatened by their subordinates. So the question of who you can trust to share their experience and knowledge with you is always a tricky one.

Item Q4.21 suggested that the more times one had to cross the boundaries of different work situations, the easier it became. Although most people supported this statement (72.4%), others noted that this was not necessarily the case. One participant wrote:

I don't think that going through a change process necessarily makes it easier the next time. You may carry some additional “baggage” as a result of earlier situations and some circumstances may make transferring knowledge easier, e.g. supportive co-workers who can quickly cue you in to the main interpersonal dynamics and workplace “do's and don'ts”.

(s2p031)

The inclusion of the contextual politics was noted by some of the respondents as an essential aspect to be considered. One participant wrote:

I am pleased to see a mention of politics in this section. If we are thinking about organisational learning then the political is highly relevant. What is taken to be competent performance will depend upon it, as the power distribution will determine what is taken to be true and what is taken to be competent. How learning is assessed is critical as we know and how it is rewarded in organisational settings will impact on learning and transfer in very critical ways.

(s2p044)

Whilst most of the respondents accepted the terms unpacking and repacking without comment, one participant questioned the mechanical nature implicit in the use of these terms (s2p031). The same participant also questioned the statement in the questionnaire in item Q4.24 that “no-one can teach you to adapt” when she wrote:

While you are a unique individual and each situation is different, there are enough similarities about workplaces and workplace-based issues for others to provide some potentially useful strategies and support.

(s2p031)

Whilst this shows the need to ensure that statements are precise and that the implied “in a particular situation” should have been stated, it also picks up on an important part of the argument which underpins this thesis; that is, although we cannot specifically prepare people for the particular situations and contexts they will meet in their working lives, we can, and should, help them develop the strategies and performances they will predictably need.

Even when equipped with the necessary strategies and performances, there is still no guarantee that one will be able to adapt. One of the barriers may be one's own values and ethics (s2p036).

Finally, the issue of multiple intelligences produced a mixed reaction. Item 4.8, (it is not just learning in the academic sense – you need to use a number of different intelligences), resulted in an average weighted mean of 4.64 which was the highest AWM obtained for this section. However, there were a number of comments about the legitimacy, or otherwise, of the concept of multiple intelligences. Their comments indicated that they agreed that ‘learning involves the emotions’ (s2p044) and ‘you need to draw on different skills and abilities and be sensitive to the interpersonal stuff’ (s2p031).

Some of the respondents to this section commented about learning in general. These included:

- the need for technical and content knowledge as well as context, culture and people (s2p081)
- the recognition that learning occurs over ‘a long period of time’ (s2p081 – her emphasis) and that the ownership of knowledge is a gradual process
- is the changing of habits and/or practices. It involves emotions, beliefs, values and progress towards a desired vision, and is unlikely to result purely from submission to institutional discipline (s2p026).

### 5.6.3 Internal variation

As in the two previous sections, §5.4 and §5.5, an analysis of the internal variation within items, which arises because the stories are grounded in experience, is provided.

**Table 5.6: Internal variation (initiation to learning)**

item	all responses different		two responses the same		all responses the same	
	freq.	%	freq.	%	freq.	%
4.1	2	2.4	19	22.9	62	74.7
4.2	0	0.0	24	28.9	59	71.1
4.3	6	7.3	21	25.6	55	67.1
4.4	3	3.7	13	15.9	66	80.5
4.5	4	4.9	20	24.7	57	70.4
4.6	5	6.0	20	24.1	58	69.9
4.7	3	3.6	14	16.9	66	79.5
4.8	0	0.0	15	18.1	68	81.9
4.9	6	7.2	19	22.9	58	69.9
4.10	3	3.6	19	22.9	61	73.5
4.11	6	7.3	11	13.4	65	79.3
4.12	7	8.6	23	28.4	51	63.0
4.13	6	7.3	23	28.0	53	64.6
4.14	9	11.0	17	20.7	56	68.3
4.15	6	7.2	31	37.3	46	55.4
4.16	5	6.2	24	29.6	52	64.2
4.17	4	4.8	26	31.3	53	63.9
4.18	9	10.8	30	36.1	44	53.0
4.19	6	7.2	22	26.5	55	66.3
4.20	6	7.3	26	31.7	50	61.0
4.21	4	4.9	21	25.6	57	69.5
4.22	4	4.9	21	25.6	57	69.5
4.23	5	6.0	26	31.3	52	62.7
4.24	2	2.5	17	21.0	62	76.5

This table shows that those respondents who gave identical responses for all three “stories” or scenarios ranged between 81.6% and 53.0%. This was considerably higher than for the previous two sections of the questionnaire.

One explanation of this difference is that, because of the length of the questionnaire and the time required to complete it, many of the participants were rushing their task by this stage. This is, to some extent, borne out by the pattern of completions for the questionnaire which is shown in §3.4.5 (p. 89). This shows that just over half of the participants answered only the

Likert-scale questions from this section until the specific questions in the second last section of the questionnaire. It might be assumed that these respondents were more likely to provide similar responses for all three of their given scenarios to minimise the time taken to complete the questionnaire.

However, this is not likely to be the complete explanation. Because the statements for the Likert-scale items for sections four and five of the questionnaire were statements made by stage 1 participants, it is possible that these statements were more general and thus applicable to a wider range of scenarios. This was certainly the case for one participant who wrote:

I could not identify any difference between my stories in relation to these statements. My responses seemed to apply equally to each of the three stories.

(s2p048)

It seems that many others found difficulty differentiating between their scenarios with respect to the section 4 items. The statements with the least internal variation, that is:

- Q4.8 it is not just learning in the academic sense – you need to use a number of different intelligences
- Q4.4 reflection is very important
- Q4.7 it is constructive learning – you are building up your understanding and competence from each situation
- Q4.11 trial and error is important – you need to accept that you will sometimes get it wrong,

were all strongly supported by respondents having the highest average weighted means of 4.64, 4.58, 4.55 and 4.55 respectively. Those statements which had the most internal variation, that is:

- Q4.18 it's about the people, rules and who does what
- Q4.15 mentoring helps – you need someone to help you through the maze
- Q4.20 knowing who knows what and who to ask. Once you know that the rest is relatively easy
- Q4.23 you are on your own – so you need to analyse what you know and can do and reassemble it in a more appropriate way

had relatively low average weighted means (3.65, 4.26, 3.84 and 3.94). Item 4.15 is higher than the others and this can be explained in terms of the number of respondents who apparently consider mentors important for others, but not for themselves.

Overall, these outcomes still support the hypothesis that the context plays an important role in learning and in people's perceptions of how this learning occurs.

## 5.7

### 5.8 Application in a new context

#### 5.7.1 Statistical data

This section is concerned with the application, within a new context, of the learning which has occurred and has been integrated with what the learner already knows and can do. As in the previous section of the questionnaire, participants were asked to respond to statements which were derived from the Stage 1 transcripts and to rate their agreement with the given statement using a 5-point Likert-scale which ranged from strongly agree to strongly disagree; the intermediate ratings being agree, not sure and disagree.

The Likert-scale items 5.1 to 5.7 inclusive, and the frequencies and percentages with which respondents rated them, are shown in Table 5.5, (p. 178). In addition, Appendices 5.2 and 5.3 contain all the descriptive statistical tables used in the analysis of the stage 2 research data. Appendix 5.7 contains tables of the measures of central tendency for all the Likert-scale items.

**Table 5.7: Application in a new context**

	$\Sigma n$	DA n	DA %	A n	A %	NS n	NS %	D n	D %	DD	DD %	WM	AWM
<b>Ideas</b>													
5.1 this is the payback time – when you start thinking you are on top of your work	<b>80</b>	17	21.3	32	40.0	17	23.3	14	17.5	0	0	3.650	
	<b>78</b>	19	24.4	32	41.0	17	21.8	10	12.8	0	0	3.769	3.680
	<b>79</b>	14	17.7	34	43.0	18	22.8	13	16.5	0	0	3.620	
5.2 you are starting to think differently about your work	<b>80</b>	28	35.0	40	50.0	11	13.8	1	1.3	0	0	4.188	
	<b>78</b>	27	34.6	39	50.0	12	15.4	0	0	0	0	4.192	4.093
	<b>80</b>	23	33.8	39	48.8	13	16.3	1	1.3	0	0	3.900	
5.3 your confidence grows in leaps and bounds – you feel competent to tackle new challenges	<b>82</b>	26	31.7	36	43.9	13	15.9	7	8.5	0	0	3.988	
	<b>80</b>	28	35.0	31	38.8	15	18.8	6	7.5	0	0	4.013	3.996
	<b>81</b>	25	30.9	34	42.0	18	22.2	4	4.9	0	0	3.988	
5.4 you have learnt who and how – so the next time will be much easier	<b>81</b>	15	18.5	37	45.7	21	25.9	7	8.6	1	1.2	3.716	
	<b>79</b>	22	27.8	32	40.5	19	24.1	5	6.3	1	1.3	3.873	3.780
	<b>80</b>	15	18.8	38	47.5	20	25.0	6	7.5	1	1.3	3.750	
5.5 you have learnt how to tackle the “what ifs” – you can be pro-active in averting contingency	<b>81</b>	20	24.7	44	54.3	13	16.0	3	3.7	1	1.2	3.975	
	<b>79</b>	22	27.8	41	51.9	13	16.5	3	3.8	0	0	4.138	4.000
	<b>80</b>	20	25.0	42	52.5	16	20.0	1	1.3	1	1.3	3.988	
5.6 you are better able to understand the nexus between work and its context	<b>81</b>	28	34.6	42	51.9	10	12.3	1	1.2	0	0	4.198	
	<b>79</b>	31	39.2	34	43.0	13	16.5	1	1.3	0	0	4.201	4.197
	<b>79</b>	31	39.2	34	43.0	12	15.2	2	2.5	0	0	4.190	
5.7 you are better able to branch out – tackle your work independently and not to depend on direction or on others so much.	<b>79</b>	35	44.3	34	43.0	6	7.6	4	5.1	0	0	4.266	
	<b>78</b>	29	37.2	40	51.3	5	6.4	4	5.1	0	0	4.152	4.194
	<b>79</b>	31	39.2	34	43.0	10	12.7	4	5.1	0	0	4.165	

There are no items where the majority of responses are “definitely agree”. However, all of the Table 5.7 statements were supported by the majority of the respondents with the number selecting either “definitely agree” or “agree” ranging from 86.0% for item Q5.7 to 72.4% for item Q5.1. Of these, four averaged over 75% across the three self-selected scenarios and thus could be considered to be strongly supported. These additional statements were:

- Q5.7 you are better able to branch out – tackle your work independently and not to depend on direction or on others so much (40.2%; 86.0%)<sup>34</sup>
- Q5.2 you are starting to think differently about your work (34.5%; 84.1%)
- Q5.6 you are better able to understand the nexus between work and its context (37.6%; 83.6%)
- Q5.5 you have learnt how to tackle the “what ifs” - you can be proactive in averting contingency (25.8%; 78.7%).

As the statements used were all taken from the stage 1 transcripts, they were made in connection with workplace learning outside of educational institutions. It was again noted that those participants who worked as trainers and/or consultants in blue-collar or collaborative enterprises were more likely to support the statements than those who had spent much of their working life within educational institutions.

## 5.7.2 General Comments

Only 29 of the 90 participants provided general comments for this section. This reflected both the length of the questionnaire and the strong support for the statements in this section from the 81 participants who responded to all or some of the items in this section. Unless specific open-ended questions were asked, many of the participants failed to give responses to the general comments section. Usually comments made under the general section referred to disagreement with one or some of the Likert-scale items.

Item Q5.1 (that is, this is the payback time – when you start thinking you are on top of your work) elicited a number of such comments. These all referred to the fact that in an environment of change, one is unlikely to feel on top of one’s work (s2p005).

This comment was echoed by a number of similar comments. One participant questioned the desirability of mastery when she wrote that ‘I am not sure that it is possible or even desirable to feel on top of one’s work. Given the rapidity of change, we need a commitment to ongoing learning’ (s2p001).

Another participant reacted to the “euphoric” nature of many of the statements made by the stage 1 participants when he wrote:

Reflecting on the comments above I find myself wondering at the apparent euphoria and empowering nature of the learning being described ... a sense that you’ve ‘got it beat’, ‘so much easier next time’ .. Perhaps it’s just me, but seems like it’s pretty much a continuous struggle for me, the ‘breakthrough’ quickly leads to another invisible glass wall just outside the last one.

(s2p069)

The question of confidence struck a chord with a number of the respondents. One respondent noted that his confidence in his task of completing the questionnaire grew as he completed the Likert-scale items (s2p10).

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<sup>34</sup> The format used is the % of respondents who definitely agree followed by the percentage of respondents who either definitely agree or agree. These statistics are averaged over the three scenarios.

The personalities and predispositions of the worker/learner are clearly related to the issue of confidence as one participant noted when she wrote:

... again so much depends on the personalities and predispositions of those involved in the learning. Story 2 reflects the fact that a lot more than experience is required when the person being assisted and scaffolded into a new context is so lacking in self-confidence.

(s2p071)

This view was reiterated by the participant who wrote that the growth of confidence 'depends on the degree of success and how quickly or slowly you judge it and come to a judgment that you hold to!!' (s2p055). Another participant noted that the process of transferring and adapting one's context when crossing contextual boundaries takes time and is an on-going process. 'Application to a new context often takes considerable time' (s2p078).

Because of its social and political nature, the workplace is a constrained environment. The constraints it imposes may prevent the transfer and adaptation of one's existing competence as one participant noted when she wrote that '... sometimes, even when you know the job, because of the constraints of the work situations or the personalities of those you work with, you are still relatively constrained' (s2p038).

Another participant noted that, although confidence in being able to do the job might be experienced at this stage of the model, there must have been an earlier confidence in one's ability to learn to do the job, in order to enable one to reach this stage (s2p027).

The inter-relationship of confidence and challenge was picked up by one participant when she wrote:

The only comment I make here is that the work context, even when you have not moved jobs or organisations, is constantly changing and so the process of transfer is continuous. While you might feel more confident concerning some aspects of your work, there are new challenges developing all the time that mean that the level of confidence suggested by some of these comments is a little more than I have experienced.

(s2p044)

The concept of challenge formed the basis of several comments from the respondents. These included the perception that people who like to be challenged are more likely to look for other opportunities for personal and professional growth (s2p049; 050). Another participant recognised the importance of challenge to the process of transfer and adaptation across new contexts when she wrote:

you can see how you might experiment – try new things – develop yourself, others and the organisation – have the confidence to change how things are done – not just apply the same to the same situation.

(s2p073)

That this stage is both the beginning and end of the cycle was recognised by at least one participant when she wrote that in:

story one: questions like 'you feel competent to tackle new challenges' 'you are better able to branch out' – some of us start there. It's the beginning of the cycle not the end.

(s2p053)

Item Q5.5 (you have learnt how to tackle the "what ifs" – you can be pro-active in averting contingency) had quite strong support. However, at least two participants balked at the words "averting contingency". One of these wrote:

I cannot see how averting contingency is appropriate; you cannot avoid such situations in the workplace. The skills you learn will empower you to cope or deal with this type of situation not avert them.

(s2p008)

Given that the stage 1 participant (003) who made the original comment was an electrical fitter before becoming a manufacturing workplace trainer, it is probable that he was thinking in terms of preventative and/or predictive maintenance when he made the statement used in item Q5.5. Whilst 'averting' might not have been the most accurate term to use, the statement does make sense insofar as we can develop and use our competence to the point where contingent situations are less likely to occur and more likely to be readily rectified. Another participant was possibly thinking on those lines when he asked 'is this meant to be developing contingency plans' (s2p055).

Some of the respondents noted that application was a complex concept to deal with. These included one participant who wrote that 'I've struggled to answer the above [as] my problem is the metaphor of "application"' (s2p033). Another participant noted that the statements were not universally true but were possibly generally so 'in most instances' (s2p061).

The intrinsic and extrinsic rewards of learning and adapting were referred to by another participant. However, she also added a warning about the need to remain sensitive to the context and the continuous changes which occur (s2p079).

As in earlier sections, two of the comments referred to the discrete steps which they perceived in the model. Although this was not the intention when devising the model, it was becoming increasingly clear that this is how many of the participants understood it. This was expressed by one of these when he wrote:

This illustrates for me how your model breaks down into successive stages something that I found much more holistic. The above ideas seem to represent improvement with experience – of course that happens.

(s2p085)

Improvement, as the result of experience, was noted by many of the respondents. However, there were some provisos. One participant wrote that the 'comments suggest a permanent improvement or expansion of knowledge and skills but this isn't necessarily the case' (s2p081). Another participant noted that this stage of the model 'depends if the who and the how is applicable in the new next context' (s2p074).

The stories themselves clearly influenced the responses given. For one scenario about learning for retirement, the respondent wrote:

Story 3 is quite complex. You are often moving so far from your comfort zone that you are in fact taking risks - seriously backing up your own judgement. Often the knowledge/skills don't materialise until you are fully committed.

(s2p061)

Another scenario dealt with a group who were working collaboratively to look at their future career paths. Referring to this, the respondent wrote:

story 3: can't answer the last question about tackling work independently – the learning described in story 3 will belong to the whole community of practice (as it were) so you [will] go on depending on others: and the learning (reflection etc) never depended on direction.

(s2p053)

Finally, it should be noted that any model is only approximate and is designed as a framework to help organise our thoughts and our thinking. Learning in any social context occurs on a number of different planes and is a complex interaction of the cognitive, the emotional and the social (Illeris 2002). One of the respondents reminded me of the complexity of our emotional defences we use to protect our sense of self-worth when he wrote:

Consistent with self-worth motivation theory, self-handicapping and defensive expectations are proposed as two strategies people use to protect their self-worth in the event of potential failure, and in some cases, to enhance their worth in the event of success. It is not simply a question of self-efficacy or resilience.

(s2p026)

### 5.7.3 Internal variation

As for previous questionnaire sections, looking at the internal variability of the responses provides information designed to give additional meaning to the statistics. The following table, Table 5.8, provides this data.

**Table 5.8: Internal variation (application in a new context)**

item	all responses different		two responses the same		all responses the same	
	freq.	%	freq.	%	freq.	%
5.1	5	6.2	24	29.6	52	64.2
5.2	4	4.9	21	25.6	57	69.5
5.3	6	7.3	22	26.8	54	65.9
5.4	4	4.9	17	20.7	61	74.4
5.5	6	7.3	21	25.6	55	67.1
5.6	1	1.2	21	25.6	60	73.2
5.7	5	6.1	18	22.0	59	71.9

The table shows that the items with identical responses for all three “stories” or scenarios ranged between 64.2% and 74.4% with an average of 69.5%. Although with a narrower range, this was comparable with the previous section which had an average of 69.0% and ranged from 53.0% to 81.6%.

Thus, the explanations suggested for the previous section are equally valid. That is, more than a quarter of all the responses show internal variation. This is considerably lower than the variation shown for the items relating to the first two parts of the model and might be explained either as being due to questionnaire completion fatigue or to the greater generality of the item statements.

However, as Table 5.8 shows, only 37 respondents or 45.1% gave the same response for all three stories in all items. This means that there was still an indication of considerable internal variation and that the responses were, in the main, grounded within the scenarios. Thus, the hypothesis that context plays an important role in learning and in people’s perceptions of how this learning occurs, is supported by the above figures.

## 5.8 The learning loop

### 5.8.1 Statistical data

This section is concerned with the model as a whole, that is of the appropriateness of Figure 4.1 (p. 116) as a framework for thinking about the transfer and adaptation of competence across work contexts. The Likert-scale items, 6.1 to 6.6 inclusive, and the frequencies and percentages with which respondents rated them are shown in the table on Table 5.9 (p. 193).



**Table 5.9: The learning loop**

	$\Sigma n$	DA n	DA %	A n	A %	NS n	NS %	D n	D %	DD	DD %	WM	AWM
<b>Ideas</b>													
6.1 It fits with my concept of the way in which we adapt our knowledge, skills and capabilities as we move across workplace (and life) contexts?	<b>81</b>	29	35.8	35	43.2	13	16.0	4	4.9	0	0	3.099	
	<b>79</b>	23	29.1	40	50.6	14	17.7	2	2.5	0	0	3.025	3.041
	<b>80</b>	23	28.8	39	48.8	14	17.5	3	3.8	1	1.3	3.000	
6.2 It helps to clarify my understanding of learning	<b>81</b>	21	25.9	38	46.9	19	23.5	3	3.7	0	0	2.951	
	<b>78</b>	23	29.5	34	43.6	16	20.5	5	6.4	0	0	2.962	2.937
	<b>79</b>	22	27.8	33	41.8	19	24.1	4	5.1	1	1.3	2.899	
6.3 It provides a useful schema for mentoring, guiding and/or coaching in the workplace	<b>80</b>	23	28.8	36	45.0	18	22.5	3	3.8	0	0	2.988	
	<b>79</b>	24	30.4	34	43.0	18	22.8	3	3.8	0	0	3.000	3.004
	<b>78</b>	19	24.4	38	42.3	21	26.9	4	5.1	1	1.3	3.026	
6.4 It applies better for informal learning situations than for most formal learning situations	<b>80</b>	7	8.8	18	22.5	29	36.3	22	27.5	4	5.0	2.025	
	<b>78</b>	9	11.5	18	23.1	25	32.1	23	29.5	3	3.8	2.090	1.962
	<b>79</b>	6	7.6	20	25.3	27	32.2	2	29.1	3	3.8	1.772	
6.5 I have reservations about its usefulness in some situations	<b>80</b>	4	5.0	28	35.0	24	30.0	21	26.3	3	3.8	2.113	
	<b>78</b>	3	3.8	26	33.3	24	38.8	23	29.5	2	2.6	2.064	2.088
	<b>79</b>	3	3.8	27	34.2	25	31.6	22	27.8	2	2.5	2.089	
6.6 It assists in the design of learning experiences	<b>80</b>	19	23.8	32	52.5	16	20.0	2	2.5	1	1.3	2.575	
	<b>79</b>	17	21.5	43	54.4	17	21.5	1	1.3	1	1.3	2.937	2.803
	<b>79</b>	18	22.8	39	49.4	19	24.1	2	2.5	1	1.3	2.899	

As in the previous sections, Table 5.9 shows a lot of information about the responses to the questionnaire items. However, descriptive statistics such as these can only show trends and generalised predictions, as the data has been accumulated and, consequently, the specific responses and the internal variations of individual responses have been obscured.

Items Q6.1, Q6.6, Q6.2 and Q6.3 received fairly strong support with the number of respondents either agreeing or definitely agreeing averaging 78.7%, 74.8%, 71.8% and 71.3% respectively. The slight discrepancy between these figures and the rankings given by the average weighted means (3.041, 2.803, 2.937 and 3.004 respectively) reflects the different proportions of those selecting “definitely agree”, “agree” or another response. The average weighted mean is the more reliable statistic and thus the four statements, in order of the overall support they received, are:

- Q6.1 It fits with my concept of the way in which we adapt our knowledge, skills and capabilities as we move across workplace (and life) contexts?
- Q6.3 It provides a useful schema for mentoring, guiding and/or coaching in the workplace
- Q6.2 It helps to clarify my understanding of learning
- Q6.6 It assists in the design of learning experiences

The remaining two items (Q6.5 and Q6.4) received less support. This is significant as the two statements were the only ones made by the stage 1 participants in §4 which I did not agree with. The statistics for these two items show that more than a quarter of the respondents disagreed or strongly disagreed with these statements and, in addition, over a third of the respondents were unsure of their agreement with the two statements. Given the nature of the statements, that is:

- Q6.4 It applies better for informal learning situations than for most formal learning situations, and
  - Q6.5 I have reservations about its usefulness in some situations;
- it would appear that the majority of respondents believe that the model developed in stage 1 is probably not restricted to informal learning situations and that it may be useful in a range of situations.

As for §5.6 and 5.7, the statements used were all taken from the stage 1 transcripts. This meant that they were made in connection with workplace learning outside of educational institutions. It was again noted that those participants who worked as trainers and/or consultants in blue-collar or collaborative enterprises were more likely to support the statements than those who had spent much of their working life within educational institutions. The exception to this was the responses to items Q6.5 and Q6.6 in which all those who responded in the negative had, as might have been expected, considerable experience working in non-educational contexts

## 5.8.2 General Comments

Thirty three of the ninety respondents used the opportunity to make general comments in this section which was a very slight improvement on the previous two sections.

Most of these commented on their reaction to the model as a whole. Such comments were generally positive although some of the respondents added riders or provisos to their endorsement of the model. There were really only two respondents who rejected the model. The reasons for their rejection differed but were focussed on the inadequacies of a two-dimensional model. For example, one wrote:

I think this is an inherent problem with models - trying to capture the complexity into simplified 1 or 2D diagrams. Your developing theory is much richer than this diagram portrays.

(s2p070)

Another participant saw the model as being too linear and also static insofar as it did not adapt to one's increasing proficiency with learning. She wrote:

I am not sure that the model is really helpful as it tends to reinforce a rather linear conception even though that is not the intention. As I have noted in my comments, I do not know whether all learning in these situations needs to go through all stages and suspect that perhaps the process is modified as we become more competent at learning ... and develop a repertoire of sophisticated understandings.

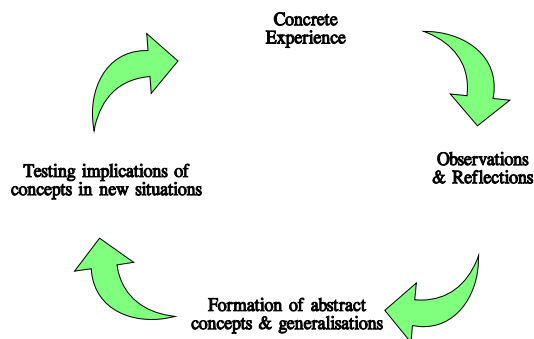
(s2p044)

Other respondents, while expressing support for the usefulness of the model, qualified this by identifying some of its shortcomings. These included:

- not using the model 'as a structured / step by step / process / flow chart. ... Different individuals will approach a given context from different viewpoints and with different degrees of competence / expertise in the new / modified work context' (s2p020)
- insufficient explanation of the model or defining of terms for them to give it their full support because of perceived limitations (s2p041) and rigidity (s2p042)
- experience with the inappropriate use of models which are applied without reflection about their applicability for specific situations. One participant described this as the VET system's tendency to reduce 'complex situations to a model, acronym or 3-step process (I characterise it as the VET sector's 3 step model for sustainable world peace)' (s2p052)
- the need for a model that took into account realistic limitations such as lack of time to pass through all stages; recursiveness of learning; and acknowledgement that some learners may never become "expert" or lack the ability to transfer to new situations (s2p005).

Two participants indicated other models that they either preferred or perceived were similar to the model presented. One of these illustrated his response when he wrote:

I prefer the four part model from Kolb & Fry, that is:

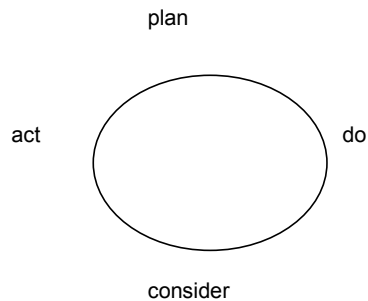


The observations and reflections section is very important in the total acceptance of new skills.

(s2p008)

The other respondent noted similarities of the proposed model with models of action learning when he wrote:

It would be helpful to draw comparisons with Knowles [(e.g. 1984)], Kemmis [(e.g. 1982)] (action learning) and Shewhart [(1986)]/Demming's [(e.g. 1986)] contextual learning.



(s2p059)

Several of the respondents questioned whether we could understand how learning might occur as much of our learning occurs on a sub-conscious level and is tacit rather than explicit. They generally agreed that the model 'certainly helps to explain how we learn; with the design of learning experiences; and with practice (s2p061). However, they recognised that there were 'a range of situations where learning is developed without the capacity to articulate it' (s2p044). Examples given included:

- good teachers who do not understand how learning occurs (s2p079)
- that if you can maintain self-belief and clear your mind of doubts, skills can be sustained for a considerable length of time without practice (s2p061)
- making judgements (s2p044)
- questioning the divide between our conscious and unconscious learning (s2p079).

Others also mentioned the need for more definition about parts of the model. One of the areas in which this was apparent is the divide between formal and informal learning (s2p045; 069). This has been discussed in §5.5.3, (p. 163). Others reflected on the difference between viewing learning from the diverging points of view of the learner and the teacher (s2p061).

The type of learning to which the model would best apply was the subject of interesting reflections from two participants. These included perceptions that the model would apply best:

- in long programs of learning
- for the professional development of staff
- if recognition were given to the possibility of people at different stages of their life progressing through the model differently (s2p074).

Suggestions for the improvement of the proposed model included:

- if it included exit points and the notion of it being a spiral was stressed (s2p073) with people learning at different levels at any one time (s2p074)
- the model should show the primacy of the context in determining what is learnt and how one's existing competence is modified and adapted to the new context (s2p083).

Two of the participants provided comments which questioned the coupling of different aspects of educational theory within a single model. The first of these was concerned with the coupling of transfer and competence; two 'poorly defined and contested constructs' (s2p055). The second was concerned with the different conceptions that sit around individual learning and socially-based learning (s2p026). These theoretical aspects have been discussed in §2 (p. 19).

The research which underpins this thesis was directed at determining the perceptions of practitioners about how people transfer what they know and can do into new contexts. It is, therefore, important that the comments made by all the participants, as well as the

descriptive statistics, are taken into account when forming any conclusions or generalisations. The statistics show that most people supported the model and saw it being a useful tool in their practice. Amongst the comments given support for the model is the comment from the participant who wrote:

The concepts you have presented are interesting and useful in thinking about the way we work with learners in the informal environment of the workplace. I really liked the Bateson typology which seems to justify some of our long held approaches that conflict with traditional formal learning approaches. Makes me think, how do you work in an environment where learners and their managers believe that the only type of learning is level 1 and formal?

(s2p045)

Another participant confirmed the grounded nature of the model when he wrote:

The 'model' is sound and very useful for a range of situations. I find the stages in the model ring true for me. My three stories were very different but the model fitted them very well.

(s2p078)

The model is still in a nascent stage as one participant recognised when he wrote:

The learning cycle is a good description of how learning takes place. It is consolidated through application and it is motivated by a sense of purpose. It is dependent on relationships.

I wonder about the cultural and individual filters and blockers which learners place on situations. How we open up new learning opportunities [using the] dimensions of emotional intelligence and multiple intelligence. I [also] wonder about the cultural dimensions, cross cultural and ethical issues associated with the learning cycle.

(s2p079)

Perhaps the final participant comment should come from the respondent who saw the model as being 'what I already know'. She also recognised that the model has only been developed for the sort of learning which theoreticians described as polycontextual boundary crossing and which I have described as the transfer of competence to new situations and contexts. She wrote:

For me, this is not new, but fundamentally true to the "what occurs" in learning and transfer of understandings to new contexts.

However, I'm more interested in the "what" that is created through the transfer process itself, i.e. how new schema are constructed through varied experience.

(s2p087)

### 5.8.3 Internal variation

Looking at the internal variation provides information designed to give additional meaning to the statistics. The following table, Table 5.10, provides this data.

**Table 5.10: Internal variation (the learning loop)**

item	all responses different		two responses the same		all responses the same	
	freq.	%	freq.	%	freq.	%
6.1	5	6.1	19	23.2	58	70.7
6.2	4	4.8	18	21.7	61	73.5
6.3	0	0.0	19	22.9	64	77.1
6.4	2	2.5	10	12.3	69	85.2
6.5	2	2.4	11	13.4	69	84.1
6.6	0	0.0	12	14.5	71	85.5

These statistics show much less variation than for the preceding sections. Those who gave identical responses for all three “stories” ranged from 70.7% to 85.5% with an average of 79.4.

This is not unexpected because the section deals with the whole model and, therefore, the statements which the respondents ranked tended to be more general and less context specific. One participant commented that she found it difficult ‘to distinguish any difference between the three stories when responding to these statements’ (s2p048). At least one participant (s2p075) found herself agreeing with the statements in general terms rather than in terms of her specific scenarios.

Another possible contributing factor to the low variation in the responses may be questionnaire exhaustion or the desire to complete the questionnaire as soon as possible.

## **5.9**

### **5.9 Reflection on participant responses – validation of model**

Reflection on the participant responses can be divided into two main categories, namely those concerned with the validation of the model; and those concerned with understanding of learning and transfer

#### **5.9.1 Validation of the model**

As has been shown by the preceding parts of this chapter, the model, developed on the basis of stage 1 of the research, was well supported by the participants of the research. Only two participants appeared to reject the model and the reasons for their rejection were its two dimensional representation and its seemingly linear (or sequential) nature (see p. 194).

Others had criticisms of some parts of the model such as the need for intermediary exits; the need to more explicitly show the contextual and situational nature of learning; representations of the recursiveness of learning; and previous experience of the misuse of models.

As a result of the participant concerns, articulated in §5.4 to 5.8 inclusive, the model has been reconstructed (or unpacked and repacked) as a metaphoric framework rather than a graphic representation. Groups, with whom I have shared the framework during recent conference workshops, have been very positive in their comments. This metaphoric framework is explained in more detail in the final chapter.

#### **5.9.2 Understandings of learning and transfer**

The detail behind the stage 1 model has been explored by means of the participant responses to the Likert-scale items and the specific questions in §5.4 to 5.8 inclusive. As has been argued, the transfer of one’s competence across different work context is a complex process and is context-situated and situational. Therefore, any attempt to provide an overview of the participant responses necessarily over-simplifies the understandings required by both the learner and the facilitator/teacher/mentor/ coach/supervisor providing support to the learner, and the complexities which they need to resolve on a daily basis.

The detail contained in the participant responses gives a snapshot of the respondents’ understanding of a number of issues at the time they completed the questionnaire (late 2003 to early 2004). It provides evidence of where they were in their thinking on the various continua of perception identified in §2, the mental baggage they might be labouring under

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from their particular work and life experience, and the barrage of educational, economic and social rhetoric to which we are all exposed.

Our relative positions on these continua, compared with those of the community of practice in which we find ourselves, contribute significantly to the comfort (or discomfort) we experience with respect to our practice. It is the discomfort which moves us into what Vygotsky (Daniels 1996; 1978; Wertsch and Tulviste 1996) calls the proximal zone of development and what Illeris (2002) describes as the tension field between the social, cognitive and emotional contexts in which we are situated.

The relative positioning of the stage 2 participants on the continua discussed in chapter 2, and what this adds to our understanding of the questions asked by the research, is discussed in §7.5 (p. 267).

The data examined in this chapter, together with data from the following chapter, provides us with some understanding of how practitioners interpret the part of the world which they inhabit, and the relationship of these understandings with the theoretical frameworks contained in the educational and sociological literature. The question of whether theory or practice has primacy is reflexive. Theory is developed by research on practice. Practice is informed by theory. However, given the incredibly busy lives of both practitioners and the researchers who work to enhance our theoretical frameworks, this simple relationship is more mythical than real. Researchers rarely research from within and practitioners rarely have the time or energy to keep abreast of research. One of the most interesting things to come out of this piece of research is that many of the vocational education and training practitioners' comments gave strong evidence of their practice keeping pace with current research findings and confirmations; while some comments from higher education participants presented a much more conventional, positivistic approach to the transfer of competence across different work contexts. This is also revisited in §7.4 (p. 256).

## 5.10 Connections

There are probably two major conclusions which can be formed from the discussion of the stage 2 responses which forms this chapter. The first is that, whilst the model which was formulated on the basis on the stage 2 data is generally supported, there are some serious defects. These generally arise from the apparent impossibility of constructing a two-dimensional representation, which neither ignores the complexity of the phenomenon which is the transfer of competence across workplace contexts, nor is so complex that it does not provide learners with a readily comprehensible schema of support.

The second conclusion is that the diversity of views, which were apparent in the responses to the early sections or items of the questionnaire, was lessening in the later sections. It is hypothesised that this is due to two factors. The first of these is that the attrition in completing the later sections has been confined to those whose views on learning and transfer favour the status quo and who still hold strong associations about the dominant role of educational institution with regard to learning.

The second hypothesis is that completing the questionnaire became an *a priori* learning process with participants having to consider and think through ideas which had, for them, been implicit and tacit rather than explicit and overt learning. The grounded nature of the questionnaire focused responses on actual and visualised situations, thus assisting in the learning process.

Whilst this chapter has dealt with the first five sections of part B of the questionnaire document, the next chapter deals with the analysis of the final three sections of the questionnaire, that is:

- transferring competence across contexts
- learning for transfer – capability development
- research and questionnaire design.

It also contains a brief discussion of some of the key reflections which have arisen from the total analysis of the questionnaire responses.



## Chapter 6

### Stage 2 analysis – the transfer of competence

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#### 6.1 Introduction

This chapter provides an overview of the detailed analysis of the remainder of the data derived from section 2 of the completed questionnaires. It is divided into five sections. Three of these report on the analysis of the last three sections of the questionnaire, that is:

- 6.2 transferring competence across contexts
- 6.3 learning for transfer – capability development
- 6.5 research and questionnaire design.

Two other sections (§6.4 and 6.6) provide some reflection on the key ideas and concepts to come out of this chapter. These reflections, together with the reflective section in §5, set the scene for the final chapter of this thesis.

#### 6.2 Transferring competence across contexts

##### 6.2.1 Statistical data

This section is concerned with factors which might enhance or impede the transfer or adaptation of competence across work contexts. As with previous sections of the questionnaire, participants were asked to respond to statements and to rate their agreement with the given statement using a 5-point Likert-scale which ranged from strongly agree to strongly disagree; the intermediate ratings being agree, not sure and disagree. The statements used in this section were adapted from the “guideline sheet” given to the stage 1 participants.

The Likert-scale items and the frequencies and percentages with which respondents rated them are shown in Table 6.1 (p. 202). This table also shows the weighted means and average weighted means for the Likert-scale items 7.1 to 7.10 which relate to factors which might enhance or impede our ability to use what we know and can do when we cross contextual boundaries.

Appendices 5.1 and 5.2 contain all the descriptive statistical tables used in the analysis of the stage 2 research data including the data on which Table 6.1 is based.

**Table 6.1: Transferring competence across contexts**

The transfer of competence across different contexts is dependent on:	$\Sigma n$	DI n	DI %	I n	I %	NS n	NS %	U n	U %	DU	DU %	WM
7.1 the personality of the person involved as the central actor	<b>82</b>	40	48.8	35	42.7	5	6.1	2	2.4	0	0.0	3.378
7.2 the relative experience of the person making the transfer	<b>83</b>	40	48.2	36	43.4	3	3.6	2	2.4	2	2.4	3.325
7.3 the relative expertise of the person making the transfer	<b>81</b>	36	44.4	32	39.5	9	11.1	2	2.5	1	1.2	3.210
7.4 the types of decisions which need to be made	<b>83</b>	24	28.9	33	39.8	19	22.9	7	8.4	0	0.0	2.892
7.5 the way in which the decisions are resolved	<b>83</b>	24	28.9	37	44.6	18	21.7	4	4.8	0	0.0	2.976
7.6 the nature of the competencies being transferred	<b>82</b>	29	35.4	33	40.2	9	11.0	10	12.2	1	1.2	2.963
7.7 internal factors such as motivation, comfort with change, etc.	<b>83</b>	55	66.3	26	31.3	1	1.2	1	1.2	0	0.0	3.626
7.8 external factors such as work and interpersonal environments, relative isolation, etc.	<b>83</b>	36	43.4	38	45.8	4	4.8	5	6.0	0	0.0	3.265
7.9 preferred learning styles	<b>83</b>	24	28.9	29	34.9	18	21.7	11	13.3	1	1.2	2.771
7.10 anything else you feel should be noted. Please give details: <i>ESL, literacy, numeracy issues</i>	<b>10</b>	7	70.0	1	10.0	1	10.0	0	0.0	1	10.0	3.400

As for similar tables in the previous chapter, Table 6.1 shows a lot of information about the responses to the questionnaire items. However, descriptive statistics such as these can only show trends and generalised predictions, as the data has been accumulated and, consequently, the specific responses and the internal variations of individual responses have been obscured.

Item Q7.10, that is, the iniquitous “other” response was useful in identifying some additional factors which were seen by a few participants as having an effect on our ability to take what we know and can do and apply it within another context. However, given the poor response to this item and that some participants gave a rating without specifying what they were rating, it was decided to ignore this item in the following discussion of the descriptive statistical analysis.

The majority of respondents supported all of the remaining nine statements. Clearly, the most supported item was item Q7.7, that is; ‘internal factors such as motivation, comfort with change, etc’.

This was not surprising, given that from their comments, many of the participants seemed to perceive transfer, as defined in this piece of research, as an internal and individual process. 97.6% of respondents rated this comment as either “definitely important” or “important”.

The internal barriers to learning within a specific context were expanded upon by one participant when he wrote:

I would like to see the model give more acknowledgement of the interior barriers to the transfer of learning, such as the fear of failure or anxiety about being exposed as inadequate. Sometimes we learn to apply competencies in a new field only up to a certain point: a point at which we are comfortable and not anxious. Beyond that point, unconscious fears may prevent us from achieving more.

Sometimes too we need to work through the frustrations of partial mastery, and the disappointments of partial success, before learning more and progressing.

(s2p078)

This then suggests that, in preparing learners for the workplace, it is important that we facilitate the adoption of flexible frameworks and mental models rather than rigid schemata through which the world is viewed, interpreted and meaning constructed. This reinforces the need to explore difference advocated by Ference Marton (for example, 1997) if we are to achieve deep understanding of the world and our place within it. Reflection on why our actions do not result in the intended outcome is a key mechanism for achieving this.

The next four most supported comments were items Q7.1, Q7.2, Q7.8 and Q7.3 with 91.5%, 91.6%<sup>35</sup>, 89.2% and 83.9% of the respondents for these items selecting a rating of either “definitely important” or “important”. Listed in order of decreasing support, these statements are:

- Q7.1 the personality of the person involved as the central actor (48.8%, 91.5%<sup>36</sup>)
- Q7.2 the relative experience of the person making the transfer (48.2%, 91.6%)
- Q7.8 external factors such as work and interpersonal environments, relative isolation, etc. (43.4%, 89.2%)
- Q7.3 the relative expertise of the person making the transfer (44.4%, 83.9%).

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<sup>35</sup> As explained in the previous section, the statements are listed according to the weighted mean rather than the number of definitely agree or agree responses.

<sup>36</sup> The format used is that the first value is the percentage indicating that they rate the statement as definitely important and the second value is the percentage of those rating the statement as either definitely important or important.

Personality as a significant factor was commented on by respondents. One participant linked personality with how one learns when she wrote:

The personality factor and how people learn ... are the keys to how easy it is to transfer your skills. You can have the most supportive environment in the world and the best mentors but if you aren't motivated in that particular job or you are simply some one who has to learn things formally then you are not going to be able to easily transfer your skills.

There are also some people who don't like change and are not able to see learning new things as a challenge but a chore. I think these people are more likely to not look for what skills they do have that can be adapted to the new job.

I know of a case where a person moved into an area that she should have been very capable in because she had highly relevant experience but she liked to work under supervision. She actually left the job because she didn't want to make decisions even though she had the skills.

(s2p038)

These comments remind us that the person transferring the skills can often opt out of the transfer process because it does not fit in with their values and beliefs. Clearly a supportive environment, the availability of mentors and other support mechanisms can ease the transfer process but these factors are not sufficient without the central actor's commitment, motivation and understanding of what needs to be done.

Although the difference is only just significant, the lower rating given to the lower expertise of the person making the transfer than for the equivalent statement about experience is interesting as it suggests that at least eight people perceive that there is a stronger nexus between experience and transfer than between expertise and transfer.

This difference was contested by one participant who wrote:

The relevant experience of the person themselves is irrelevant – it is expertise that counts. To the extent that experience contributes to expertise it is relevant, but it is entirely possible for a somewhat inexperienced person to have the necessary expertise to perform well.

(s2p003)

Also, the inclusion of external contextual factors in this list gives strong support for the perception that the context shapes the transfer and consequent learning experience. This view is strongly supported by the participant who wrote:

It becomes unreasonable to separate cognition or motivation from the socially mediating context, or for that matter, individuals from their activities and the contexts in which they take place. As stated by Resnick (1991): "We seem to be in the midst of multiple efforts to merge the social and cognitive, treating them as essential aspects of one another rather than as dimly sketched background or context." (p. 3).

(s2p026)

The least supported statement was item 7.9, which concerned learning styles and was supported by less than three quarters of the respondents. The actual statement was: Q7.9 preferred learning styles (28.9%, 63.8%).

One of the participants, who made additional comments about learning styles, rejected the idea that the concept of preferred learning styles was an important factor in transfer across different work contexts on the grounds that metacognition is not related to one's preferred way of learning. He wrote that one's 'ability to engage in metacognition (i.e. plan, monitor, evaluate) is surely independent of learning style since this should occur in effective learners and practitioners regardless of learning style' (stage 2 practitioner 055).

Another respondent noted that:

This tosses up sharp differences between learners. I see the issue now more as their diverse resources/tendencies to work in certain ways. So that instead of [focusing on]

the serialist and holistic learner classification, I see the shift needed is in the instructor – who needs to know much about the value of employing diverse thinking.

(s2p027)

Given the contextual basis of learning, it would appear to be more important to be competent in both a wide range of learning styles and capable of correctly identifying the most appropriate strategy(ies) for a given circumstance, than to be reliant on a small range of preferred strategies. The comment above also reminds us that the role of a good teacher, instructor, mentor or coach is to assist the learner to widen the range of strategies in which he/she is both capable and confident.

One participant saw personality and preferred learning styles as affecting the process rather than the outcome when he wrote:

Personality and preferred learning styles are important because they may have a significant influence on the process. That is, transfer of competence can be achieved regardless of personality or learning styles – it just means it may happen in a different way or may differ in terms of how far it pushes an individual out of their comfort zone.

(s2p003)

## 6.2.2 General Comments

Twenty-six people made some comments in this section which was seven less than for the previous section. One of these comments indicated that the respondent 'would love to complete the following part of the questionnaire but I have run out of time' (s2p021). This comment probably explains the attrition which occurred as fewer participants completed the latter sections of the questionnaire.

The complete analysis of the comments for this section is provided in Appendix 6.1. This section will discuss particular features of this analysis and what they mean in terms of the research questions and findings of the research. However, Appendix 6.1 provides a great deal of participant wisdom and is well worth reading. Transfer and learning are complex activities which are contextually based. The participants' comments are therefore rich in description and insight into the phenomena being researched.

Additional factors were identified by at least seven participants. Two of these suggested that literacy issues, numeracy and speaking English as a second language were factors which need to be considered. Another participant wrote that the 'confidence of the person' (s2p081) was also a factor in the transfer of competence across work contexts. An enlarged and more detailed list of external factors was provided by another participant when she wrote that the transfer of competence across different contexts is dependent on:

- the continual pace of change in the New Work Order
- the nature of employment itself: 'core' workers or staff, project (or portfolio) workers and hired labour – how does the notion of transfer apply to the different groups.
- the place of 'values' in work i.e. the closeness of the workers' ideology/values to those of the employer/co-workers (in one workplace we researched, those workers who were deemed not to support the company mission were 'allowed to go').

(s2p005)

Another participant responded along the same lines when he suggested that 'it is important to look at socio-economic conditions – [that is] the context of the industry, markets, globalisation and government trends. These wider contextual forces impact on the learning and opportunities' (s2p079).

A mixture of additional internal and external factors was provided by another participant when she listed the factors she considered important in the transfer of competence across different contexts. She wrote:

- willingness of the organisation
- understanding of what competencies are needed
- higher level, less quantifiable skills are more difficult to assess, perhaps transfer and generally less support is available
- attitude of a person's team managers, e.g. if the attitude is, oh, so you have been on a course, so that is fine ... isn't effective in assisting with transfer
- fit of an individual's ethics with those of the organisation
- ability to self-assess.

(s2p073)

The above list reminds us that internal factors can become external factors when the internal values of those in the community of practice impact on the person making the transfer to a new context. This point was picked up by another respondent who commented that the transfer of competence across different contexts was dependent on 'validation of effort and competence, respect by and for peers, curiosity, empowerment [and] values enhancement (s2p037).

The importance of context was the subject of a number of comments. For example, one respondent noted the variability of the complexity of transfer in different contexts when she wrote:

I think transfer is very contextual – not just for the organisation, but for the type of job. For some jobs, transfer might be easy (even if all the stages are gone through in a morning), for others transfer takes time and really means learning new skills or developing skills rather than a straight transfer.

(s2p073)

Another respondent also commented on the different nature of work contexts when he noted that 'the work contexts may vary from the highly structured to the open ended with varied scope for application of competencies differentially' (s2p009).

Another participant noted that our understanding of competence has to be context-bound. That is, as the previous respondent noted, the meaning of competence is specific to a particular context. This participant expanded that concept to present a theory of why our competence fails within certain situations when he wrote:

I think it also depends on your own sense of competence and whether you 'see' a logical link to other applications. Some highly educated people seem to lack practical common sense and the ability to articulate the problem and solution process. Maybe it is an inability to 'see' the problem as others might see it or see the new problem as essentially the same problem as before.

My theory as to why intelligent people 'couldn't change a washer in a tap' is simply that they have no visual or conceptual understanding of the washer or its function and therefore cannot identify the competencies required or needed to be transferred. In fact, they can't see inside the tap. The apprentice on the other hand, can do this because he/she has pulled the tap apart many times. Maybe if the tap were transparent, there would be no problem here.

(s2p061)

This comment reinforces the concept of envisioning – an essential attribute if we are to be able to take what we know and can do and apply it to different work contexts.

As the research and, in particular, the analysis of the participants' contributions progressed, it became increasingly clear that the term 'transfer' is problematic. Firstly, it is understood by different people in very different ways and my attempt to clarify its meaning in relation to this research project, both in the paper and in the video clip given to all stage 2 participants, caused difficulties for some participants. For example, one participant asked:

Who is the “learner/receiver” of the transfer? [What is their] background, skills already known, etc., motivation, [and] their objectives? More focus on the receiver could be a valuable addition to the above.

(s2p034)

Clearly, this participant is writing from the viewpoint of acquisitional learning, which is transferred (or taught) from the person who knows to the learner. This account concerns the form of transfer which occurs when the learner and his/her learning moves across different contexts. This enables the learner to use what he/she already knows to perform appropriately in the new situation(s). I am, therefore, very grateful to the participant for the timely reminder that I cannot assume that a participant and I have a common understanding of the discourse and language of learning.

One of the participants provided me with “translation” as the alternative term to transfer when she wrote:

The ‘translation’ model of knowledge / skills transfer is premised on radically different ideas to some of the ideas expressed in the above eg. competencies are not entities in and of themselves but rather indissolubly linked to practice. ... competencies are the emergent properties of some actions rather than others. They don’t have an essence (a nature); they can ‘morph’ in the process of translation from one context and situation to another.

(s2p033)

By considering transfer as a translation of competence across different contexts, then it becomes obvious that transfer is relational both to the context and to the skills and knowledge needed to perform within that context. This fits with the concept of adaptation and the co-emergence of other abilities as we seek to translate what we know and can do from one context to another.

Comments about specific items were also provided by participants. These focused mainly on, personality, learning styles, internal factors and the role of decision making. Some of these have been included in the earlier discussion on the descriptive statistics for the items in this section of the questionnaire.

The participants’ comments for this section also provided evidence for the emerging concept that there are a number of dimensions to our lifelong learning journeys and that these dimensions can be seen as a number of continuums which range between a techno-rationalist view of learning and, at the other end of the continuum, a view more consonant with that of situated learning within a knowledge society.

## 6.3 Learning for transfer – capability development

### 6.3.1 Specific questions

The complete analysis of the responses to this section forms Appendix 6.2 which contains a wealth of grounded information and insight in response to the four questions which make up this section. The detail contained in Appendix 6.2 is important reading given the contextual nature of this research. The need to keep the main thesis document brief, and for its argument to be developed without being obscured by a mass of detail, means that the discussion which follows is based on specific data which can be viewed as representative of the complete set of data.

**What learning strategies do you believe help people to prepare for the transfer of competence across work contexts?**

Seventy-nine of the participants answered this question. Of these, three admitted that they did not know the answer – one adding that she wished she did (s2p065). The remainder provided a wealth of attitudes, conditions and strategies.

Most of the attitudes referred to have been discussed earlier in this chapter and include:

- confidence;
- being open and adaptable;
- persistence;
- patience;
- keeping an open mind; and
- motivation.

Perhaps, these attitudes were summed up by the respondent who wrote:

People who are thoughtful and reflective about their work, and who take the trouble to plan and prepare are more likely to make the transition. Both of these are types of learning strategies.

(s2p085)

The conditions needed for the development of the skills necessary for the transfer of competence across different work contexts were also articulated by a number of participants. For example, one participant gave four conditions which were needed if transfer of competence across different contexts was to happen. These were:

- a dream, a reason to undertake the painful and troublesome process of learning;
- an open attitude (culturally unbiased), hungry to learn;
- an enthusiastic supportive environment (of mutual believers in the competency of the group to reach their objective) within which to learn; and
- the use of communication models that use entertainment and questioning in order to successfully infect the learner with the knowledge/skill/ competency.

(s2p025)

Another participant identified additional conditions which she believed were important when she wrote:

- There must be space for people to get it wrong
- Access to demonstration and feedback from an experienced and credible colleague
- A range of strong models of effective practice - each will throw a different light on what effective practice might look like and how it can be different
- Opportunities to experience a 'helicopter' view of the relationship between your work and that of others and how it all fits together within the business of the organisation
- Exposure to the different groups and values within the organisation in relation to your work
- Opportunities to do similar (not necessarily the same) work to practice and refine learning, i.e. incremental growth.

(s2p018)

The need for a safe learning environment was mentioned by a number of respondents including the following who wrote:

Transfer of competence is assisted by a work context which encourages risk-taking in learning (within the boundaries of OH&S) or at least providing a 'sand-pit' for learning and making mistakes.

(s2p046)

Creating a safe learning environment. That is, it's expected that learners will make some mistakes within the learning process and that in transferring skills across work



contexts some things will be exactly the same and some things will be new or a variation of the previous experience.

(s2p047)

The strategies, suggested by the participants, can be grouped into seven categories, that is: strategies which develop:

- self-awareness skills;
- capability for reflection on experience
- learning and research skills;
- context analysis and understanding;
- experience in different work contexts; and
- effective use of the affordances and agency offered available within the workplace.

The suggested strategies were analysed under these six headings. However, before starting this discussion, it is useful to consider the responses of a number of participants who focused their answers on the types of strategies they believed were required. For example, one participant believed that what were needed was strategies that:

- recognise that learning goals are fluid and require constant renegotiation
- provide opportunities for learners to own the learning – i.e. that work towards their goals - not the goals of the Training Package competency or the learning program
- assist learners to articulate their ownership of their learning – i.e. what does this mean to you; how is this/ can this be useful to you
- take a problem solving/action learning approach where learners map their own pathway, seek their own resources
- invite self assessment because it is their assessment of what they know and how they can apply it that matters, not mine as the teacher
- invite discussion with others, particularly managers and colleagues, about their progress, achievements and standards
- encourage people to be independent learners
- maybe discuss what they would do if some of the variables were different, particularly if this was a realistic possibility.

(s2p045)

The need to provide learning activities which enable learners to experience a diversity of contexts in which to build their skills was the subject of a number of comments. One participant took this further when she noted that learners need to understand why they are being asked to undertake different activities so that they have a repertoire of strategies from which to choose in order to meet their obligations and goals. She wrote:

[Strategies] which allow them to reflect on their learning, on the variations which occur between contexts and the effect this might have on learning in that context and to take risks and find their own strategies for meeting their learning obligations and goals.

We cannot make our students learn but we can give them the necessary capabilities for learning such as organisational skills, a range of research skills, communication and interpersonal skills. We need to enable them to understand that while learning involves effort, it can also be very satisfying.

Learning strategies need to be contextual, holistic and transparent to the learners. Learners need to understand why they are being asked to undertake certain learning tasks and to comprehend that the learning task is simply a tool – it is the holistic experience which not only results in learning but enhances the learner.

Reflection, confidence, space and ownership of their own learning in a supportive environment are all conducive to good learning.

(s2p023)

Another participant also looked at the need for variation in the learning context. In particular, she noted the need for realism and for evaluating and exploring a situation which has no clear or correct answer when she wrote:

I have taken this to mean that the preparation is in some form of formal education or training.

Variation in the learning context, that is, that people have a chance to experience whatever is being learned in a variety of contexts so they can see what is really important. This requires that they reflect on the differences.

Learning in "real world" messy situations where the context has not been trimmed to such an extent that it doesn't resemble the complexity of work or other contexts.

Learning to formulate what you might do in a situation, i.e., instead of using clear cut problems that have been set for learners, asking them to evaluate a situation and to suggest what the issues might be and how they would go about clarifying this etc.

Generally problem based approaches with the above dimensions that can include a very wide variety of specific strategies but essentially involve making learning through variation explicit.

(s2p044)

Between them, these three participants have identified a wide range of learning strategies that are likely to result in learning which is open to the transfer, adaptation or reframing of what people already know and can do. Such strategies do not easily fit into institutional learning formats, nor are they necessarily applicable to unsupported learning through work. As many of the participants have written in earlier responses, learning through one's work activities requires both a supportive community of practice and a supportive work environment. If this support is not available in the workplace, institutional learning can often remedy this deficiency. In addition, the competitive and political nature of workplaces often means that an outside intervention is necessary and appropriate institutional learning can often meet this need.

One participant rejected the idea of universal learning strategies, noting that, ultimately, the strategies needed to be specific to the individual and the situation. However, she noted some general approaches from which specific strategies could be developed, when she wrote that:

ultimately the learning strategies that are of value are individual. However, strategies that involve engagement, construction/deconstruction, extrapolation, etc. prepare the individual to a much greater extent. Keeping all situations fluid is essential.

(s2p062)

### **Self-awareness skills**

The need for people to develop self-awareness skills and to use them as part of the reconnaissance of the new context was a consistent theme when reading through the responses to this question. Self-awareness is, of course, related to confidence but the relationship is not necessarily a reflexive one. That is, being self aware is conducive to developing confidence but that does not mean that a confident person is necessarily self-aware.

Participant responses which fell within this category included a perspicacious knowledge of previous success or efficacy in learning situations; attributes which support realistic self-awareness such as attitudes to colleagues; disciplined habits;

commitment to [the] common good in the new work context (i.e. leaving grudges and resentments behind); ... [the] ability to analyse new circumstances and compare with previous circumstances; identification of similarities or differences; sustained thinking about what works and doesn't work; and making a sincere effort to stay with

uncertainties and persist until things are clear and understood (i.e., not wanting to know it all in 5 minutes).

(s2p037)

In this response, the participant not only identifies strategies for developing the necessary capabilities for learning through work activities but also the attributes, such as having disciplined habits of communication and thought, which support these. In addition, in identifying commitment to the common good, she is touching on the connectedness of our learning through work.

Also mentioned were an accurate awareness of one's strengths and weaknesses; metacognition (that is, 'knowing how you think, react, behave and why' (s2p020)) and self-assessment. This last strategy needs to be explicit and to focus on the integration of generic skills with technical competence (s2p003).

The development of self-awareness skills depends on a person's ability to critically reflect on their own actions, attitudes, values and beliefs. This requires self-honesty and integrity. Thus it is not surprising that critical reflection was a key strategy identified explicitly in seventeen of the responses to this question.

### **Capability for critical reflection on experience**

Critical reflection or, as some participants described it, reflection-in-action is an important strategy for preparing people to be able to transfer and adapt (or translate) what they already know and can do across work contexts. As one respondent wrote:

An ability to think about all the personal and technical (work based or learned from formal education) competencies and how they contribute to making sense of competencies being attained in a different context. That is, reflecting in action should be a primary learning strategy for all adult educators.

(s2p004)

In response to earlier items from the questionnaire, a number of people had questioned the need for systematic reflection. On analysing their responses, it became clear that they were resisting the idea of reflection which followed a particular format rather than the idea of reflection itself. One of the respondents to this question identified what had been initially meant by the term "systematic reflection" when she described it as a 'habit of reflection on learning and its application[s]' (s2p009).

Not all reflection is performed on an individual basis. Group reflection was advocated by one respondent who described such collaborative reflection as:

Conversations which help them to imagine, anticipate, envisage the new context scenario, discussions which help them to recognise their skills/knowledge which may be implicit and taken-for-granted, discussions which help people to develop the language/discourse of the context into which they need/wish to move ... language is power, consciousness of language, and the conscious ability to manipulate it, is empowering.

(s2p069)

Whilst reflection is generally understood as thinking over what has happened and analysing it in terms of its effect, there must also be a future element in reflection. Our past actions and understanding will influence our present and future performance, and practice. In addition, there is always a need to visualise oneself within the future. This was described by a number of respondents including one who described the strategies needed for effective reflection as including:

- creative visualisation of oneself in the new role
- gaining as much info as possible about the new position/situation so as to understand what learning may be required and how to plan for it
- talking to others who have already transferred knowledge – what worked? What didn't work?

(s2p005)

### Learning and research skills

Just as there is overlap between strategies which develop self-awareness and reflection, there is also overlap between these strategies and those for developing learning and research skills. Research skills require the ability to reflect on actions and information, and to be aware of the subjectivity unavoidable in any collection and analysis of data. The nexus between self-awareness, reflection and research skills was identified by one of the respondents when she wrote that it was important:

to encourage students to believe that they 'can do', but be able to both seek feedback about their competence, self evaluate honestly, and take responsibility for their own learning (and un-learning), and the outcomes of their practice/s. To know where to go and how to access knowledge. To be able to differentiate between information and knowledge. To assist them in developing a philosophy or ethics of self and practice.

(s2p070)

Research skills are not the only skills concerned with accessing knowledge. They also include:

- exploration of issues
- questioning and receiving feedback from others
- listening to others
- being self directed and autonomous
- having good communication and comprehension skills
  - possessing the 'ability to analyse and conceptualise' (s2p067)
  - willingness to change, to learn from mistakes and to be reflective
  - the ability to build on previous skills
  - a problem solving approach.

Research skills and learning skills cover the same skills and necessary attributes such as curiosity, willingness to accept new ideas and to modify current understandings in the light of new evidence, ability to learn with and from others, visualisation and the ability to learn from mistakes and failures.

One participant noted that learning depended upon the learner valuing what he/she had already learnt and using this as a basis of further learning when she wrote:

The understanding that what they already know is not at all wasted but will be of benefit in whatever it is that they are changing to.

(s2p011)

### Context analysis and understanding

Participants noted the importance of not only exploring the new context with the aim of gaining an understanding of it but also the need to be interested in and curious about it. If this attitude is lacking, then the likelihood of making an effective transfer into a new work context is minimised. One participant noted the importance of preparing for the change in work context before entering it when she wrote:

- **Preparation:** seeking info[rmation] about new work context, and learning basic facts about the company, or establishment. This makes the new context less of a culture shock, enabling learning to be commenced more effectively, or more quickly than otherwise. Finding suitable references regarding the new work involved (if this is possible)

- **Acquiring broad based formal, or theoretical training** that is well rounded, so as to develop adaptability (e.g. changed type of machine to be operated is maximised)
- Co-operative approach, e.g. **seeking allies**, or mentors, to call on if needed, from a broader circle than the new work context.

(s2p083)

Another participant believed that exposure to as many different contexts as possible would assist the learner to develop the facility of distinguishing the critical differences between different contexts. He wrote that what was needed were:

Strategies which put as many contexts in front of the student as possible for a particular competence.

These contexts have to shift from the simple to the complex and be based on problem solving, i.e., what are you going to do now? What do you already know that can help you here? – now go away and figure it out. Then try it out and discuss what was achieved, individually or in a group.

(s2p074)

### **Experience in different work contexts**

The importance of experience and knowledgeability about work contexts was commented upon by a number of participants. In general their comments were along the same lines as the respondent who wrote that it was important to:

know how to move into new situations/experience, having survived other changes and having learnt in new situations.

(s2p088)

Experience in work contexts was seen by one participant to be linked to strategies implicit in the stage 1 model when he wrote:

I think the affordances mentioned in Fig. 6 [of the questionnaire document, Figure 4.1 in this document] are all excellent. Also:

- Workplace learning
- Team-based learning
- Problem-based learning (project role)
- Profiles and skill development based on individual goals, strengths and weaknesses (HR approach)
- Deep immersion supported by appropriate mentoring.

(s2p057)

Without experience there is no opportunity for trial and error learning; a concept supported by nearly half the respondents. For example, one participant described a critical strategy as:

trial and error – looking for, creating, and using any opportunity to try the new context out for size, and then seeking feedback from others about how successful the attempted transfer was.

(s2p052)

### **Effective use of the affordances and agency available within the workplace**

Many of the participants talked of the support within the workplaces which would be needed if newcomers or those whose roles had changed were to be able to adapt their existing competence. The provision of and access to such support is an affordance provided by the workplace. For example one respondent to this item wrote:

Inevitably, I'm interpreting this question using a particular construction of competence. Competence should not be seen as a latent intrinsic capability or potentiality belonging to an individual (or to an entity such as a computer). Rather, competence is

a property of some actions rather than others, as judged by knowledgeable witnesses. It is a component of practice.

As such, the strategies that best effect translation of competence involve opportunities to practise new skills and to critically reflect on this practice through the use of 'scaffolds' (e.g. mentor, 'knowledgeable witness', community of practice).

(s2p033)

Another participant also considered the affordances which needed to be provided by the workplace when he listed strategies for supporting the transfer of competence across workplaces as:

1. promotion of opportunities for shared reflection – at meetings, talks with supervisors
2. giving them time
3. instant rewards for good to above average performance
4. formal induction sessions or buddy systems that link learners with experienced other learners who have done the role
5. allowing independent learning and exploration.

(stage 1 participant 032)

The affordances needed in classroom situations were noted by one participant when he wrote that what was needed was the:

deep involvement of the "presenter" in determining the needs and interests of the student. The pre-subject interview, the continual review of progress, relevance to aims and objectives, involvement of learner in the group process – all are necessary including excision of non-relevant material. Relating the course to the real world and job/employment situations.

(s2p034)

Another participant recognised that it was necessary to create an appropriate learning environment within the classroom if learners were to be afforded the opportunity to prepare for learning through work. She wrote that what was essential was the:

creation of an environment in which learning is free to be seen as play, experiential exploration, non time-driven and which values creativity, lateral thinking, innovation and problem-solving as highly as solutions, application, efficiency and productivity.

(s2p087)

Access to appropriate mentoring was recognised as one of the critical affordances which may be offered in a workplace (or classroom). Mentoring was identified as a key strategy by fourteen of the respondents with more than half of these noting that the ability to gain access to suitable mentors was critical if people were to make the translation from one work context to another. Such mentoring arrangements can be formal or informal. One participant suggested that informal arrangements may be more effective when she advocated that the role of the mentor was to provide 'encouragement and support and to enable time to think and reflect and to explore ideas' (s2p043). Formal mentoring arrangements often come with the disadvantage that the mentor is in an unequal power relationship with the person being mentored, which may prevent 'exploration and/or admission of mistakes and failure' (s2p023).

The use of personal agency was advocated by the participant whose suggested strategies were based on agentic action when she wrote that it was necessary for the learner to:

- take some time to find out as much as you can yourself through reading background documents, looking at the relevant websites etc.
- make opportunities to talk to people as much as possible. You usually learn something from the encounter and sometimes the incidental learning is the most critical
- find one person who can be your "buddy" (and possibly mentor), someone who will warn you if you are about to take the wrong tack on something, who can give constructive criticism, and who can provide some emotional warmth in the workplace

- take a proactive attitude to learning by actively seeking out opportunities. (s2p031)

### ***What is the role of formal education in preparing people for this process?***

This question was answered by 78 of the participants and their responses were very mixed. Some believed that formal education had a strong role while others felt it did very little to prepare people to use what they had already learnt in the workplace. Another group felt that it had the potential to have a critical role but that would mean significant change.

The responses to the above question will, therefore, be considered in terms of:

- what formal education can do
- the limitations of formal education
- potential roles for formal education.

### **Role of formal education**

Those who believed that formal education already played a strong role were the smallest group. Some of the rationale they advanced to support their stance was that it enabled learners to:

- 'practice patterning, repetition and application of skills/knowledge in a relatively secure and non-threatening environment' (s2p012; 065)
- develop underpinning skills and knowledge (s2p006; 013; 009; and 061)
- develop skills along with 'specific occupational skills or content knowledge' (s2p020)
- develop 'the discipline of critical thinking, skills, problem solving, research and analytical skills, access to theoretical models' (s2p059)
- develop the capability for 'reflecting on experience' (s2p016)
- develop 'self-discipline' (s2p065)
- recognise 'the importance of understanding what people expect of you and the need to meet their expectations' (s2p065)
- develop personal confidence in their ability to meet challenges, to experience completion, and to have confidence in a sense of their own agency (s2p001; 065; 066)
- broaden their learning by 'developing skills in how to learn, other generic capacities and critical thinking' (s2p016; 068; 072)
- develop a framework with which to understand information and to identify contradictions and paradoxes (s2p086; 048)
- develop 'attributes such as a desire for continual learning, problem solving approach, cultural sensitivities, and a willingness to work in a team environment where people are happy to share ideas (s2p014).

The importance of formal education in assisting in the development of learning schemata was recognised by the participant who wrote:

Structured formal education gives people a framework with which to understand information – the workplace offers the application. The formal structure of education creates an awareness of “where things fit” in the bigger picture and this schema (or knowledge of the existence of it), helps to sort out information in different situations. (s2p086)

A second participant noted that this was not necessarily true in all cases or for all people, using one of his grounded “stories” as evidence when he wrote:

Formal education can provide certain types of learners like me with schema or frameworks as reference points, before embarking on new situations. I like to have a very good understanding of existing theory. But the person I mentored last year learnt from experimentation on the job before the theoretical frameworks made any sense to her.

(s2p078)

For the majority of the respondents, however, it is the implicit nature of their experience in crossing contexts in formal learning situations and the separation of learning from its context and from the context of the learners that epitomises formal education's failure to prepare students for the realities of participation within workplaces. The majority of respondents to this question recognised this by prefacing their comments by the use of "can", "could" or "should".

### Limitations of formal education

The reasons why respondents were dissatisfied with the role that formal education had in preparing people to move their abilities across different work contexts were many and varied. For example one participant wrote that the role of formal education is:

Limited in that it provides your basic understanding/competence. It provides your "foot in the door". The ability to apply it and then, if necessary, transfer it comes from your "informal" ability to learn.

(s2p002)

For a number of people, formal education was distinctly separated from the process of changing jobs. They saw it as the formalisation of skills and knowledge but not the practical application of such learning (s2p017).

The shortcomings of most formal education were picked up by another respondent when he wrote:

Those aspects of formal education that, too often, encourage surface learning, definitely work against transfer. The two strategies (underlined in the previous answer<sup>37</sup>) lead to deeper learning. Formal education needs more focus on these kinds of strategies.

(s2p085)

To some respondents, it was the limitations with which formal education surrounded itself, which meant that formal education had a minimalised role in workplace practice. As one participant wrote, 'formal education does not, in any way, facilitate the transfer. Some types of formal education, in the worst case scenario, may impede transfer' (s2p062). Another respondent wrote that the role of formal education was:

... quite peripheral. The acquisition of an MBA by a practising manager can help him/her to understand other areas of expertise in an organisation but not to transfer competence.

(s2p063)

### Potential roles for formal education

As stated earlier, the majority of respondents to this question replied in terms of what formal education should be doing. A number of participants were obviously enthusiastic about this aspect with "passion", "devotion" and "hobby-horse" appearing in some of the responses. For example, one participant, who has been a strong advocate for foregrounding the role of generic skills within Australian vocational education and training, wrote:

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<sup>37</sup> These two strategies were to develop people who were 'thoughtful and reflective about their work, and who take the trouble to plan and prepare are more likely to make the transition' (s2p085)



My role as an educator of formal education has for many years now been devoted to this very cause. I believe (like you) that today's general practice of formal learning needs to change and adopt more of the richness of informal learning processes. Developing strategies to harness the benefits of informal learning in an explicit and systematic way and packaging it as 'formal learning' would be a refreshing change and reap great rewards in terms of transformational learning.

Formal education generally has a long way to go to effectively prepare people for this process – but it can be done!

(s2p003)

The role of formal education to facilitate the links and learning between students and industry was a common response. For example one respondent wrote that:

I think it is an increasingly important role for formal education, given the diminishing interest by industry to train and the shift to make the formal system responsible for developing behavioural and attitudinal competencies.

Also the rate of technology change demands a society/work force that is adaptable and can continuously cope with new contexts.

(s2p074)

Such a comment implies that there is a need for a closer synergy between institutional learning and learning through work (and life activities). This was identified by one respondent who wrote that 'formal education needs to be sensitive to the needs of different workplaces and individuals, and to integrate well with the informal workplace learning' (s2p075). This would require a commitment from formal educational providers to move from the delivery and acquisition of content to a more transformational form of student development. As one participant wrote:

I believe that formal education should be designed to empower learners to learn for themselves in different contexts, that is, readiness for on-going learning from work and life.

Content is a tool for learning not the outcome. Learning should always lead to changed practice. We learn multiplication tables not so that we "know" that  $4 \times 7 = 28$ , but so that we become competent consumers.

This, of course, implies a fundamental change in how and why we assess developing capabilities in formal education.

(s2p023)

The potential of formal education to prepare learners with the necessary skills for transferring their competence across workplaces was commented on by some participants. These included one respondent who wrote that the role of formal education should be:

to develop in students a thirst for knowing and learning; global/local awareness; the capacity to be reflexive and self aware (but not egocentric); to appreciate differences and diversity, respectfully; to be able to engage in a critical manner when learning; to know how and where to go to seek knowledge, while acknowledging its sources; and to feel comfortable in working with others, including sharing knowledge and skills. I think there is a very real role for what you are describing as 'formal' education.

(s2p070)

The application and transfer of learning were areas identified by participants as those where formal learning could play an important part. For example, one respondent wrote that teachers of formal education could:

... adopt roles that simulate / reflect conditions for learning so that learners are comfortable with the problem-oriented approaches. They can model reflective practice. This doesn't just happen.

Learners can be facilitated in developing strategies to engage with their new context.

(s2p018)

On the subject of the application of learning, one participant discussed the relative difficulty for formal education to relate to the myriad, potential applications of learning. She notes that learning without performance of what is learnt is incomplete learning, and sees formal education's role as being to find ways to approximate application when she wrote:

Formal education can do all the things listed above although the point of application is always more distant and sometimes highly theoretical i.e. never gets to be applied. It is difficult for formal education programs to relate directly to the myriad of application environments that present themselves in a classroom but the closer the approximation, the richer the learning in my view.

I am very uncertain about the use of formal learning without the application stage. I suspect learners almost start again when they are faced with application. They can draw upon the formal resources they have stored away but the application is something else again. The skills and knowledge are reshaped in a dynamic environment where relationships, deadlines, resource gaps, quality systems, workplace particularities, cultural quirks ... impact upon the activity. I think you have to knit the formal, the informal and the application together in a way that they all interact together.

(s2p045)

A third participant saw the role of formal education to mirror the world of work by undertaking quasi-commercial activities and learning partnership arrangements with workplaces that provide authentic workplace contexts in which learning can occur (s2p084). Whilst such arrangements currently occur within Australian vocational education and training, they are exceptions rather than the rule and their potential is diminished by other parts of the same learning programs taking a more traditional, abstracted and generalised approach to learning.

Another participant noted that formal education often presents a certainty which is not present in authentic situations when she wrote:

I personally think it is very limited. In fact, I find it quite problematic that people [undertake] formal education and think they're now 'ready' to take on a new context and start applying their skills.

Formal education needs to get across the message that every context will be different. The approach of "teaching" people the "one right way" of doing something causes more problems than solutions. Far better for formal education is for it to aim at helping people to understand the underlying issues, so that they can figure out the preferred approach in a particular context.

(s2p052)

The potential for formal education to prepare people for the reality of the workplace was identified by the participant who wrote:

I believe formal education could play an important role by placing people in learning situations which have a sense of reality to them and use /mirror processes involving the validation/integration stages. It is also important that they build the foundation laid in the initial stages as well – but it needs to move beyond that as quickly as possible.

Teaching and learning and assessment needs to move beyond the easy and the mundane.

(s2p057)

A more positive view was expressed by the respondent who believed that there were already signs that formal education was moving towards a more student-centred pedagogy when she wrote:

Formal education is moving to a more student or learner centred pedagogy and this is important for transfer of competence. Likewise learning experiences which enable students to analyse their own learning styles is important - the whole notion of

metacognition in any education setting is relevant. I think that too often this is not a feature of workplace based learning programs.

(s2p046)

Learning styles and metacognition were commented on by a number of respondents especially in connection with the development of the capability of self-directed learning. For example, one participant identified increasing one's self awareness of how one learns, one's learning styles, and strengths and weaknesses as a role for formal education when she wrote:

Formal education should provide a basis to develop and practise these personal attributes and cognitive skills (i.e., now that you know how to learn and apply knowledge from one area to another). It should inculcate the notion that learning is never finite – it is an iterative process that requires effort, but is fundamentally satisfying.

Formal education should alert people to what their learning styles, strengths and weaknesses are. It should also provide practice in research skills – how to find out things you need to know, as well as a considerable amount of basic knowledge and skills. It should be a platform for subsequent learning and application.

(s2p037)

Also on the subject of self-knowledge, another participant believed that formal education should have a role in developing analysis, self-knowledge and writing skills. He wrote that the role of formal education should be to develop:

Improved expertise in analysis, self-knowledge and writing would improve flexibility, that is, the ability to move more easily between work contexts while maintaining effectiveness (productivity).

(s2p077)

Yet another respondent thought that the role of universities should be the enhancement of self-awareness of learning processes and capabilities when she wrote:

- Creating opportunities for learners to understand how they can best learn
- Acknowledging and explaining the process of learning
- Creating opportunities for learners to 'practice' and helping them to deal with their discoveries of self.

(s2p043)

Participants argued that the development and recognition of one's learning capabilities should be directed towards the development of the capacity for self-directed learning. One respondent expressed this as:

Teaching people how to be self directed learners i.e. source materials for themselves – as opposed to the easy options that Universities are very fond of - giving out notes!

Syndicate work where learners are supported in a team environment, i.e. not just left to their own devices but actually have some formal instruction in how groups work and how to solve problems if they don't.

(s2p038)

The role of formal education in developing self directed learners was summarised by the participant who wrote that:

Formal education should assist in the acquisition of self-directed learning skills, new skills for a new context, or where the people transferring competence need a formalised qualification to gain credibility.

(s2p049)

The role of formal education to assist learners to link new learning to past experience was identified by one participant as being important when she wrote:

The role of formal education should be to link new learning to past experience and learning. It should be predicated on ideas about the value of communication, exploration of knowledge as problematic and apprehensible by the learner, not the content/competence at the centre.

(s2p071)

The need to make explicit knowledge and skills which are implicit and/or tacit was suggested as a role for formal education by one participant. This is in line with some of the strategies suggested in response to the previous question. This participant wrote:

Among other things, formal education assists with processes of reflection & reflexivity. Acts of judgement (which are practical in character) must be made explicit – accordingly, they should be articulated. For expansive learning to occur, the implicit needs to be rendered explicit. Formal education can provide the structure for this.

(s2p033)

Reflection-in-action was discussed by participants in response to all the sections of the questionnaire and the responses to this question were no different. One participant wrote that formal education needs to provide experience and understanding in:

Instructional design principles based on the practice of reflection-in-action. Learners also need to gain knowledge about how knowledge is gained and how it can be assessed in a range of contexts. In particular they need to understand the relationship between understanding and doing.

(s2p004)

Building on the idea of reflection-in-action, one participant suggested that formal education could provide learning sequences which would develop the person's confidence and ability to reflect on their actions and their consequences. She wrote:

Additionally, I think [formal] education needs to build confidence that transfer is within the capability of the student. This suggests a sequence of learning activities where the student tries to achieve this in a relatively safe and perhaps somewhat limited context to ones that are very close to, or are, real so when they leave they feel confident and are aware of their specific strengths and any areas of competence that they should focus on for further development. Once again this means that students need to be helped to become reflective as a routine and to be able to make self assessments. Learning these abilities would need to be part of the learning experience.

(s2p044)

It should be noted that the basis of most (if not all) of these comments were directed at formal education being understood as secondary and higher education (particularly undergraduate courses). It is the dominance of content, adherence to hierarchical learning structures and notion of formal education as mechanisms for gate-keeping and ranking which prevent it from currently meeting the expectations of many of the participants. Whilst that is changing, with lip service being paid in most Australian universities to the development of graduate capabilities such as information and environmental literacies, knowledgeability, team players, etc., teaching in senior secondary schools is almost completely directed at students acquiring abstracted knowledge so as to be ranked eligible to enter higher education, and undergraduate education similarly directed at knowledge acquisition within narrow discipline-based silos. This is unlikely to change whilst higher education teachers (or lecturers) are chosen on their discipline knowledge rather than on their ability to co-learn with their students and to facilitate the development of high-level learning skills.

### ***What changes do you believe are necessary to achieve this?***

With the wisdom of hindsight, it becomes clear that this question should have made its link with the previous question explicit. Three people (3.3%) commented that the question was 'ambiguous and, therefore, unanswerable' (s2p001). Another seven participants (7.8%) answered either "don't know" or "I am not sure". Sixty-three people (70.0%) attempted to answer the question.

The responses to this question placed the onus to change on either the individual; the teacher, trainer, mentor, workplace etc.; institutions or at a systemic level. Thus the responses have been grouped under the sub-headings:

- systemic and institutional level changes
- curriculum changes
- changes to workplace/formal education understandings
- changes in teacher practice
- changes to learner practice.

These sub-headings are only approximate and provided for the readers' benefit. Many of the responses cross the boundaries suggested by such categorisations and have been placed where they seem to be most appropriate.

One respondent went further than suggesting changes at a systemic or institutional level and suggested (hopefully tongue in cheek) a mass cloning program when she wrote:

Sometimes, I think we might need to embark on a mass process of cloning active, inquisitive, imaginative brains and then undertaking a mass transplant process.

However, as this is unlikely to occur, we need to work with people to help them to understand the necessity of changing the present system of education which has not fundamentally changed from the mass education system introduced in the eighteenth century. We need to work towards a system which values the learning process and accepts the diversity of learning outcomes; which encourages, rather than suppresses, imagination and creativity; and which makes sense to the learners.

This means that learning must be embedded in reality and in everyday life and to be valued, not as a meal ticket, but as necessary for a full and satisfying life.

(s2p023)

### **Systemic and institutional level changes**

Suggestions for necessary changes at a high level included that from the respondent who wrote that what was needed was a 'rethinking [of] formal education completely' (s2p019). The broad sweep of quantum change advocated by that respondent was supported by another participant who wrote that the changes necessary were:

Multiple ... Political ... Educational ... Pedagogical – this is a big agenda. Embracing the implications of this amounts to a substantial paradigm shift within the VET sector.

(s2p069)

A reorientation of what we understand by learning may also be necessary. This was summed up by the respondent who wrote that 'there needs to be a ditching of the dominant metaphor of learning – that is, acquisition of items of knowledge and skills' (s2p085).

Another response which advocated a broad shift in the way we view formal education came from the participant who wrote that it is necessary to:

... shift from accepting that all learning takes place in an institution to an acknowledgement that learning takes place in a workplace community of practice and that the role of the education institution is to complement that process.

(s2p016)

At the systemic level, advocated changes to enable the requisite preparatory learning for transfer and adaptation included changes to teacher training and professional development. For example, one respondent wrote that what was needed was:

more emphasis in teacher training at the primary and secondary level about the need to produce adaptable human beings. (I once read a definition of intelligence was how well you adapt to different situations. This of course put many animals far ahead of

humans – or you could say that those species including humans who have adapted best to changes in world climate over the history of the world are those that still exist!)

Ensuring learners – particularly while still doing general education (that is up to year 12) - to undertake a wide variety of subject areas – not only the ones they are good at or wish to pursue a career in. The international baccalaureate is very good at doing this. It forces students to study humanities and science. They must also do philosophy and a set number of hours of sport, community programs and art/theatre activities. I believe that the VCAL<sup>38</sup> is also a good model of forcing students to undertake activities, e.g. [it contains a] personal development stream that they might never have done under “normal” circumstances.

(s2p038)

Related to this, one participant wrote that ‘re-education of teacher educators’ (s2p076) would be needed as the first step in any systemic change. This is clearly necessary before any changes in teacher education can be successfully implemented. Providing some guidelines for what this “re-education” might include, one of the participants advocated that:

Teachers will need to understand the role and purposes of education rather differently from the very common focus on the transfer of content knowledge and declarative understandings as you have already noted. There will need to be an explicit focus on reflective and evaluative abilities for every student and these will need to be a core part of learning and not an add on or afterthought. Learning will need to be genuinely constructivist and this is both demanding and a bit frightening for some teachers.

(s2p044)

Another participant identified that: ‘a much more work integrated approach to higher education is necessary’ (s2p042) and advocated that university teachers might learn from TAFE<sup>39</sup> experiences and practices.

The need for our attitudes and understanding of learning to change was a consistent theme. For example, one participant wrote that: ‘educators themselves have to understand ways of enhancing learning transfer. Otherwise, they can’t support learners to do so’ (s2p051). A number of participants recognised the truth of this when they identified that the common career pathway from school via university into teaching mean that their experience of the reality of the workplaces their students were likely to enter was limited. For example, one respondent wrote that:

I feel that teachers in particular (primary and secondary) should have more of a life experience as this would allow them to relate to those experiences in the classroom. We are relying on teachers in this sector that have completed their secondary education and gone straight to University gaining a teaching qualification and then teach ... their only life experience may be a train or tram ride to and from University.

I recall a mathematics lecturer at RMIT who, when asked about Fourier transform[ation]s and how it’s related to electronics maintenance, placed an audio amplifier stage circuit on the board and said this is the problem.

He then mathematically examined the circuit and problem which indicated a problem within a small section localising three or four components of which two component types would be more likely to fail. He gave live relevance to the lesson.

(s2p008)

As part of my mathematical studies some thirty years ago, I also studied Fourier transformations. I have long lost any recollection of how to manipulate them and I certainly never had any idea of their practical application. Yet the participant quoted above, roughly the same age as I am, is able to remember clearly an incident in which the teacher made the

<sup>38</sup> Victorian Certificates of Applied Learning which have been introduced as more practical choices than the dominant academic stream for Year 11 and 12 students.

<sup>39</sup> Training and Further Education.

learning live by providing practical relevance. This teacher was clearly able to engage his students and to practical relevance to complex mathematics.

That the value of good teachers is often overlooked or disregarded was the subject of comments from another participant who answered the question by writing that we need:

- More responsive and supportive teaching! Valuing teaching and learning as the equivalent of research and publication in higher education
- Less emphasis on technology as a replacement for face to face teaching.
- Use technology for information transfer – not “teaching”
- Recognise the social dimension of learning and teaching
- Recognise the productive effect and importance of human capital, employer/employee loyalty and corporate knowledge in the workplace!

(s2p037)

### Curriculum level changes

A major rethink about the nature, practice and funding of formal education, if institutional learning was to meet the needs of those needing to cross workplace contexts, was suggested by one participant when she wrote:

- more respect of and for educators, and the profession
- more resources invested in learning, including time and opportunities to take risks, make mistakes, change one's mind .

(s2p070)

Changes at a curriculum level were suggested by several participants. One respondent indicated that he believed that the changes required were supported by current policy – but not implemented. He wrote:

The changes required are not radical nor are they new. One only needs to look to our national training agendas to see the changes that can achieve this including: flexible learning, Key Competencies, empowered learning, Training Packages, etc. I am confident that the whole-hearted commitment to these philosophies within my educational program has proven this to be true. The challenge is HOW to achieve widespread change.

(s2p003)

A more common response was that a different focus was needed. In particular, a move away from competency-based approaches was advocated. For example, one respondent wrote that what was needed was:

less didactic and more facilitated, experientially based teaching/learning, particularly problem-based activities that require greater autonomy by learners in contexts where they can be provided with feedback on their processes as well as the content of their learning.

(s2p019)

The change away from a discipline-based or even industry-based approach to a more holistic and less compartmentalized approach was seen to be advantageous. Just as an earlier form of competency-based training, than that currently in vogue within current Australian vocational education and training, had viewed learning as a product and thus embraced the concept of a training supermarket, the current move in higher education to a mix-and-match (or stem and stream) of core and elective subjects was rejected by many participants. One participant, advocating a more holistic form of learning, wrote:

The compartmentalisation of learning is a dangerous piece of practice. A “beyond competence” view is needed to take us, as learners, beyond the ice-like elegance of thinking that knowledge can be transferred. “Practice” is a concept for richer learning and is, at present, constrained by potentially destructive regulations and legislative educational rules.

(s2p071)

Addressing the same issue, another participant expressed her perception that we need to encourage learners to develop a theoretical framework from the practical and the concrete. She wrote that we need to:

Move away from a focus on competency with its focus on reductionist sets of skills and performance towards addressing underpinning knowledge of concepts and processes.

Try to contextualise learning as much as possible and to move from the concrete to the abstract.

(s2p005)

Recognising the need for formal education at the curriculum level to provide learning experiences which would enhance the self-knowledge of the learner was seen as important. One participant wrote:

Formal education may have to emphasise the explicit growth of self-knowledge of the learner to enable a more realistic and effective understanding of what people can and cannot do.

(s2p077)

One participant indicated that she could not envisage change within formal education which would prepare and support learners for the reality of workplaces when she wrote:

Formal teaching is not conducive to aiding independence and eventual autonomy. In fact it results in distress for many adult workplace learners who fear, yet respect, formal learning. Formal teaching (at all levels of instruction) creates dependence on structures that are alien to the human condition generally. Hence creating people who can only comply – not create. Something horrible happens to learning between 9 and 19 within formal learning situations!

Informal practice can still result in learning that leads to qualifications. It will always lead to autonomous, self-motivated learning.

(s2p050)

Another participant was even more forthright in his response when he wrote that 'the academic education silo may need to be demolished to effect change because the current education [paradigm] is too strongly embedded with significant defences against change' (s2p025).

### **Changes to workplace/formal education understandings**

A consistent theme which was evident in the majority of responses was the need for a more effective exchange of information and understandings between the providers of formal education and the workplaces their students come from or intend to inhabit. Although this has been part of the rhetoric, especially within the vocational education and training sector for over a decade, it was still identified as an important change. As one participant wrote:

Traditional deliverers of formal education – schools, VET, higher education – need to be more integrated with, more sensitive and responsive to, workplace needs. This has been a catch-cry for a long time, but the messages I hear are still of a constant mismatch between what is needed and what is delivered, how and when.

Greater diversification in how formal education is delivered. It has been happening for a while, but still needs to be developed further. For example, in our new venture into the 50+ area, there is a lot of help/support needed for individuals (and employers and



governments) to change their thinking and create new 'work' opportunities. This is being highlighted as we move from more traditional work engagements into a future where beyond the commonly accepted "retirement", we enter several decades of productive life. It is not overstating the case that many healthy individuals face a "second career" situation. A lot of thinking is going to need to change with respect to the transfer of skills ... not to mention creating opportunities into which skills can be transferred.

(s2p075)

The recognition of the potential of mentoring and coaching and its inclusion into formal education was identified by one participant as a necessary change. She wrote that what was needed was:

- major structural and funding changes required to recognise mentoring and coaching as extremely effective teaching methods
- more support and incentives for better structured "informal" workplace mentoring and coaching provided by employers.

(s2p081)

The need for formal education to include more material relating to workplace practice was advocated by the respondent who wrote that what was needed was:

More first hand accounts of being at work for school students. A greater consciousness of our own socialisation (sometimes going under the label of specialisation) is a pre-requisite to producing changes in practice. A 'new' orientation in collective work practice that looks differently at human resources, as the strength of the collective – but people mix up team work with regulated practice – like-mindedness with conformity, etc. so I turn more to the 'brass tacks' that my grandfather used to refer to. That means more emphasis on getting the job done and much more credit (formal and informal) given for that, than is the case in the present industrial format.

(s2p027)

Releasing teachers for industrial experience and other forms of workplace participation was seen as important in strengthening the nexus between the workplace and formal learning.

Advocating such an approach, one respondent wrote:

Teachers at all levels must be given time in community and work situations. They must relate their course material to real life situations and these can be highly theoretical as well as practical depending on circumstances and expectations of the individuals and the group.

(s2p034)

Strengthening the nexus between sites of formal education and workplaces must, of necessity, entail changes to both organisations as well as those with centralised responsibility for them. This was identified by the participant who wrote that:

Schools need to have learning skills (and time to implement this) in the syllabus. The Department of Education should implement their policy for helping beginning teachers (and provide promised funding). Workplaces should adopt mentoring strategies. Centerlink<sup>40</sup> should conduct seminars so that young people can link their own skills to job related skills for success in interviews and new job placements.

(s2p039)

Collaboration between formal education providers and workplaces was also identified as necessary, if formal education was to prepare and support learners crossing workplace boundaries. One respondent identified collaboration as the initiator of "real" learning experiences when she wrote:

I think this involves more collaboration within workplaces and the creation of "real" learning opportunities. It may require team-based approaches in both teaching and learning. It involves the proper integration of generic skills. It may also involve significant support as learners are "taught" to learn in this way. It is not a deep end

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<sup>40</sup> The Government-contracted job search and welfare agency

thing, but learners do need some teaching and learning “waterwings” – which means also that staff have to have the professional expertise to help them “learn to swim”.  
(s2p057)

### Changes in teacher practice

As with other parts of this account, the word “teacher” is used generically to describe all those who support learners during their learning. It could mean a teacher of formal learning, trainer, mentor, coach or facilitator. Thus, this section is concerned with the changes suggested by participants, who work with learners to facilitate learning and also to assess that learning, regardless of whether the assessment is for formal purposes such as completion, achievement of learning goals, certification, training audits and job appraisals, or for informal purposes.

One of the participants, who made suggestions as to how teacher practice might be changed to support transitions to and across work contexts, identified the development of learning skills and approaches as a key change. She wrote that the required changes were:

[with regard to] teaching practice

- improved facilitation skills that allow more interactivity in learning situations;
- more opportunities to apply knowledge in meaningful ways;
- encouraging students to demonstrate clear thinking and logic rather than slavish devotion to current theories and traditional practices; (this is done by many teachers already but some actively discourage questioning of pet theories etc)
- supporting experimentation – this is the environment where making “mistakes” should be encouraged; they often lead to growth.

[In connection with] assessment practices:

- feedback needs to be more timely and more explicit
  - assessment needs to meet individual needs as well as external standards.
- (s2p031)

Another respondent suggested that learning to cross work contexts would be improved by;

- reviewing and redeveloping the role of “practicum” ...
- developing and using reflective learning styles
- development of personal qualities/skills.

(s2p009)

In a similar vein, another participant suggested ‘greater preparation in development of graduates’ generic attributes via project/team experiences, or actual workplace project/ problem solving experiences (s2p014).

Two participants advocated the integration of practice into theory. The first of these gave apprenticeships as an example of how this might occur when she wrote that what was needed was:

not changes in practice but the inclusion of practice into theory i.e. apprentice system (narrow and wide) provides understanding, absorption, relevance, application and usefulness.

(s2p011)

The second respondent advocated:

- greater integration of theory and practice elements
- Greater respect for ‘craft knowledge’ and knowing-in-practice
- Changes to prevailing understandings of knowledge & knowledge making.

(s2p033)

Designing learning experiences that allow for this experience (s2p043) was the theme of a number of responses. One participant advocated a change in delivery styles which:

requires a shift in thinking from teacher to facilitator. Also, providing opportunities for learners to explore ideas and concepts via discussions with peers and providing the opportunities for learners to test their ideas/concepts knowing that getting it wrong is part of the learning process.

(s2p047)

These ideas are not new. They are those which originated in the work of Schön (1991; 2002) on reflective practice, Knowles (1990; 1998; 1984) and Kolb (1984; 2000) on adult learning, and the advocates of problem-based learning (such as Barrows and Tamblyn 1980; Biggs 1999; Boud and Garrick 1999; Boud; Keogh and Walker 1985b; Engel 1991) and which are commonly advocated in teaching and learning literature and professional development activities. Yet, despite the rhetoric of their inclusion into teaching and learning practice, they are not widely practised. One participant suggested that the formal training system does not support, or is unsuited for these approaches, when she wrote that a major change needed was:

more emphasis on learner-initiated development of skills and knowledge. However, this creates all sorts of dilemmas for the formal training system, even that [part] which is workplace based.

(s2p048)

The need for a “hands-on” or more practical approach to learning was the subject of a number of comments including one respondent who wrote:

Formal education fails to provide “hands-on” training and the necessary skills for job success. Motivation to learn, guidance and support as people assume their roles, should be given more importance.

(s2p058)

The need for learning to be linked with practice was identified by another participant who wrote that:

... the best we have achieved is encouraging learners to

- talk about their work environments in depth
- conduct their projects in their work environments and present them to the class
- conduct class meetings in participants' working environments

Essentially I believe that skills and knowledge are best taught in the application situation with theory and practice interspersed. Preferably, teaching should take place upon the request of learners who are seeking information to resolve the problems that frustrate and puzzle them.

(s2p045)

This last participant is advocating unbounded and expansive learning. Such an approach has been shown to be very effective in a number of Australian workplace research projects (such as Down 1997a; Down 1997b; Down 2001; Lilly; Younger; Rumsey; Down; Cleary and et al. 1996; Sefton; Waterhouse and Deakin 1994; Virgona; Sefton; Waterhouse and Sanguinetti 2002). However, all these projects have occurred outside the National Training Framework and have been fringe activities rather than part of mainstream vocational education and training.

Other suggestions for changes to formal education included teachers:

- modelling “learning to learn” when presenting materials to students
- establishing ‘closer links between formal and informal learning’ (s2p054)
- changing their practice with respect to the location and focus of learning towards student/learner centred’ (s2p062)
- rethinking the practice of ‘delivering bodies of knowledge’ (s2p062)
- being ‘more aware of pedagogy and the practice of individual/individualised approaches’ (s2p062)
- needing to listen and adapt to emerging needs and situations (s2p079).

## Changes to learner practice

Comments about changes to learner practice were mainly concerned with a shift in learners' understanding of learning as the acquisition of information, and in the interactions between learners and their environments. Some of these comments have already been noted. Others include:

- 'use of formal structured workplace assignments with the learner assigned to a mentor/coach (s2p059)
- providing 'opportunities for reflection and work integrated assessment of competence' (s2p061).

One respondent (s2p002) expressed his perception that the learner had to take responsibility for learning and to be prepared to make the effort to learn and not simply take a passive role in the learning process.

For a learner to do this, he or she must have confidence in his/her ability to apply their learning to new situations. This was recognised by the participant who wrote:

Confidence is a very important psychological aspect which affects adaptability.  
Confidence building needs to start in primary school.

(s2p038)

Secondary and tertiary education in Australia is still basically restricted by a perceived need to sort and rank learners. This, in effect, means that the academic needs of a few dominate the learning needs of the majority. Policies with respect to the transition from one educational sector to another are based on eligibility, credit transfer, advanced standing and other mechanisms which seek to recognise and reward the 'academic student' whilst ignoring the merit of those whose learning is a result of practical action.. This inequity was recognised by one participant when she wrote that what was needed was 'less emphasis on competition and more emphasis on the individual's learning' (s2p065).

Finally, another participant identified a consultative approach to learning when she wrote:

It depends what we mean by formal learning. If we mean 'learning by design' – in a structured setting bound by aims and objectives and conscious learning actions, then the main change would be to ensure that the aims and objectives are generated consultatively between the learner and the learning facilitator.

(s2p088)

## ***Do you have any other comments you wish to make?***

Thirty nine of the participants (43.3%) responded to this question. However, of these, twelve (13.3%) indicated that they had nothing further to add and another five participants (5.5%) used this space to express their thanks for the opportunity to participate in the research.

Some of these respondents used terms such as:

- 'I found the exercise most stimulating and interesting' (s2p015)
- 'I have enjoyed completing this questionnaire. It has stretched my thinking. I only wish I had more time to give to it' (s2p023)
- 'I am intrigued by the work you are doing and appreciated the opportunity to participate (s2p035)
- 'lots could be said but time doesn't permit' (s2p069).

This meant that twenty two participants (24.4%) took the time, towards the end of a long and thought provoking process, to provide additional comments which they felt would be helpful to me. These comments can probably be divided into those that added to the understanding of the transfer of competence across learning contexts, learning and educational practice; and those that commented on the process of the research. The latter of these will be discussed in the next section with other responses on the nature of the research.

On the process of transferring one's competence across different work contexts, one participant wrote:

If you are able to recognize the method(s) that best apply to yourself (or others) to learn (change), then you have succeeded in finding the way of least resistance to knowledge – awareness and absorption. Having done it for yourself then you have a high chance of helping (mentoring) another and a greater tolerance for allowing others to have/find their own way/method.

(s2p011)

Not only is this a very perceptive comment but it also sums up the underlying rationale of this research. By asking the stage 1 participants to describe how they think people transfer their competence across differing work contexts and then asking the stage 2 participants to validate the model formed as a result of reading and thinking about the stage 1 comments, I am seeking to find methods of learning. Such methods are not rigid prescriptions of action but, rather, guides to allow others to find their own way.

A second participant identified that the focus on the transfer of competence across different work contexts was a mechanism for looking at the nature of learning itself, given its contextual nature. She wrote:

Yes. I have found this quite hard to do and I don't know if I have been very helpful. It feels like the focus on transfer of competence is just a lens for getting at the nature of learning in any situation. I guess I have found that in answering your questions that I do not really think about it in terms of transfer of competence but as the construction of new competence that draws upon the past in the same ways as any learning. I think I would emphasise a process of discovery as well as one of application and transfer.

I have also found that in the workplace at least, the need to emphasise the continuous ambiguity and uncertainty of the learning context is rather more critical for me than your model shows. I know it is not excluded but it is rather easy to overlook it and see this as a bit too mechanical – or restricted to fairly technical or mechanical contexts.

(s2p044)

This is an important insight for at least two reasons. Firstly, the concept of discovery and the equivalence of learning and transfer, in the sense of this research, and, secondly, the identification of the continuous uncertainty and ambiguity and the failure of the stage 1 model to portray this, have been identified in earlier comments by other respondents. Both these concepts have predated, and been built into, the revised model or metaphoric framework which is explained in the final chapter of this thesis.

The next response to be considered also focuses on learning, but in this case the core of the comment and question is the nature of competence itself. The participant wrote:

The more I've thought about story 2, the less [I think that] this is a transfer of competence and the more [I believe] it is learning to reframe – perhaps when she completes the task (if she does) then she will have transferred a competency from one context to another. This leads me to the question:

Is your model (despite your interest in informal learning) focused on a very specific competency framework where the learning of interest is a previously defined competency? Surely there is lots of learning which cannot be accommodated in that framework? Or one stretches things a bit to say, for example, for story 3 that our learning in the end is to have the competency to grow a business... ?

(s2p053)

In the material distributed to the stage 2 participants, I defined "competence" as one's existing skills and knowledge or, less formally, what people know and what they can do. There were many instances in the questionnaire responses where "competence" had been misread or confused with "competency" which is a much narrower concept and one that is

bounded and subject to specific criteria for its attainment. So my response to the questions asked of me are no, of course and no.

What is more interesting in this participant's comments is her identification that the transfer of competence across different work contexts is a process of reframing one's competence and enhancing it through additional understandings and skills. It is also important to note that this understanding developed through grounding an event, practice or experience and building the theory around it.

Another comment which builds a theoretical framework around grounded practice is from a participant who reflected on practice to highlight two important concepts about learning. She wrote:

Stories 2 & 3 that I have chosen, highlight two key things about my approach to learning (and transfer of skills). These are not related in any way to formal learning/ educational contexts. They are:

- the importance for me of group learning situations where others help one reflect, shape and critique one's learning
- the importance of learning in situations where practice and reflecting on that practice come together, and where outcomes/rewards are fairly immediate and obvious.

(s2p075)

The need for a valuing of learning in practice and not only in rhetoric was the subject of a participant's contribution to this section. She wrote that:

we need to improve societal valuing of learning and education, and therefore, educators in all of their various modes. A greater valuing of learning will enable more people and organisations to embrace learning in a multitude of contexts.

It is the learning which needs to be valued, not the location.

(s2p062)

One of the respondents commented that it is the teacher (or trainer or mentor or supervisor, etc.) who gives added value to learning when he wrote:

I feel it is more the nature of the teacher and not the system that improves skills transfer and, more importantly, motivates students or trainees to want to learn. Once this desire is kindled it is a self fulfilling fire.

(s2p008)

In other words, the facilitation of learning is, or should be, about working or co-learning with another to increase their confidence, motivate them to explore learning contexts, and to develop their capacity for self-directed and autonomous learning. Content is a tool which can be used to do all these things. It should not be an end in itself.

The creation of an artificial dichotomy between generic, general or life competencies and vocational competencies is something that the education system has done only too well. Unless general and vocational capabilities are integrated in both their development and their practice, we are hampered in our ability to work effectively. Vocational skills depend on generic skills for their execution whilst generic skills can only be practised in conjunction with vocational skills. This is not to say that there cannot be occasions when the learning is focused on generic or vocational learning but there does need to be recognition that the two are mutually supportive of practice.

On the relationships which exist between workplaces and formal learning sites, one of the participants commented that:

I don't think that formal education is recognised as important by some organizations as it should be, especially in the case where managers have not undertaken any. For some managers, this may be threatening especially when the people that they manage are undertaking or have higher qualifications.

(s2p049)

Mutual respect is part of the current rhetoric in vocational education and training but it only rarely forms part of the practice. Whilst there are many reasons for this, a two-way journey needs to be made by both educator and workplace personnel if we are to create closer ties between learning and work, and to bring workplaces and formal education closer together. In my experience, the above comment applies to as many educational managers as it does to others. It reminds us that as educational practitioners, we often forget that we are workers, that we have a workplace or multiple workplaces, and that we cannot advocate improvement for others unless we are also improving our own practice and workplace relationships.

The final comments were concerned with perceived deficiencies in our current vocational education and training policies and provisions. There is a great deal of truth in these comments to the effect that a concentration on what can be measured and quantified has sidelined the quality of learning and educational practice. Whilst many see improved policy and infrastructure as the solution, it seems to me it is the quality of learning which is important. A knowledgeable society of people with the capacity for self-directed and autonomous learning needs to be the object of such policy and infrastructure.

## 6.4 Reflections on participant responses

Whilst the previous sections of the questionnaire, analysed in §5, were concerned with the validation of the model which was constructed on the basis of the stage 1 participant responses, the section analysed above was designed to explore the concept of transfer of competence across different work contexts. Such transfer involves the translation, adaptation and enhancement of our current competence in order to meet the particular demands of the new context and is a learning process.

The responses to this section clarified, for me, the nature of this transfer and explained the unease I had experienced on reading the earlier responses. This led me to crystallise the transfer process I was exploring as intrapersonal, as well as inter-contextual, transfer. This is, essentially, an internal process in which what one knows and can do is being shaped by an individual's need to perform in a new context.

On the basis of their responses, it became obvious that some of the participants in my research had a perception of transfer as interpersonal; that knowledge and skill were being transferred from one person to another. This is consistent with the dominant epistemological view in which learning is presented by the teacher and acquired by the learner. This presupposes that the knowledge and skill involved is already widely known and that the teacher is an expert in the particular knowledge and skill involved while the learner is lower on the hierarchical ladder of skill acquisition.

Yet this was not the form of transfer which I was investigating. Having identified this misapprehension, it then became clear why a number of participants had seemed or even admitted to confusion as to the learning being investigated by this research and why they had, at times, given examples of formal teaching practice which seemed irrelevant to this research.

This then gives rise to yet another continuum which we move through on our lifelong learning journey of improved performance. This new continuum stretches from a view of learning as a bounded "packet" to be presented to or shared with others, to a view of learning which sees knowledge and skill being translated, adapted and enhanced as individuals cross contextual

boundaries and have to readjust and reorganise their cognitive, social and emotional realities in the light of the new context in order to perform effectively within that new context and with the community of practice who inhabit it. One end of this continuum relies on experts to transmit predetermined knowledge and skills to beginners whilst at the other end it is the individual who must make the readjustment, assisted by mentors, coaches and critical friends.

An understanding of this continuum and the various nuances as one travels along it, provides an explanation of the participants' responses to the Likert-scale items with regard to the transfer of competence across different work contexts. It is the internal factors which were more strongly supported because this is an internal process. Thus the most highly supported statements, that is:

Q7.7 internal factors such as motivation, comfort with change, etc.;

Q7.1 the personality of the person involved as the central actor;

Q7.2 the relative experience of the person making the transfer;

Q7.8 external factors such as work and interpersonal environments, relative isolation, etc.; and

Q7.3 the relative expertise of the person making the transfer,

are nearly all factors which will influence an internal process more strongly than they would an external one. The inclusion of external factors in this list provides the motivational factors since the transfer (or learning) is directed at improved performance.

Although the higher rating for the influence of experience over expertise is only just significant, this is also understandable, in the light of transfer as an internal process. It becomes familiarity with the process, rather than with the subject matter of the process, which might be considered critical.

The general comments from the participants added to the factors defined by the questionnaire items. These were mainly focused around the external factors which impacted upon the transfer process. These included:

- the pace of workplace change
- the nature of one's employment, that is core workers, project workers' outsourced labour, etc.
- the way we value work
- socio-economic factors
- willingness of the organisation to support change and the workers within the organisation
- the ability to explore the competence needed and the culture in which such competence is to be practiced
- the fit of the individual within the organisation
- one's ability to self-assess.

The last of these, the ability to self-assess is a key factor in determining one's ability to move across different contexts. Whilst the ability to explore the context, its culture(s) and the community of practice which shape it is of key importance, this will not lead to improved practice without the ability to stand back and accurately evaluate one's performance in relation to this context. It is always much easier to evaluate the performance of others in relation to our own standards and values than to accurately reflect on our own performance against such standards and the standards and values of the workplace.

This is another important continuum which impacts on our lifelong learning journey. That is the continuum between dependence on external validation of our learning to an autonomy based on effective internal evaluation of performance. This is the journey described by Knowles (1990; Knowles; Holton and Swanson 1998; 1984) and Handy (1996) as the shift to autonomous and self directed learning.



## 6.5 Research and questionnaire design

The research design of this investigation is not standard. It combines a number of methodologies and uses a mixture of methods to seek the answers to the key research question. It was specifically designed to answer this research question rather than to validate a standard methodology or approach. It also contains a research methodology inside of a research methodology – the research equivalent of double loop learning ((Argyris 2000; Down and Hager 1999).

One of the intentions about the design of the questionnaire was that its completion should be a thought-provoking and worthwhile experience. It also was important that it reflected the characteristics of learning which the research was exploring. It, therefore, seemed important to ask the participants how they had felt both about the design of the research (which had been explained to them in the materials they received when they volunteered, or agreed to, participate in the research), and about the design of the questionnaire which they had completed.

This was an appropriate course of action given that seventy of the participants (77.7%) had undertaken post-graduate courses and could, therefore, be assumed to know something about research and questionnaire design. It is, therefore, interesting that nearly all those who did not answer this section came from the higher education sector.

The remainder of this section summarises the analysis of the responses of the participants in conjunction with the research and questionnaire design. The complete analysis can be found in Appendix 6.3.

### ***Do you think the research design was appropriate given the research question being investigated?***

A Likert-scale was provided for responses to this question as was a space for any comments the participants might wish to make. The following table (Table 6.2) shows the responses given by the participants.

**Table 6.2: Appropriateness of the research design**

$\Sigma n$	DA n	DA %	A n	A %	NS n	NS %	D n	D %	DD n	DD %	WM
70	23	32.9	33	47.1	12	17.1	1	1.4	1	1.4	4.086

Thus for the seventy participants (77.7%) who answered this question, the majority (80%) either “definitely agreed” or “agreed” that the design was appropriate given the research question being investigated.

In addition, forty seven people provided additional comments. These comments focused on their reasons for their responses to the Likert-scale question.

Those who agreed with the design were the largest group and the responses provided affirmation that the design had been appreciated by the respondents. For example, one participant asked some key design questions when she wrote:

I do think it is appropriate and valuable to gain the insight of a group of people on these issues. We have all experienced a variety of learning experiences, at least through primary and secondary school and, I suspect, for most of your sample

through tertiary qualifications as well. To answer the questionnaire you must have experienced transfer of learning in work contexts too. So this is most likely a well-informed, articulate, appropriate group of people to ask to reflect on their experiences.

How similar are the characteristics of the sample? If they are too similar, the findings might not be able to be generalised to other groups.

As a psychologist, I favour a combination of qualitative and quantitative methods. I would be interested in seeing some sort of experimental design to test the theory. It would be possible to set up particular learning situations and to track participants' responses over time to test the different aspects of the theory.

(s2p031)

A second participant commented that the decision to ground the research in stories of personal experience was an appropriate way to elicit the data. He wrote:

Basically, I thought the design was good. I endorse the approach of asking participants to identify specific stories to critically analyse in order to respond to the questions. This enables you to capture more specific, authentic and objective performance characteristics based on actual events rather than just general opinions. In the absence of such specific stories responses would become much more generalised and subjective.

We use this strategy for self assessment of student Key Competencies by requiring students to reflect upon 'real' performances rather than a student's general perceptions.

Also, basing the analysis on 'stories' provides a 'context rich' platform for critical reflection – obviously important for this research.

(s2p003)

Another fourteen positive comments about the appropriateness of the research design are included in Appendix 6.3. Typical of these responses is:

I was very impressed with full research design model and the researcher's admission that the process of transferring competence is not always linear. I found the questions very pertinent to the topic of the perceptions of practitioners about the transfer of competence across workplace contexts.

(s2p078)

Six of the participants commented that they did not believe that they had the necessary expertise to comment on the design and another ten participants indicated that they had some reservations but believed that overall the research process was appropriate. Typical of this group of responses was the comments from a participant who wrote:

I hope my unsureness is not interpreted as being unhelpful – I genuinely am not sure because I am not living with the research question – i.e. it is not my question therefore I cannot envisage how I would go about addressing it. Compared to my own haphazard zigzagging around the methodological labyrinth this approach seems to me quite regular, ordered and straightforward – given the difficulty of the question.

(s2p088)

Four of the respondents (s2p049, 053, 061 and 062) indicated that they felt that the choice of scenarios would have made a significant difference to the responses given. For example, one of these wrote:

I think the usefulness of this questionnaire will depend very much on the stories chosen. I am very concerned that my stories weren't appropriate – if they were, then by interrogating them with the questions, I should have come away with more insight about the learning in them, and I didn't.

(s2p053)

Another group of respondents (s2p012, 052 and 083) felt that the time and the intensity of reflection needed was a distinct drawback to the research methodology. For example, one of these wrote:

I like the approach, but found the process quite tedious to go through. That has more to do with the length and complexity of the questionnaire, the time involved to complete it, and the repetitive nature of responding to the same questions 3 times.  
(s2p052)

Two respondents indicated that their concerns with the research design were directed at the complexity of the analysis. These concerned the distortion inevitable when the 'complexity of learning of complex tasks in multi-dimensional contexts [is reduced] to an atomised list' (s2p005); the size of the task the researcher had set herself; and questions as to whether the 'respondents have a similar grasp of the concepts portrayed resulting in consistency of responses ... [or that given] the number of respondents, you may see a pattern emerge that is tangible and beneficial to new learning. I sincerely hope this is the case (s2p030).

Only two of the respondents disagreed with the research design. One of these objected to the use of activity theory as a methodology when he wrote:

The research questions are important enough but adoption of 'flavour of the month' socio-cultural theories is fraught with difficulties when such theorists are totally incapable of accounting for learning processes!

(s2p055)

The other person who found the research design inappropriate did so because it made too great an imposition. She wrote:

It's your model, so it is your academic task to decide if my experience matches it or not. I am not doing the PhD. At times I felt you were assuming I was, or that I had the time to undertake a mini-research investigation to understand your model/terminology, as well as extrapolate it to my experience. [Just dealing with three scenarios took me a solid day and a half!!!] These sort of situations can't be described in 1-2 paragraphs, as you suggest.

All I can reasonably do is give you my (limited time) and honest description of my experience. A responsive, face to face interview would have captured the experience with a few more nuances than you have been able to do here. (How do you know I haven't just invented all the stories???)

(s2p037)

### ***What do you see as the advantages of taking this approach?***

There were 63 responses (70%) to this question. These responses could be categorised as fitting under the following general headings, that is:

- provides a wealth of data
- qualitative and quantitative
- effective
- grounded
- personalised
- reflective
- benefit to participant.

Under each of these headings, participant data was listed in such a way that the detail was not lost, because the analysis of the data consistently showed that its real value lay in the detail provided by the respondents. This information can be accessed in Appendix 6.3.

### ***What are the risks and disadvantages of taking this sort of approach to the research?***

Sixty two participants (68.9%) responded to this question with five of them (5.6%) indicating they were unsure how to answer it. The other respondents' replies can be roughly categorised under the following seven headings:

- role and function of the “stories”
- lengthy and time-consuming
- participants
- failure to respond
- innovative design
- data and analysis
- complexity.

Again, the data has been summarised in such a way as to ensure that the data is not generalised or abstracted, resulting in the loss of detail. The analysis of the data consistently showed that its real value lay in the specific comments provided by the respondents. The full analysis is contained in Appendix 6.3.

***Do you think the questionnaire design was appropriate given that its purpose was the validation of a model?***

A Likert-scale was provided for responses to this question as was a space for any comments the participants might wish to make. The following table (Table 6.3) shows the responses given by the participants.

**Table 6.3: Appropriateness of the questionnaire design**

Σn	DA n	DA %	A n	A %	NS n	NS %	D n	D %	DD n	DD %	WM
66	20	30.3	26	39.4	18	27.3	1	1.5	1	1.5	3.955

Thus for the sixty-six participants (73.3%) who answered this question, the majority (69%) either “definitely agreed” or “agreed” that the questionnaire design was appropriate as a validation of the stage 1 model.

The question was perhaps a little limiting as it asked only about the major purpose of the questionnaire. The questionnaire was also designed to enable participants to comment on major features of the theory emerging from stage 1 of the research and the literature review based on their experience. The use of the “stories” was part of the design to ensure that participant responses were grounded in experience and practice.

Forty-one respondents (45.6% of the participants) provided explanatory answers. However, many of the participants had also made comments about the design of the questionnaire in response to the first question in this section, that is, the question about the research design (p. 233). These comments have been discussed in Appendix 6.3, of which this section is an overview.

The comments were categorised under the following headings

- purpose of the questionnaire
- the role of the model
- questionnaire design
- questionnaire items
- language
- concepts
- reflection
- collected data
- technology.

The actual comments made under each of these headings, and their analysis, can be accessed in Appendix 6.3.

### ***What did you find useful and/or enjoyable about the questionnaire?***

Sixty six participants (73.3%) responded to this question with only one indicating that she had found nothing enjoyable or useful in the process. She wrote:

I did not really find it enjoyable as I was always concerned that I might not be helping. That my speculations might be off target and no use to you. That, I think, says something about my orientation to dialogue. I would rather have talked with you than write for you – although I know this was not the plan and I am just being difficult.

(s2p044)

The other respondents' replies can be roughly categorised under the following seven headings:

- learning
- structure
- questionnaire kit
- reflection on experience
- thinking about learning
- challenging
- other.

The detail and analysis behind this categorisation can be accessed in Appendix 6.3.

One of the participants responded with a critical question as to how we can make learning more achievable for all. It is expected that this research will provide a practical contribution towards answering her question which is:

How can we make learning a more attractive endeavour for a wider cross section of society? Many young people are discouraged by negative school experiences (and are, therefore, disadvantaged in adult work, community and domestic life).

(s2p079)

As I had designed the questionnaire as a learning instrument as well as a tool for eliciting information, I was pleased to find that the majority of those who responded to this question (68.2% of respondents to this item and exactly half the stage 2 participants) identified some sort of learning, reflection or thinking about learning in their responses.

This is typified in the following two responses:

it presented the researcher to the audience – itself a form of learning. It provided visual cues and clues by way of professional diagrams which ... lent further elaboration and modification.

(s2p034)

the opportunity to reflect, analyse, evaluate and learn. To, in fact, fully understand your project and acknowledge the value of the [stage 1] respondents' input.

(s2p050)

### ***What did you find annoying about the questionnaire?***

Sixty-six of the participants (73.3%) answered this question. Of these, ten or 11.1 % (s2p006; 014; 023; 049; 050; 057; 059; 060; 067; 074) responded that they had found nothing annoying in the questionnaire. The remaining responses concerned issues of:

- time and length
- language
- difficulties accessing the technologies used

- questionnaire items
- impact of the questionnaire kit
- use of “stories”
- information given to participants
- need for discussion.

The full analysis of the responses to this question can be found in Appendix 6.3.

The following response from a participant probably accurately sums up those things which participants found annoying and also the wonderful attitude shown by the participants. She wrote:

I actually found it very time consuming, which, given my current workload, was quite annoying. I had to keep stopping and putting it aside, and then coming back to it later, just to make sure that my responses were meaningful and to stop myself lapsing into ‘who cares, just say anything’ mode.

I respect the effort that went into developing the model, the paper, the videos, and this questionnaire. I also respect the importance of meaningful answers for the researcher. So despite my mounting work pressures and my frustration with the process I did make an effort to give meaningful responses.

(s2p052)

## 6.6 Reflections on participant responses

The inclusion of the questions on the research and questionnaire design served a number of functions within the research process. Because this is research about the perceptions of the participants, the thesis tries to capture the voices of 109 people, that is, eighteen stage 1 participants, ninety stage 2 participants and the researcher. By their participation in the research, the stage 1 and 2 participants are collaborators in the research. Therefore, it was considered appropriate that they had a chance to reflect and comment on the data gathering and analysis processes as far as possible.

Another consideration is that whilst the participants are not strictly subjects of the research insofar they are not being subjected to some “treatment” or intervention, their taped explanations or questionnaire responses are analysed, described and used as the base material for the identification of general trends or commonalities. As such, they needed to be given the opportunity to comment upon the research and questionnaire process.

The stage 1 participants were all given an opportunity to debrief with the researcher either by phone or by person. Their evaluation of how they felt about the stage 1 research process is described in chapter 4 (p. 91). Similar evaluations from the stage 2 participants have been described above in §7.4.

In general, participants were quite satisfied with the process and those who had concerns were able to express these and they have been noted above. The comments they made provided valuable information, not only about the research process but also about their perceptions about research participation.

For instance, throughout the responses there were clear indications as to their collective wish to please. Whilst this was inferred rather than explicit for most participants, it was more marked for others. “is this what you want?”, “I’m not sure if I chose the right stories” or “my answers seem to be the same for all my stories” were typical of comments indicating a wish to please. For others, this attitude was more muted. They indicated that other participants might not give me the answers I wanted or I might find the divergent responses hard to collate and to make meaningful.

An extension of this was the wish that there had been some mechanism for discussion or interactive dialogue. This is not surprising given the passion, energy and enthusiasm which came through the responses to the questionnaire. It also underlines the need for interaction which is at the heart of learning and human endeavour.

Many of the participants recognised that the questionnaire had been designed as a learning process. That is, it was designed to engage them in reflection about the transfer of competence across work contexts in particular and about learning in general. It was designed to result in expansive learning rather than to lead them to an already known position about learning and its transfer across different contexts. There were no right answers any more than there were any wrong answers.

The design of the question was predicated upon the need to ground the responses and to ensure that they were based on experience and practice rather than on learnt theory. I was looking for the participants' perceptions which had grown out of their own practice. Whilst it was obvious that, given the educational background of the participants, these perceptions would inevitably be influenced by educational theory, I wanted to ensure that it was theory verified and refined by practice. I saw the "stories" as providing a means of doing this.

This strategy seems to have been successful. Not only did the responses to the stories provide statistical evidence of internal variation giving support to the context-sensitivity of learning, but they also provided rich qualitative data about difference in experience and situations.

The design of the questionnaire was also predicated on the need to gain responses from a widely geographically-separated group of participants. As has been already stated, as a validation instrument, it was necessary to ensure that the participants were introduced to the model and the thinking behind it. Hence, a video was provided for those participants with a preference for aural learning as well as a more traditional paper to read. The questionnaire needed to be electronic given that the majority of participants were used to working with personal computers and providing information in this form. However, the range of participants meant that it also needed to be compatible with the inevitable different software and computers to which the participants had access and hardcopies were also needed for those without easy computer access.

The CD package, which was posted to all potential participants who had indicated that their computers had a CD drive, had a mixed reception. This was due to a number of factors, namely:

- the failure of many participants to read or act upon the instructions given. This meant, for example, that many of the participants expressed their annoyance that they had wasted their time both watching the video and reading the paper when sending both had been to provide participants with a choice. All such comments came from those working in the higher education sector;
- comments from participants, who expressed their pleasure at having a choice of media by which to access essential information, came from those working in industry or vocational education and training settings. These participants were less likely to have completed or be currently undertaking a post-graduate doctorate and, therefore, less conditioned to using print as the sole medium of accessing information;
- whilst the questionnaire and the explanatory paper were provided in two formats, the diagrams were provided in just one version of PowerPoint. This was an oversight. Some of those affected by this contacted me and I was able to adapt the PowerPoint version to their particular circumstance. Others failed to contact me and struggled on without having access to the diagrams. My only indication that this had happened came during the analysis of their responses to the last section of the questionnaire; and
- my realisation that I had over-estimated the clarity of my representation of the stage 1 model. Before constructing the questionnaire package, I had presented the model at

approximately five conference forums, both in Australia and in Canada. In these situations, it had been well received and had attracted considerable interest. In retrospect, I realised that I had been able to explain the model as I presented it and people had been able to ask questions about it. Although I tried to use the video to produce a similar scenario, it was clearly not as effective.

These are the lessons learned from experience and which contribute to my improved performance. Anything using information and communication technologies will be prone to breakdown and incompatibility of technology. In addition, it will also be sensitive to the effectiveness of the human-machine interface (Suchman 2000). That is, the gaps between what our computers can do; what we know our computers can do; and what we can easily make our computers do.

Interestingly, those who opted for hardcopy versions of the paper and diagrams and a video tape made no complaint about the questionnaire kit and its usefulness. Also, the return rate for those receiving the non-electronic package was 100%.

The following three comments which came from the analysis of the data on the research and questionnaire design probably give an accurate reflection of the participant responses. The first comes from the participant who wrote 'these questions about the questionnaire are fabulous' (s2p087).

The second is from a participant who commented that the benefit of the questionnaire, for her, had been that 'it made me think about what I care passionately about, reflect on my own communities of practice and to interrogate existing theoretical positions' (s2p087).

The third comment was concerned with the personal benefit this particular participant had gained from the research process. She wrote:

It made me think carefully about my own transference of competence across a number of roles and about how we support and also don't support new staff in our organisation as well as those that undertake different roles which require additional skills. It also made me think about the extent to which competent people with high employability skills tend to transfer competence even when they have not been supported by a network or mentors.

It also gave me the opportunity to forgive myself for appearing to take so long to develop competence in my new position although it would seem that I am probably now moving toward the validation and integration stage. (Whew, I'm pleased I'm almost there!)

(s2p067)

## 6.7 Connections

This chapter has provided an outline of the detailed analysis of the remainder of the data derived from section 2 of the completed questionnaires. It consisted of five sections sandwiched between short introductory and consolidating sections. Three of these sections reported on the analysis of the last three sections of the questionnaire, that is:

- 6.2 transferring competence across contexts
- 6.3 learning for transfer – capability development
- 6.5 research and questionnaire design.

Two other sections (§6.4 and 6.6) provided some reflection on the key ideas and concepts to come out of this chapter. These reflections, together with the reflective section in chapter 5, set the scene for the final chapter of this thesis.



This final chapter weaves together the theoretical understandings of chapter 2 and the analysis and findings from chapters 5 and 6 to describe a new model emerging from the research, some answers to the key research question and its subsidiary questions, and an account of the multiple dimensions of the transfer of competence across differing work contexts which impact on our lifelong and life-wide learning.



## Chapter 7

### Integration of the Research Outcomes

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#### 7.1 Introduction

This was a very ambitious project but one which I wanted to do. As has been previously explained, it was my interest in the research question which was responsible for my decision to undertake this study, to use a customised, contextualised and innovative design for the research, and to collect and analyse the large amounts of data which were generated by the stage 1 relatively unstructured interviews and the stage 2 questionnaire responses. It has been a long and arduous journey, but it has been a most rewarding and enjoyable one. I have learnt much from the experience and it has deepened my respect and admiration for all the participants.

The research question was concerned with the perceptions of practitioners. The research, therefore, was not designed or intended to question, support, illustrate or add to a particular theoretical stance. All the participants had crossed contextual boundaries over their working lives and they were well respected in their areas of practice. So the question served to focus on their “working theories”; that is, the theories which they construct from their experience and then use to improve their subsequent practice. For reflective practitioners, this is a ‘purposeful, deliberate act of inquiry’ (Loughran 1996, p. 21). Such working theories are transient, continually being adapted and modified, but have a powerful effect on what we do and how we act.

The research question is also concerned with the sum total of the learning we have constructed from our whole-life experience to this date, which I have chosen to call our competence. This is somewhat risky, because of the current pre-occupation of the Australian National, State and Territory governments with outcome-based education and training specifications. In the National Training Framework context, the word competency is used to denote a single, detached learning outcome with its specification being called a “unit of competency”. However, it is hard to find another term than competence which describes what we know and can do and which is inclusive of our values, beliefs and attitudes.

The third area of inquiry posed by the research question is how the transfer of this competence across different work contexts is understood by the participants in my study. This was the most difficult part of my research and, as expected, it has not provided a definitive answer. It has, however, provided new understanding and insight into the practice which supports it.

So far, I have outlined the theoretical concepts which provide a background to the research (chapter 2) and described the research design process and its implementation (chapter 3). Chapters 4, 5 and 6 contain my analysis of the collected data. As this research is qualitative in nature, the analysis is basically descriptive. It also contains some statistical data, obtained from an analysis of the responses to the Likert-scale items. This data is also descriptive and is restricted to measures of central tendency and an attempt to find variation within responses. Chapter 4 is concerned with my analysis of the stage 1 responses and the development of a tentative model of the transfer of competence as a result of this analysis. In Chapter 5, I analysed and discussed the participant responses to those questionnaire items concerned with the validation of the model which developed in Chapter 4. Finally, in Chapter 6, I analysed the wider questions about the nature of learning, transfer and adaptation across

different work contexts and the role that formal education should have in preparing its students for these experiences. Included in Chapter 6, is my analysis of the responses to the questionnaire items which asked participants for their comments on the actual research process in which they had been involved.

These items in the questionnaire, and their analysis, were important to me, as they provided feedback on the participants' sense of inclusion, structure and development which resulted from their involvement in the research. The questionnaire was designed as a learning experience in itself, and, as has been shown in Chapter 6, more than half the participants recognised and commented on this aspect of their participation. Moreover, it was the learning and satisfaction that came from completing a very long and intellectually demanding piece of work, which seems to have enabled so many to have completed the task willingly.

Chapter 7 provides an integration and formalisation of what has been discovered through the data provided by my participants. This takes a number of forms:

- the development of a metaphoric framework which replaces the stage 1 model
- emergent theoretical constructs and their relationship to the available theoretical literature;
- a discussion of the different journeys we undertake, including some of the baggage we carry from past experiences and the continua, paradoxes and contradictions that we experience as we try to develop meaning and to construct new identities;
- a discussion of the changes which are needed within institutional learning environments if we are to prepare people for learning through and from their work and for the crossing of contextual boundaries;
- a discussion on how the research has met the original objectives; and finally
- how we might better understand the process of crossing contextual boundaries and expanding our competence to meet new challenges.

## **7.2 Findings of the research**

As this was largely qualitative research, supported by some descriptive statistics, the stage 2 questionnaire gave rise to very rich data about the transfer of competence across differing work contexts. The data collected was grounded in particular scenarios and, in general, referred to situated learning and how the participants had experienced and understood it. Learning is a complex process which is context-sensitive. Therefore, to a large extent, it is the richness of the data, the diversity of views expressed and the detail of lived-experience which provides a greater understanding of how people learn from everyday happenings and events. Summarising the findings may provide general trends within the data but it may also, unless great care is taken, result in an unwarranted abstraction of the data.

What follows is my analysis of the findings. However, they are not generalities but, rather, ideas which form a useful framework for action. They are the result of my analysis of the data integrated with my understanding of learning in non-formal situations. Another researcher may well have interpreted them differently if his/her understanding and philosophy of learning were based on a different paradigm.

## **7.3 A new metaphoric framework**

The first stage of the research involved eighteen workplace training practitioners, describing, through a semi-structured interview process, their perceptions of how people transfer what they know and can do across different work contexts. The analysis of this material resulted in a tentative model of how this process of transfer and adaptation might be perceived. The model identified four distinct stages which, at that stage of the research, were called:

- access to new skills and knowledge
- internalisation of skills and knowledge
- validation and integration against existing skills and knowledge
- application in a new context.

A grounded questionnaire, completed by 90 vocational education and training practitioners, was used to collect data in the second part of the research process. This stage aimed to validate and enhance the data from Stage 1 of the project. Analysis of the data collected showed general support for the model constructed on the basis of the Stage 1 data. However, there was a strong view expressed that the model was too simplistic, in that it did not foreground the role of the context in the process, and that it could be interpreted as a set of sequential stages, instead of the much more holistic process which characterises learning. Other perceived problems were that it did not clearly indicate the intended multi-directionality of learning, and it did not identify points at which learning could be, and was, aborted when one's motivation and support for learning was not sufficient to justify the effort required for continuing.

Models using diagrams, graphs, schemata and pictures are often used to assist others to understand our thinking. They usually achieve their purpose with some people. Sometimes they need to be accompanied by verbal (oral or written) explanations or those trying to use them need to ask, and have answered, questions to enhance their understanding. At other times, they are so foreign to another person's thinking processes that there is no recognition or understanding of what the representation is supposed to convey.

A survey of Table 5.9 (p. 193) shows that four statements about the perceived conceptualisation, practical application and usefulness of the model received positive (that is, agree or strongly agree) support from at least 70% of respondents. These statements are:

- It fits with my concept of the way in which we adapt our knowledge, skills and capabilities as we move across workplace (and life) contexts (78.0%)
- It helps to clarify my understanding of learning (71.8%)
- It provides a useful schema for mentoring, guiding and/or coaching in the workplace (70.9%)
- It assists in the design of learning experiences (74.7%).

These results show that there was strong support for the model and the comments made by the respondents confirmed this. This meant that it was the depiction of the model which needed to be improved. This was done by adding the most likely exit point and arrows in multiple directions. Also, the stages were renamed as activities to try to reduce the impression of a sequential process. The revised model is shown as Figure 7.1 (p. 246).

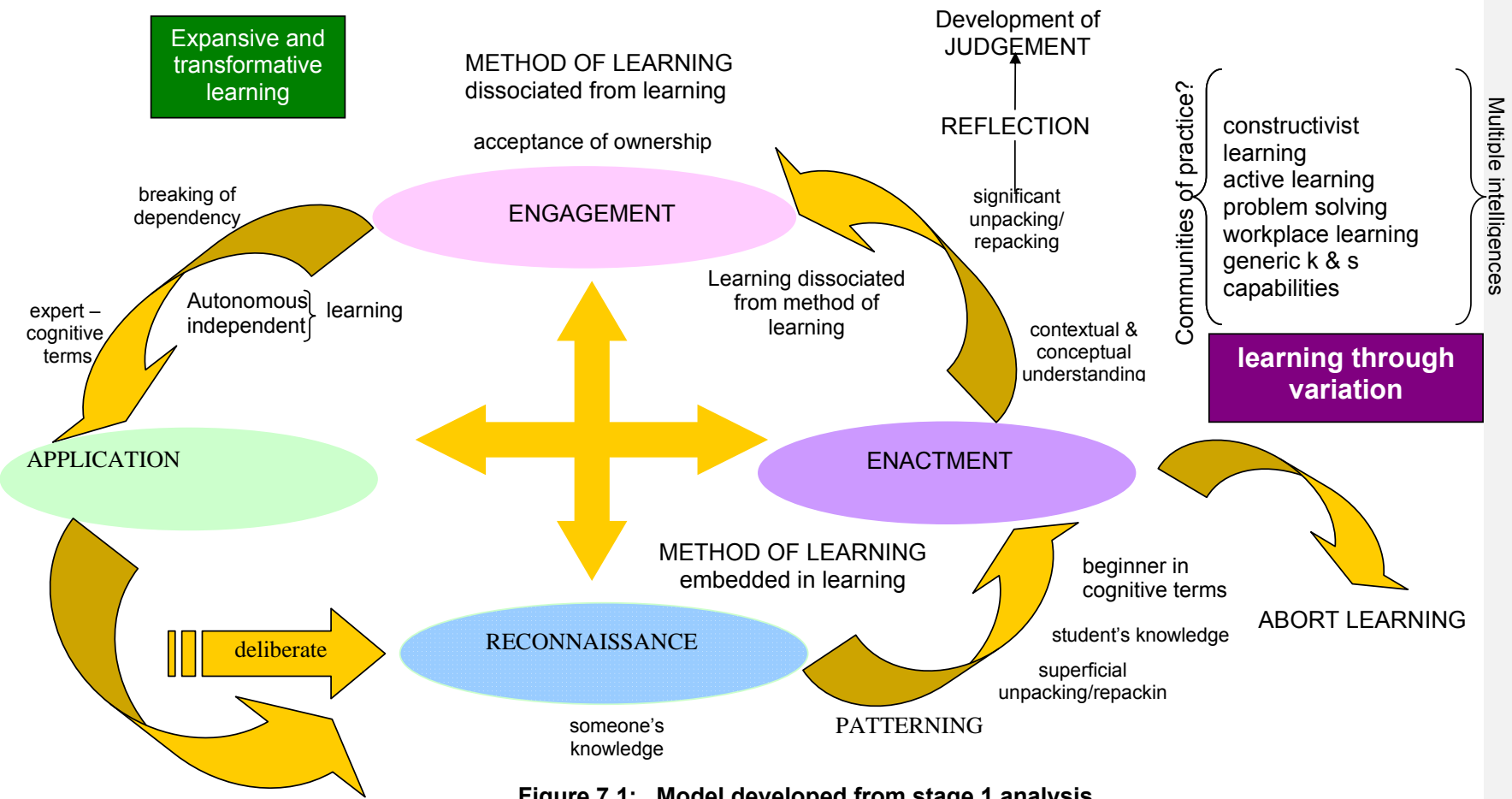


Figure 7.1: Model developed from stage 1 analysis

However, this still did not answer the key criticisms that the model was too sequential and that it did not foreground the context which shapes our learning. So a different way of representing the model was needed. The findings suggested that there are four types of activity involved: reconnaissance, enactment, exploration and consolidation and that practitioners move between these different types of activity as part of their structured interaction between the technical, learning, social, physical, emotional and organisational contexts which comprise the workplace.

This led to the idea of trying to use a metaphoric framework to represent the process. One reason for this decision is that some of the respondents admitted that they were not good at interpreting diagrams. So, in line with theories of multiples intelligences (Gardner 1993; Goleman 1998; Sternberg; Forsythe; Hedlund; Horvath; Wagner; Williams; Snook and Grigorenko 2000) and/or multiple renditions of meaning (Stevenson 2002, p. 161), it seemed appropriate to use a different representational approach.

The proposed metaphoric framework is, like the model, derived from the data provided by the stage 1 participants and augmented by the stage 2 data. It is also framed by my theoretical constructs which I attempted to put into a coherent form in Chapter 2 of my thesis.

### 7.3.1 Outline of the metaphoric framework

The feedback from the Stage 2 research, whilst providing strong support for the model constructed on the basis of the Stage 1 data, suggests three ways in which the model might be improved, namely:

- the use of a representation which does not suggest a hierarchical or one-way linear movement
- the use of alternative names for the “stages” and consequential modifications of the activity at each of these
- a more holistic representation of the process.

This suggested that what was needed was some sort of memorable framework to guide and support learners through the process of transferring and adapting their competence as they moved across different work contexts. To fulfil this need, it was obvious that the framework should be based on a sustainable metaphor in the form of a short story, similar to the concept behind “Who moved my cheese?” (Johnson 1998).<sup>41</sup>

So I went back to the use of the metaphor of negotiating a swamp. This metaphor was originally used by Schön (Schön 1987, p. 3) when he distinguished between the high ground and the swampy lowland of professional practice. He argued that the high ground, overlooking the swamp, was amenable to the application of research-based theory and technique, whereas the lowland defied technical solution. Yet it is the problems of the swampland that are of greatest human concern.

Scott (1992, pp. 48 - 52) used Schön’s metaphor to describe the issues involved in teaching and learning practice. As Scott wrote ‘the swamp analogy ... is a useful analogy because it identifies both the dynamics [of] and the many elements which make up the overall process’ (p. 48). Scott identified the characteristics of the process of negotiating a swamp which apply to teaching and learning as:

- constantly changing and shifting
- uncertain and somewhat unpredictable
- value-laden and subjective ... misinterpretations and different reactions are common

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<sup>41</sup> [This book uses a story, about two mice living in a maze, who adopted different strategies when their food was placed in a different part of the maze, to explain the principles of coping with, and managing, change.](#)

- comprising a mixture of *individual action* (acting on things which they can influence) and *drift* (trying to cope with factors beyond their control)
- requiring an ability to '*read*' (or interpret) the significance of a constantly changing and extremely complex combination of influences, people and factors *and to respond* appropriately in the light of this 'reading'
- involving not just having an initial map or plan of action for focus, but also the ability to *modify the map* in the light of the unexpected events that occur when trying to put the plan into action.

(author's emphasis - paraphrased from Scott 1992, p. 48)

It seemed to me that this could be a useful starting point for the construction of a new model, and one that provided a more holistic view of the learning/adaptation process which happens when people transfer what they know, and can do, across different work contexts.

So I started with a swamp, complete with crocodiles (as workplaces are not usually benign places) and other hazards such as quicksand and stinging insects. Geographically, the swamp is a complex environment with a number of islands which have sandy beaches on some sides and rocky cliffs on others. Rocky shelves and shoals surround the islands. This means that newcomers need to rely on more experienced swamp-dwellers for charts and an understanding of local practice. The swamp is tidal and at low tide it may be possible to wade between islands, as long as a good lookout for crocodiles is maintained. At other times, the strong tidal pull can be quite dangerous and access to the islands necessitates careful planning and navigation. Generally, a new inhabitant of the swamp will need to move around the swamp by canoe, collaborating with other inhabitants to negotiate the swamp.

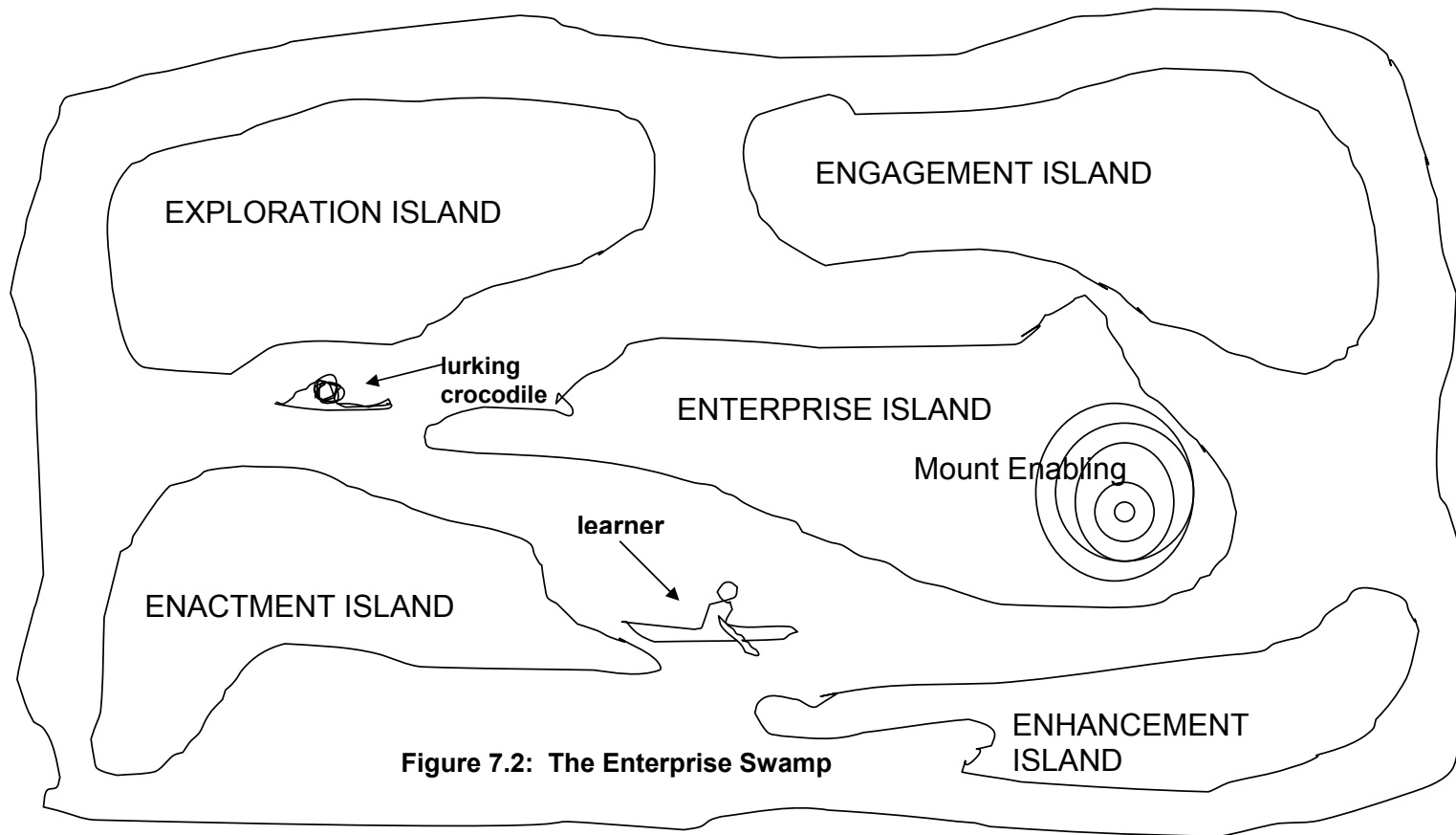
The swamp has five main islands, the shape and topography of which may change on a day-to-day, or even on a moment-to-moment basis. Constant reconnaissance of the whole swamp, and social interaction with the community of swamp-dwellers, is necessary if one is both to survive working in the swamp, as well as temporarily leaving the swamp to experience, and to be part of, other domestic, community or working contexts.

Some islands have special purposes and in order to effectively apply the newcomer's existing competence, he/she will need to access these islands for reflective purposes. Such reflection is both experiential and anticipatory. There are four of these special purpose islands. They are concerned with particular activities and reflection on experiences within the swamp context. They are known as:

- Exploration Island
- Enactment Island
- Engagement Island
- Enhancement Island.

A sketch map, which obviously is not to scale or particularly accurate, given the continuous change in the conditions of the swamp, is provided on the following page (Figure 7.2). In addition, the following sub-sections describe the conditions and functions of each island.





**Figure 7.2: The Enterprise Swamp**

### Enterprise Island

The main island is called “Enterprise Island” and it is the site of nearly all the productive, economic and social activity and interaction which occurs within the swamp. This is the first of the islands experienced by a newcomer. It provides the new inhabitant with a base from which to access other parts of the swamp, and is the site of the routine and non-routine tasks which make up the working life of the swamp-dwellers.

Clearly, in this metaphoric framework, Enterprise Island represents the workplace to which the boundary crosser has moved. This main island, in the swamp of our everyday practice, is populated by the swamp community as they work, learn and socialise together. These activities take them all over the swamp in their canoes, stopping at the various islands to reflect on their work, their interactions with others, and on community goals and aspirations. The inhabitants may visit an island in a group or on one’s own. Visiting an island is a deliberate and purposeful activity.

Enterprise Island is dominated by a high hill (Mount Enabling) which enables a person at the peak of the hill to have an uninterrupted view of the whole swamp. This is Schön’s (1987) high ground, from which all the activities which occur within the swamp can be seen in perspective. Unfortunately, access to the base of Mount Enabling is very hazardous due to quicksand and poisonous snakes. In addition, the hill itself is steep and rocky. It necessitates a hard and hazardous climb for the peak to be reached, and requires groups of climbers to share a common purpose, to work collectively and collaboratively, and to provide mutual support and encouragement, if the summit is to be reached.

### Exploration Island

A newcomer to the swamp is likely to need to visit Exploration Island often and usually, although not always, in the company of others. The activities which he/she undertakes on this island are concerned with building up a greater knowledge of the swamp community and its work purposes and practices. To use the opportunities offered by Exploration Island, the newcomer must work through the issues of:

- confidence
- competence in both participatory and self-directed learning
- affordances
- agency
- motivation.

Exploration Island is the metaphor for the first section of the Stage 1 Model. It is the direction an inhabitant of the swamp needs to turn to, in order to explore what he/she already knows and can do, and what they are expected to know and do in the new context. It is the (virtual) place for scoping the new work activities, the nature of the existing community of practice and the knowledge, skills, attitudes and communal values and ethics which will be needed.

Reflection on the results of one’s exploration of the workplace also involves the determination of the fit between these outcomes and the newcomer’s expectations of the social, cognitive, practical and emotional context in which he/she is now situated. In turn, it also involves the development of an understanding of the community’s expectations of the newcomer’s level of expertise, capacity to fit within the community, shared purpose and values with respect to work activities, and ability to work co-operatively with others.

It will be noted, from the map of the swamp (see p. 249), that Exploration Island is comparatively close to Enterprise Island and Mount Enabling. This is important to ensure that exploration occurs within the context of the workplace and within a well-founded perspective of the whole swamp. This is necessary if the actions taken by the newcomer fit with the expectations and the interests of the swamp community.

### Enactment Island

Visits to Exploration Island are usually concomitant with visits to this island. Enactment Island represents the time and space needed to reflect on one's work performance in the light of what is being learnt through the exploration process. It is through enactment that the newcomer (that is, a boundary crosser, or individual transferring his/her competence to a new context) is able to play out what he/she is discovering about the new context to ensure it fits within the context, is acceptable to other inhabitants, and can begin to internalise and adapt the learning.

Enactment is the testing and appraisal of the appropriateness, or otherwise, of approaches and actions which the newcomer has used in the past. It is also an opportunity for patterning the behaviours of existing members of the swamp community. Such enactment enables the newcomer to find a pattern of performance which is acceptable to the swamp community, within the opportunities, challenges and constraints of the workplace.

Enactment carries with it the risk of failure, which is why visits to Enactment Island are entwined with reconnaissance and with developing an understanding of the context of the swamp and the performance expected of swamp-dwellers. The structural and functional organisation of work in the swamp is nearly always hierarchical and, in a large swamp, bureaucratic. Whilst the swamp management is usually tolerant of normative work performance, it is more likely to penalise poor performance than to recognise or reward good work.

This often means that enactment for a newcomer to the swamp is predominantly based on patterning typical swamp behaviour. The management of the swamp community is likely to be more tolerant of mistakes by newcomers who appear to be adopting normative behaviour and may be more willing to explain and discuss swamp conditions in the early stages of settling in. However, the arrival of a new inhabitant to the swamp may be accompanied by unreasonable expectations of the newcomer's ability to "hit the deck running".

Initially, the learning at the enactment stage of development is relatively superficial. It is concerned with the development of normative performance in order to gain acceptance by the swamp community and, therefore, to safeguard one's membership of it. So the method, nature and extent of the learning are shaped by the group expectations rather than personal growth. At this stage, the learner's concerns are focussed on social cohesion, cognitive sufficiency and emotional stability.

Enactment is an ongoing process that will be used throughout the transition and settling in process, and so taking oneself off to Enactment Island to reflect on the effectiveness of enactments and to plan how the enactment might be altered to increase its efficacy, occurs frequently throughout the transition and settlement periods. One of the key decisions the newcomer must make is the relative proportion of his/her performance that comes from patterning the behaviour of others and that which comes from his/her existing competence. In a sense, Enactment Island approximates to an individual's zone of proximal development.

The enactment process is a trial and error learning process and, initially, reflection on such experiences results in superficial learning although that will deepen with the experience a person gains within the learning swamp. As the newcomer gains more experience with, and understanding of, the activities occurring on Enterprise Island and his/her legitimate participation with the swamp community becomes less peripheral, then enactment starts to change to engagement.

### Engagement Island

Of all the islands in the swamp, this island is commonly the least visited although it is the most important, if learning is to be transformative rather than just imitative. For it is the planning and reflection which occurs in this wild, dangerous, challenging and rewarding space which enables individuals, working alone or in groups, to embark on a journey of expansive learning within the context of the workplace.

It is through engagement with the workplace and its community and the activities engaged in, that people are able to deepen their understandings and test preferred paths of action. The learning which occurs around engagement is characterised by:

- the significant unpacking of practices and understandings and their repacking into new, contextually appropriate skills and knowledge
- the dissociation of what has been learnt, from the method by which it has been learnt
- an emphasis on contextual and conceptual understanding of workplace practices and issues.

It is through engagement and the reflection of such engagement that the development of judgment occurs. Sound judgment depends on the ability to take into account the situational factors and an appreciation of the context when coming to a decision. Such ability is honed by engagement with the context; its environments (physical, intellectual, emotional and social), cultures and community.

Engagement also provides the individual with an understanding of diverse situations and the analysis of the differences between them. This allows for learning through variation or difference (as discussed by Dall'Alba 1994; FitzSimons 2000; Lave 1996b; Marton 1994; Marton and Booth 1997; Rogoff 1990; Salomon and Perkins 1998), where the identification and analysis of the difference between contexts and situations becomes the initiator for learning. This requires the "unpacking and repacking"<sup>42</sup> (AAAJ Consulting Group; Down and Standen 2000) of one's learning. This process is usually known, in traditional cognitive terms, as analysis and synthesis (Bloom 1965). Unpacking and repacking are essential roles of one's engagement with work activities and enable a stronger focus on difference (variation) rather than similarity (patterning).

The learning which occurs through visits to Engagement Island, is essentially focused on practice. Hence approaches to learning, which are centred on interaction with the learning environment, on getting involved in learning experiences and with reflecting on one's engagement holistically, are those which enable integrated engagement. These include:

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<sup>42</sup> This term is common within the Australian vocational education and training context. When the content of the report to ANTA, on the strategic evaluation conducted on the issue of underpinning knowledge within Training Packages, was being disseminated via workshops, its authors used a bag of brightly wrapped small boxes and parcels to represent a Training Package. Unpacking this resource and modifying either the wrapping or the contents of the components of a Training Package was used as a metaphor for engagement with the Training Package.

- active learning
- problem solving
- constructivist learning
- the integration of generic knowledge and skills with practical and technical competence
- recognition and involvement in communities of practice
- the use of multiple intelligences especially emotional intelligence
- learning through work.

These approaches to learning are not equivalent to the same approaches being used in a classroom situation. They require contextualisation to the context of Enterprise Island and they are either self-directed or mentor-directed activities. Whilst the learning is situated within the swamp-dwellers' community of practice and may include reflection on, and enactment of, group experiences, it is dependent on an individual's motivation and drive for improvement.

The learning which occurs through engagement is transformative, in the sense that each person's learning is unique, because it is framed and understood in terms of their experience, attitudes and current understandings. Such learning is also expansive as the change in the social relationships and capacity to work together was unknown before the newcomer's arrival.

### Enhancement Island

The last of the metaphorical islands in the enterprise (or workplace) swamp is Enhancement Island. It is here that the consideration of, planning for and reflection of application of learning in new contexts or situations occur. This may involve paddling across to other islands as difficulties arise or more consideration of the context or situation is needed.

Reaching Enhancement Island often marks the point at which the newcomer to the swamp has fully integrated with the swamp community and is no longer peripheral (in the sense used by Lave and Wenger 1991) to the learning community and its activities. It also signifies the breaking of dependencies on other people (such as mentors, coaches, critical friends, teachers and workplace trainers). The individual is now competent to learn independently and autonomously (within the particular enterprise swamp) and has developed the necessary expertise to recognise, and develop solutions to, issues and problems, and to interpret his/her experiences and to embark on the design and development of new forms of activity which result in enhanced performance.

Enhancement, like exploration, enactment and engagement is rarely a solitary activity. Workplace learning requires interaction with all aspects of the context (including its physical, intellectual, emotional and social components) in order to better understand and work within it. Whilst learning journeys are unique for those undertaking them, the learner will have company for most of the way and this company will enrich both the learning process and the learning product.

### The swamp

Learning requires effort and persistence. The process of learning will be impeded by obstacles and hazards, the majority of which will arise from societal norms and behaviours and the political battles which affect our participation in work and life. These are the crocodiles of the swamp. Obstacles to learning are the hazards. Only by facing and, either removing or circumventing, the crocodiles and other hazards, can we learn and participate effectively in the workplace.

The allegory of the swamp is proposed as a framework for understanding the very complex process we execute when we learn from work or from life experiences. Such situated learning is complex and its outcome holistic. The model is an attempt to provide a lifeline or framework to help those who may well get lost in the swamp of our everyday interactions and interpretations. It is not an exact account of how we learn to transfer and adapt our competence when we cross contextual boundaries, but it is intended as a useful map to aid our progress.

### 7.3.2 Rationale for the swamp metaphor

The analysis of the stage 1 data is given in Chapter 4. This resulted in the stage 1 model of contextual boundary crossing at work. This model shows strong similarities with a number of models which have been constructed by other researchers and theorists to explain the phenomenon under discussion. Many of these have a four-step cycle which repeats itself in the form of spiral: as the new learning, which results from one cycle, initiates yet another cycle of exploration, enactment, engagement and enhancement, *ad infinitum*, or until our motivation is insufficient, or the limitations of our resources causes us to exit from the particular pursuit of knowledge and improvement.

Two of the participants in stage 2 indicated their respective preferences for Kolb's learning cycle (Kolb 1984, p. 33), and for the adaptation of Lewinian action learning cycle, used as the lynchpin of the Ford Motor Company's Total Quality Management (TQM)<sup>43</sup> process (Down 1997b, p. 199, 255, and 347), as shown in §5.8.2 (p. 194). Other models which have the same cyclic structure are those of Dewey's model of learning (as outlined by Kolb 2000, pp. 315-316), Piaget's model of learning and cognitive development (also outlined in Kolb 2000, pp. 316-318), the Lewinian experiential learning model (see Kemmis and McTaggart 1981, pp. 6-7; also Kolb 2000, pp. 314-315), the action research spiral (Kemmis and McTaggart 1981, p. 8), Alan Roger's learning cycle and search for new knowledge (2002a, p. 17) and Heron's experiential learning model (Heron 2000pp. 84-87). Whilst the models have similar structures, the descriptions given to the various stages differ. This would be expected given that the context in which the models were constructed and the concepts for which they are designed are quite different. These different models are compared in Table 7.1 on the following page.

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<sup>43</sup> The Ford TQM model is attributed as having originated from the work of W. Edwards Deming as a consultant to The Ford Motor Company in the United States from the late 1980s to the early 1990s (Down 1997b, p. 66)

**Table 7.1: Comparison of spiral/cyclic models of learning**

Creator of Model	1 <sup>st</sup> stage	2 <sup>nd</sup> stage	3 <sup>rd</sup> stage	4 <sup>th</sup> stage
<b>Lewin</b>	concrete experience	observations and reflections	formation of abstract concepts and generalisations	testing implication of concepts in new situation
<b>Dewey</b>	impulses, feelings and desires	observation of surrounding conditions	knowledge of what happened in similar situations in the past	judgement which puts together what is observed and what is recalled to see what they signify
<b>Piaget</b>	sensory motor stage (enactive learning) which moves via concrete phenomenalism to	representational stage (ikonic learning) which moves via internalised reflection to	stage of concrete operations (inductive learning) which moves via abstract constructionism to	stage of formal operations (hypotheoretico-deductive learning) via active geocentricism.
<b>Kolb</b> Attributed to Kolb (Illeris 2002, p. 39)	The model which is attributed to Kolb (by, for example, Boud; Keogh and Walker 1985c, p.12; Illeris 2002, p. 39) is described by Kolb (1984, p. 33) as the Lewinian Model of action research and laboratory training			
	concrete experience	reflective observation	abstract conceptualisation	active experimentation
<b>Kemmis and McTaggart</b>	plan	act	observe	reflect
<b>Alan Rogers</b>	concrete experience	critical reflection on experience	search for new knowledge and experience	action
<b>Heron</b>	<b>emotional</b> control of projection and feeling <b>attuned</b> to the presence of the client (affective mode)	<b>imaging</b> all the cues with <b>intuitive</b> grasp of their significance (imaginal mode)	<b>discrimination</b> of what is salient and rapid <b>reflection</b> to formulate as hypothesis (conceptual mode)	<b>active</b> intervention derived from a therapeutic <b>intention</b> (practical mode)
<b>Ford TQM</b>	plan	do	consider	act

Other models of learning have different structures and generally reflect the learning perspective of the originator. For example, Evans and Rainbird (2002, p. 16) use a model of learning-in-context and learning-in-action which was originally published in Evans and Hoffmann (2000). As befits a model of situated learning, the concepts and processes are situated within a series of concentric ellipses. Similarly, researchers concerned with transfer and boundary-crossing from an activity theory viewpoint tend to use diagrams which use a structure based on activity system triangles (Lambert 2003, p. 242; Weber 2003, p. 171).

This consistency of the representation with one's theoretical perspective is indicative of a further problem with the model I constructed from the stage 1 data. That is, the diagram suggests an acquisitional view of learning rather than a more situated perspective based on an

understanding of the activity systems which mediate the activity of social groups. The metaphoric framework, which sets boundary crossing within the activity system of the swamp, is far more appropriate.

This was picked up by a number of participants when they noted that the context wasn't obvious in the representation (s2p049) or asked where the learner fitted within the model (s2p079). Early in 2005, I presented the swamp metaphoric framework at a national conference of vocational education and training researchers (Down 2005). At the end of my formal presentation, the audience, instead of questioning specific points, initiated a period of creative group thinking when all sorts of ideas about how the swamp metaphor could be used to explain "what would happen if ...".

Using a metaphoric framework also provides a mental representation of people learning differently at different stages of their lives (s2p074), as this would mean a different pattern of island visits. Also, individuals' different styles, preferences and outcomes of learning (s2p074) are represented by different patterns of access to the wisdom and other resources which a visit to each of the islands can provide. Presumably a swamp-dweller, who wished to abort his/her learning (s2p073), could either remain on Enterprise Island or else, if necessary, paddle right out of the swamp.

Finally, 'the primacy of context in determining what is learnt and how one's competence is modified and adapted to the new context' (s2p083, p. 196) is addressed as the metaphor of the swamp defines the context (Scott 1999, p. 48).

The swamp and its islands are virtual spaces for learning. The 'situation or the framework in which the learning occurs always plays a part in influencing the learning result' (Illeris 2002, p. 175). However, such situations are often not conducive to reflection because of the pace of activity, atmosphere of competitiveness and encouragement of normative behaviour. By using the metaphoric framework, we create a virtual space for reflection of work and the cognitive, emotional and social context in which it occurs in order to understand and better work within it. This enables us to link what we already know and can do with what we are currently doing and learning.

## 7.4 The nature of learning and boundary crossing

### 7.4.1 The nature of learning

Much of the formal learning which occurs in our schools and tertiary institutes is **learning about**. This is especially true of secondary schooling and many university undergraduate programs, which use assessment for sorting, grading and transition purposes. This places the emphasis of learning on remembering and recalling, and promotes a view of knowledge as a commodity which is passed from teacher to learner. Such knowledge can be abstracted from its context so as to be discrete, impersonal and generalisable – a collection of information and understandings developed from legitimate research activities, whose origins and history is known (albeit, sometimes disputed) and which can only be changed in the light of further recognised research. Thus, in 'learning about' paradigms of learning, theory precedes application and learning activities are focused around comprehension and remembering.

School and university examinations, by asking for the correct answers and explanations, reinforce a focus on learning about. Normative-referenced assessment rewards those who can



recall and remember and penalises those whose understanding diverges from the accepted academic view.

In contrast, the formal learning of early childhood and in the lower levels of vocational education and training is predominantly focused on **learning how**. Thus the aim of the learning is a performance or set of performances which are acceptable in certain contexts. Such learning is usually criterion referenced – as when a child is able to read at a level associated with average 10 year-olds, or when an apprentice hairdresser is deemed capable to cut and shape hair according to the industry standards. The criteria, for both these examples, are contextually specific.

Learning how has, therefore, a specific context and a specific set of criterion against which the performance is measured. The paradigms of 'learning how' rely on learning experiences which are centred around action and which usually involve the construction of theory by the actor as a result of engagement within diverse forms of action including action within contingent situations. Learning how involves access to role models and the enactment of demonstrated techniques, attitudes and processes.

Assessment of 'learning how' is usually evidence based, with the assessor making an informed judgment on the evidence available against an appropriate set of criteria. Logically, such an assessment can only result in "satisfies the criteria/does not satisfy the criteria" outcomes and cannot be used for purposes of comparison.

The learning which occurs when a person transfers and/or adapts his/her knowledge and skill across different contexts is generally learning how. Inevitably, learning about will also occur, generally in conjunction with the exploration of the context and the nature of the work performed. Such learning about is occurring in an informal learning environment.

There is a second distinction between the nature of the learning designed to occur in formal learning situations and that which occurs through work. This is the distinction between bounded and non-bounded learning. As Engeström explains, formal learning is based on the supposition that what is to be learned can be defined, and is already known by an "expert" who can guide the learning.

The problem is that much of the intriguing kinds of knowledge in work organizations violates this presupposition. People and organizations are all the time learning something that is not stable, nor even defined or understood ahead of time. In important transformations of our personal lives and organizational practices, we must learn new forms of activity which are not yet there. They are literally learned as they are being created. There is no competent teacher. Standard learning theories have little to offer if one wants to understand these processes.

(Engeström 1999a, p.6)

It is this latter learning which is important in transferring one's competence across differing workplace contexts. Engeström refers to it as expansive learning and it occurs in both formal and informal learning. Unfortunately, in formal learning situations, it is not (and cannot be) specified in the curriculum and is, therefore, not assessed. In work and other informal learning situations, it may be critical to a person's survival in that context. While it is not possible to "teach" expansive learning, it is possible to "teach" the skills and attitudes which enable people to successfully learn in unbounded learning situations.

Knud Illeris (2002) argues that 'learning is fundamentally conceived of as an integrated process consisting of two connected part processes which mutually influence each other' (p. 16). The two interconnected part processes, identified by Illeris, are the interaction process between the

learner and his/her environment and the internal psychological acquisitional and elaborative process which leads to a learning result. In addition, Illeris argues that 'learning simultaneously comprises a cognitive, an emotional and psychodynamic, and a social and societal dimension' (Illeris 2002, p. 19).

Illeris' theory views learning as a complex, integrated process which occurs as a result of tension between the cognitive, emotional and social aspects of our work or life contexts. Thus:

Fundamentally learning is a process mediating between man as a biologically and genetically developed species and the societal structures developed by man. Learning develops knowledge, abilities, emotions and sociality which are important elements of the conditions and raw material of society. But societal circumstances also develop into independent structures with a character of given frames that set the conditions of both the knowledge, the abilities, the emotions and the sociality that can be displayed.

(Illeris 2002, p. 239)

Participants, in both stages of the research, acknowledged the complexity of learning, and that a learning result is composed not only of new knowledge and skills, but also knowledge about what it is socially acceptable to know and/or express. Many of them also commented that institutionalised learning is too focused on the acquisitional learning of content and not sufficiently focused on the development of competence in learning.

Learning within the workplace is also situated within a real context. Learning within formal learning sites has traditionally been understood to be:

- *individual*, in the sense that the locus of intelligence is taken to be the single person
- *notional*, in that deliberative, conceptual thought is viewed as the primary example of cognition
- *abstract*, in the sense that ... [the context of development] is treated as of secondary importance if relevant at all
- *detached*, in the sense that thinking is treated separately from perception and action
- *general*, in the sense that cognitive science is taken to be a search for universal principles, true of all individuals and applicable in all circumstances.

(Evans and Rainbird 2002, p. 15)

Yet none of the participants in stage 1 of the research identified any of these factors as being important in learning at work. Admittedly, they were responding to the main research question and had only the interview guide (Appendix 3.5) as the mediating artefact. Not many of them discussed learning per se, except to refer to the concept of learning to learn. This was not their brief. However, when they spoke about learning to learn, they focused on ideas such as:

- context-based research, that is, finding out how the workplace community does things, their shared values and goals, etc.
- reflection on action and on interpersonal working relationships especially when things have gone, or are going, wrong
- observation and patterning
- remembering – facts, processes and procedures
- interpersonal skills – getting on with colleagues
- being able to function as part of a team.

This was discussed in §4.4.1 (p. 102). In stage 2, the questionnaire (as the mediating artefact) was focused much more directly on learning during the transfer process. Those using the concept relating to learning being individual, notional, abstract, detached, and/or general were very much in the minority and had all worked within higher education environments for considerable periods. Also, their experience of learning from work, outside of education

environments, was limited and, often, privileged<sup>44</sup>. Evans and Rainbird argue that situated activity results in learning which is:

- social, in the sense of being located in humanly constructed settings among human communities
- embodied, in the sense that physical constraints of realisation and circumstance are viewed as of the utmost importance
- located, implying that context dependence is a central and enabling feature of all human endeavour
- specific, with dependency on particular circumstances
- engaging, in that ongoing interaction with the surrounding environment is recognized as of primary importance.

(Evans and Rainbird 2002, p. 6)

Certainly, the responses of most of the stage 2 participants presented a view of learning as situated, and having some, if not all, of the factors identified above. Presumably this may have been influenced by using grounded “stories” on which to base their responses. However, as vocational education and training practitioners, who have changed workplaces often within their careers, this was also expected. From their responses to the items in part 1 of the stage 2 questionnaire, most of these respondents appear to have a practical orientation to learning. This can be inferred from their responses to the questions on the learning (formal and informal) which gave them most pleasure and their current learning activities (see Appendix 3.11).

### The social nature of learning

The social nature of learning was emphasised by some participants, in each of the five sections, which related to the model developed at the end of stage1 of the research. For example, commenting on the initialisation of learning, stage 2 participants 003, 044, 057, 067 and 080 provided comments on the interactional nature of this stage, whilst another ten participants referred to social aspects of the workplace context.

Similarly, in the section on the initial internalisation of knowledge and skills, a number of participants commented that learning was embedded in a social system. For example, one participant noted that:

as human beings, we do not experience learning development as an isolated individual in an impersonal event stream; we have complex emotional relationships with others and are influenced by their example.

(s2p026)

Another nine participants also built their responses to this question around the social nature of our learning.

This is significant, as I had phrased the Likert items and the follow-up questions for both these sections in very individual terms. There was no cue in these items to respond in terms of the social nature of learning. Yet, twenty-one respondents did so, indicating that they, at least, felt that it was important. My retrospective analysis of my framing of these two sections, indicates that I was still unconsciously clinging to many of the concepts of the traditional view of learning, even as recently as three years ago when I developed the questionnaire instrument. This “baggage” of previous understandings, acquired from seventeen years of teaching mathematics

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<sup>44</sup> By privileged, I mean that they worked in these other environments as consultants, outside trainers in specific technical skills or researchers – not as employees.

and science to chemistry secondary students, had persisted within parts of my practice, well beyond my conscious repudiation of belief in the dominant paradigms of learning in the mid-1980s.

Miller and Boud (2000) note that:

While there is no simple demarcation between experience and learning – making sense is always learning – it is convenient to adopt the assumption that learning is an act of becoming aware of experience, building upon it, extending it and in the process creating new experiences which become part of what we know.

(p. 8)

My inappropriate, and inadvertent, use of the language of the dominant paradigms in a data collection instrument, designed for use in research which was to question dominant practices of formal teaching and learning, indicates that becoming aware of experience is not enough. In some cases, we have to strive to rid our practice of the negative experiences which have informed and shaped it. Past experiences will shape future learning, and it is very difficult to root out of our professional knowledge those practices, which were viewed as positive, and rewarded, in the past, and to replace them with practice that is contrary to mainstream understandings.

The last two “stages” of the stage 1 model are concerned with the active, social and contextually-embedded nature of learning and, thus, my framing of the relevant questionnaire items was much more consistent with active, situated, experiential learning. The participant responses reflect this, perhaps because the Likert-scale items were drawn from statements made by the stage 1 research participants. They, being largely focused on non-institutional education workplaces, framed their interview data around their experiences, and learning from those experiences, and did not appear to confuse workplace and classroom learning.

Confusion between institution-based and informal learning, was an inevitable problem for the stage 2 participants, most of whose current, or past, workplaces were formal educational contexts. However, the majority displayed a conviction that learning was drawn from experience and socially situated. As shown in Table 5.7 (p. 188), all the Likert-scale items received strong support. Of the sixteen items which were strongly supported (that is, over 75% of responses were either “definitely agree” or “agree”), seven were concerned with the social nature of the transfer and adaptation of learning which was occurring through engagement.

These respondents picked up on two very important issues. First, learning is a deliberate act on the part of the learner to interact with, and learn from, work, social, physical, psychological and intellectual contexts; and, second, that such learning, whilst unique to the individual, occurs through interaction with others.

A third aspect on the alone/together paradox of learning is group learning, that is, what we know only as a group. This was noted by one participant who wrote:

I find in my own experience that there are some things I only know as part of a group. Learning in this formulation is not just situated, it is situational. In other words, I only know these things as a collective. From these collective experiences of learning I retain some learning that is “mine” but it is less than the collective understanding.

(s2p044)

Comments on the last “stage” of the model also supported the contextual nature of learning and the importance of the social nature of that context. The uncertainty, ambiguity and contradictions inherent in any workplace are the stimuli for learning. Because of its social and political nature, the workplace is a constrained environment. The constraints it imposes may prevent the transfer and adaptation of one’s existing competence, as one participant noted when she wrote that ‘...

sometimes, even when you know the job, because of the constraints of the work situations or the personalities of those you work with, you are still relatively constrained' (s2p038).

### Emotion in learning

Learning in any social context occurs on a number of different planes and is a complex interaction of the cognitive, the emotional and the social (Illeris 2002, p. 20). One of the respondents reminded me of the complexity of the emotional defences we use to protect our sense of self-worth, when he wrote:

Consistent with self-worth motivation theory, self-handicapping and defensive expectations are proposed as two strategies people use to protect their self-worth in the event of potential failure, and in some cases, to enhance their worth in the event of success. It is not simply a question of self-efficacy or resilience.

(s2p026)

Illeris describes the role of emotion in learning as being:

How the situation is experienced, which emotions and motivations are attached to the process, and thus, what psychological energy is mobilised. The character of the learning result ... will be closely connected with how the emotional dimension has been functioning as part of the entire process. It is this dimension that, so to speak, determines the internal psychological conditions of the learning process.

Moreover, both the cognitive and the emotional dimensions and the interplay between them are decisively dependent on the function of the social dimension.

(Illeris 2002, p. 20)

The role of emotion in transfer and learning was also picked up by the stage 2 participants when they responded to the item on multiple intelligences (see Table 5.7, item 4.8, p. 188). This item resulted in an average weighted mean of 4.64 which was the highest obtained for this section. However, there were a number of comments about the legitimacy, or otherwise, of the concept of multiple intelligences. Their comments indicated that they agreed that 'learning involves the emotions' (s2p044) and 'you need to draw on different skills and abilities and be sensitive to the interpersonal stuff' (s2p031). The stage 2 participants clearly recognised that our emotional state is an influencing factor on how we interact with others and, therefore, of how we learn.

### **7.4.2 Transfer of competence across work contexts**

Both my theoretical understandings and my analysis of the research data indicated that we need to understand generalisation differently from the common conception of decontextualisation. This section looks at a new understanding of generalisation and the use of Beach's metaphor of consequential transitions which is compatible with the perceptions of the research participants.

#### Generalisation

Beach (1999) defines one form of generalisation as 'The continuity and transformation of knowledge, skill and identity across various forms of social organizations' (p. 112). Such a definition requires that generalisation is achieved through multiple inter-related processes rather than a single general procedure. Van Oers's (1998) analysis of children's play activity shows how, by embedding contexts in other contexts, generalisation can be obtained without decontextualisation.

Beach notes that such forms of generalisation 'are never distanced or decontextualised in their relation to various forms of social organization. They are not located within the developing individual, nor can they be reduced to changes in social activities. Rather, these forms of generalization are located in the changing relation between persons and activities' (1999, p.113).

To generalise in this way (that is, from the intersection of individuals and activities) requires mediation through artefacts. These are symbolic objects that are created with human intent (Beach 1999, p. 113) and include symbols, technologies and texts. Generalisation using systems of artefacts means that changing individuals and changing social organisations becomes woven together in a way that transforms the individual. This is 'learning to be' (Delors 1996, p. 4), and relates to Dewey's (1916) concept of development as becoming. It also fits with Engeström's expansive learning theory.

Thus the observations of the stage 2 participant who cited three instances of such generalisations when he wrote:

When you hit a series of perfectly executed golf shots with your mind in total control of your muscles, and twenty years after your last formal lesson, you realise that this is not a fluke event and yet you don't really understand the reason why. Even more interesting is that if you can maintain the self-belief and clear your mind, the skill can be sustained – until it falls apart. Apparently top professional golfers can sustain this skill level for around 12-14 rounds of golf or around 1000 shots of all types.

I learnt to play the harmonica without learning to read music. I haven't played seriously for 40 years, however I can play any familiar tunes without making mistakes.

I am a good friend of a gold medallist trap shooter, who doesn't have a clue as to why he is so good at what he does. His friend, who is considered an even better shooter, has even less of a clue as to why he is better. Both learned to shoot at a moving target at young ages.

(s2p061)

Each of these three examples involves generalisation through the embedding of contexts in other contexts. For example, each golf course has a different layout, combination of hazards and local conditions, and different weather conditions also affect an individual's play. Yet experts are able, 'through transformation; the construction of new knowledge, identities and ways of knowing; and new positionings of oneself in the world' (Beach 1999, p. 113), to generalise their skill so as to adapt to different conditions and to retain such skills over a number of years without practice as in the example of the harmonica player.

Such generalisations are consequential to the individual and are developmental in nature, and are located in the changing relations between individuals and social activities. The relations involve the genesis and maintenance of systems of artefacts and all that is embodied through them, including knowledge, skill and identity.

(Beach 1999, p. 113)

### Significant transitions

Both the stage 1 model and the metaphoric framework support the notion that the metaphor of transfer needs to be replaced by that of significant transitions (Beach 1999, p. 12). That is, when individuals cross contextual boundaries, there are significant experiences which need to be reflected upon, in both an anticipatory and a retrospective sense, in order to understand, and ascribe meaning to, the new situation. This process of meaning-making constructs our identities, both as a learner and a worker. It is a two-way process – when an individual moves in to a new context, both the individual and the context will significantly change. Individuals need to

recognise and be proactive with their agency in this process, in order to empower themselves as active members of their new community of practice. Their learning, as a response of the change process their boundary-crossing has initiated, moves from being peripheral to integral as they seek and gain membership of the workplace community.

The stage 2 participants provided, through their "stories", examples of the four types of consequential transitions identified by Beach: lateral, collateral, encompassing and mediational. 'Lateral transitions occur when an individual moves between two historically related activities in a single direction' (1999, p. 114). This type of unidirectional movement was the most common type of transition described by the participants. For example, one participant described his experience in mentoring a younger friend over a period of twenty-one years when he wrote:

Marc started teaching in 1974 and spent the next 21 years as a classroom teacher of maths and chemistry. His teaching career as a subject co-ordinator, level co-ordinator, curriculum co-ordinator, house master and designer of school timetables mirrored mine to a large extent. He was a brilliant teacher and tutor but not formally promoted in the Government system. With a Ph.D in Chemistry and Honours in Mathematics, he was exceptionally qualified in comparison with other teachers in government secondary schools.

(s2p061)

Not all consequential transitions are made willingly. In the following scenario, the transition was not initiated by the storyteller when she wrote:

I moved reluctantly from a production role in a national, public sector communications organisation (where the subject matter and program outcomes were directly focussed on the education sector) to freelance project work for business and government clients in the vocational and tertiary education sector.

Initially, the skills I had developed at the first communications organisation seemed very specific to that industry, the particular technology (radio & television) and the unique cultural role of the corporation. However, in time, I came to see that I had some important generic skills and understandings, as well as quite specific skills in project planning, sequential organisation of ideas and information, interviewing, writing and editing etc, that were highly transferable to new work contexts. As a freelance worker, each context and set of project requirements were different, so various combinations of prior skills and knowledge were applied.

(s2p037)

'Collateral transitions involve individuals' relatively simultaneous participation in two or more historically related activities' (Beach 1999, p. 115). For example, one participant traced a significant series of consequential transitions which moved from school student to self-employed architect when she wrote:

This transfer and movement is over a long time, being 1968 – 1984, mostly as a single mother. During this time I moved from being an interior design student (art student) to working in a restaurant (waiting, cooking & finances), designing crafts for weekly magazines, church organist, engineering draftsman, architectural draftsman, building supervisor, architectural student and, finally, qualified architect.

All of the experiences and scenarios provided greater reference points upon which to refer to the designing of spatial configurations and the understanding of the building process. The skills were theoretical, physical (= drafting), emotional and social. Architecture encompasses all of life and so no learning experience is wasted.

(s2p011)

Many of the stages outlined above were collateral transitions: being an interior design student; working in a restaurant; and designing crafts for weekly magazines all occurred concomitantly. These changes also show that collateral transitions often run counter to societal notions of

development. For example, the participant repeatedly gained qualifications in one sphere, for example in building and construction and then returned to study architecture whilst working as a professional building supervisor.

Examples of collateral transitions from participants were only described by women participants, and were often concerned with enrichment and challenge, rather than being directly concerned with their working trajectories. In a second example of a collateral transition, one of the participants described her movement from working as a potter to writing TAFE<sup>45</sup> curriculum when she wrote:

I was a potter. My core business was throwing pots on the wheel, decorating them, firing them and selling them. I designed and developed my own range of pottery researching appropriate glazes and firing techniques. Additionally however I took on projects that interested me. I built a pottery studio with a friend and received a grant to assist. I wrote articles on pottery for craft magazines. I was on a project working group that established a large arts centre in Melbourne. I assisted in large events organised for that arts centre and I ran workshops for the community. I also taught pottery to Aboriginals rehabilitating from drug and alcohol abuse, unemployed people, children and a talented autistic person. I worked collaboratively with other artists. I communicated effectively with a large range of people.

Then one day I turned around and decided that I needed to earn a lot more money and decided to look for a well paid job. I successfully landed a temporary job writing curriculum for TAFE. I was appointed to a permanent position as an accreditation officer with the State Training Authority soon after. Someone explained the idea of transferable skills to me and that is the basis on which I successfully made such a dramatic change. (s2p022)

It is interesting that this participant gave the details of these collateral transitions only as background to the move she understood as transfer - that is, the lateral transition from working as a potter to writing TAFE curriculum. Yet this significant move was underpinned by her experience in collateral transitions and the crossing of contextual boundaries on a day-to-day basis.

'Encompassing transitions occur within the boundaries of a social activity that is itself changing. ... Like lateral transitions, encompassing transitions involve a clear notion of progress, although it is associated with the direction taken by the changing activity rather than the direction of individual moving between activities' (Beach 1999, p. 117). One example of an encompassing transition is the following account of a change in role within the same workplace. The participant relating this wrote:

I'm reflecting on the situation of the training administrator who joined me in the training section of the industry association. Prior to her taking on this new role she had been working in an administrative/secretarial role in another section of the industry association and moved into the training function as a completely new role. She had to learn about the training activities, provide advice and assistance to members inquiring about courses, undertake all the electronic setting up and formatting of information as well as being able to enrol participants in courses, provide confirmation of their enrolment, ensure they were appropriately invoiced, etc .

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<sup>45</sup> TAFE is the acronym for Technical and Further Training which, in Australia, is the public arm of the vocational education and training activity.



In this situation, the work functions are changed which means that new skills and knowledge will, in all likelihood, be needed. In addition, although the work context may superficially remain the same, it has changed insofar as the person's relationship with that context has changed and, therefore, how he or she experiences that context, has also changed.

(s2p012)

'Mediational transitions occur within educational activities that project or simulate involvement in an activity yet to be fully experienced' (Beach 1999, p. 118). Most of the stories told about expected situations of transfer might be described as mediated transitions. For example, a new retiree wrote:

This might sound crazy, but I have found the need to mentor myself into meaningful retirement – as there is no-one else to assist me.

As I have recently retired, I have proactively gone out to acquire new skills/knowledge, namely in the arts/history fields so that I might broaden my knowledge/appreciation base for the world I live in. In addition, I have recognised the need to develop skills in some areas to prepare me for a purposeful retirement e.g. learning to bowl (even though I feel that I am not quite ready).

(s2p015)

Our learning from these consequential transitions, arises from the social, cognitive and emotional tensions (Illeris 2002, p. 18) which are a necessary consequence of our boundary crossing and subsequent activities. This learning is situated in three ways, that is, practically; in the culture of the occupation and/or the workplace; and in the social world (adapted from Evans and Rainbird 2002, pp. 17-18).

The stage 1 participants identified these three aspects of transfer within their responses. As one of them said:

There's the work we do, the people we work with and the culture of the place – how we do, and feel about, things around here. They are all involved – it's not that one is more important than the others.

(s1p13)

Similarly, the stage 2 participants recognised the 'three integrated dimensions of the learning process' (Illeris 2002, p. 20) which was generated by intercontextual boundary crossing. Van Oers' process of continuous progressive recontextualising (1998, p. 141) was recognised by a number of respondents in terms of the exploration of and comparison of contexts to find the degree of "fit". This enables the embedding of the old context in the new and is not, in Van Oers' view, an infrequent activity which only occurs when crossing contextual boundaries but one which is occurring on a continuous basis as we interact with our environment and our learning is mediated by the artefacts we use to manage social change.

The transfer, or recontextualisation, of knowledge and skills from one activity to another requires socio-cultural and ideological learning. As Rogoff and her colleagues write:

[there is an] emergent structure of activities that relate to local economic, political and other ideological systems that link one social activity to another and thus organise learning and conditions across activity contexts. That is, children extract sociocultural knowledge by discerning variations and commonalities across activities as they attend to the ordinary, repeated practices of care givers that are systematically linked to economic and political practices.

(Rogoff; Radziszewska and Masiello 1995, p. 129)

Dyson (1999) writes about tenuous scaffolds and collapsing bridges with respect to transfer. Her writing is based on observations of developing literacy skills in young children. She argues that it

is not how children apply previous learning to new learning but, rather, 'how they assume new roles and responsibilities within ever evolving activities' (p. 156). She argues that much of the scaffolding or support given to learners is premised on the intention of the activity rather than recognising that 'interaction is both situated within and constitutive of events' (p. 156).

This means that supporting the transfer process, or the consequential transitions across work contexts, requires more than simply making sure that the boundary crossers have the necessary technical skill to do their assigned jobs. It requires support in identifying variations and commonalities in the activities involved and the context in which such activities are situated. In addition, it requires proactively enabling workplace learners to assume new roles and responsibilities as they learn through interaction with the workplace context.

The questionnaire, used in stage 2 of the research, included a question on patterning within the group of items concerned with the initial internalisation of learning or enactment. Most of the participants acknowledged that the recognition of similarities is an important part of learning. However, just over half of the participants believed that patterning would result in only superficial learning unless it was accompanied by a conscious search for difference. Thus as one participant wrote:

I think that patterned behaviour is important, but mainly insofar as it throws into sharp relief the differences between the new and the old situations and, as you suggest above, provides a base to be seen to be doing the right thing while you are trying to find out what it should be, e.g. the strategy of checking out what experts in the field do.

(s2p018)

Thus enactment becomes the process of trial and error, based on one's initial assessment of variations and commonalities, until it is possible to embed the activities and the contexts within each other. As a result of this process, it is the differences which are significant. Thus boundary crossers need to recognise that patterns 'are dynamic and they, [the learners], have the power to change them' (s2p041), and that they 'can lead to complacency and the failure to appreciate the newness of a situation' (s2p071).

On the other hand, unless learners 'use reflection to significantly unpack the way that they pattern the response ... they are not able to interact with changing environments rapidly' (sp2041). Other negative aspects on a reliance on patterning included 'being influenced by the behaviour of the workplace group and thus failing to learn deeply and thus be able to adapt and innovate' (s2p038); and substituting patterning for learning and, thus, failing to come to terms with difference, diversity, ambiguity and uncertainty. This means that they are 'not able to deal with contingency; an everyday occurrence in the workplace' (s2p052).

These ideas are supported by the work of Marton and Booth (1997) who argue that learning results from experience and our awareness of that experience. They write:

Our prime interest is in the *variation* in the ways in which people are capable of experiencing various situations or phenomena. This variation reflects *differences* in what aspects of the situation or phenomena are discerned and simultaneously focal in awareness. By *aspect* we mean a dimension of variation – that which, once set in focus and no longer taken for granted, becomes potentially open to variation in awareness. If you become aware that something *is* in a certain way, then you also become aware that it *could be* in some other way.

(p. 207)

In Marton and Booth's work, the term "awareness" is used to denote the learner's way of seeing, experiencing, handling and understanding various aspects of the world. In that sense it is used in a much more active sense than its more common use. Our awareness is the product of our learning and directs our actions and is the rationale of our evolving roles and responsibilities.

## Polycontextuality

The “stories”, on which the stage 2 participants based their responses, were constructive of a single instance of boundary crossing. However, many of the participants cross multiple contextual boundaries as part of their work practices on a recurring, even daily, basis. One group who may do this are those involved in the collection of qualitative research data if the data is to be truly representative of the experience of the research subjects. The statements made by research subjects needs to be understood in terms of the context in which they were made and the experiences which have led to the formulation of such statements. Otherwise the statements are an abstraction and their subsequent interpretation is unrelated to the social, cognitive and emotional tensions which formed them.

It was for this reason that the questionnaire was founded in the experiences of the participants. The three stories were designed to elicit actual experience (story 1), shared experience or co-learning (story 2) and expectations of learning (story 3). It was with some surprise that a number of the participants found difficulty in devising a “story 2” as it indicated an unexpected distancing from their social world. Whilst we cannot know what other people are thinking or learning unless they share it with us, it was still surprising that people ignored the co-learning which occurs within families, close friends and within mentoring situations. It was similarly surprising that others did not take the opportunity to explore their expectations of how learning might occur. Daydreaming of a change of job, or what I might do in my retirement, is, to me, a daily experience. However, others are much more factual in approach and, apparently, are reluctant to expose their imaginative predictions.

This leads to a consideration of the transfer of disposition. Our readiness and capability to learn are dispositions which are clearly related to our capacity to move across contextual boundaries. The appropriateness and intelligence of our behaviour ‘consists of its fine attunement to the constraints and possibilities inherent in the situation’ (Bereiter 1995, p. 31). Thus, the development of our disposition for reflection, experience of a range of social situations, and the possibilities of exercising choice in the situations we participate within provides preparation for ourselves, and others, for situations of polycontextual transfer.

Polycontextual boundary crossing provides a particularly challenging learning experience as it means that our exploration, enactment, engagement and enhancement of different contexts, and our experiences within them, is simultaneous and continuous. It means that our reflection on our experiences in each of the contexts depends on not only our experience within each of the work contexts, but also the impact of crossing between these contexts on a frequent basis.

This is, however, no different from the boundary crossing we do on a daily basis between work, home and community contexts. Thus our reflection on work needs to be expanded to simultaneous reflection on home and community contexts.

## 7.5 Learning journeys

The data drawn from the participants represents the perceptions of ninety people all of whom are undertaking, and have undertaken for many years, a learning journey. This journey covers the sum total of their schooling, work, domestic and community experiences. These experiences have a social, emotional and cognitive foundation and are based on interaction – interaction with people, with technology, and with the physical world. All our learning is socially embedded; we

cannot learn in a vacuum. Even when we curl up in a chair with a book, we are interacting with the author and the world he/she has created or is describing.

All our learning journeys are unique, but at times they cross trajectories when we work or relax together. This thesis is an attempt to describe my learning journey as a researcher. My journey and the journeys of the participants, have crossed paths through this research process. The participants have shared their insights with me and I have interpreted these in the light of my own knowledge and understandings. As I was conscious of this, I tried to elicit from the participants information which would help me to understand what their experiences have been and what they have learnt from them. I also tried to design the stage 2 questionnaire as a learning instrument and, therefore, to build in a sense of interaction and continuity of dialogue.

Both the stage 1 unstructured interviews and the stage 2 questionnaire resulted in rich data which reflected views and ideas consistent with the three paradigms of learning discussed in §7.3. That is, teacher-centred, learner-centred and learner activity-centred. Teacher-centred learning is characterised by;

- a focus on acquisitional learning;
- bounded learning in which the teacher is an expert;
- a separation of teaching and assessment;
- individual learning;
- a hierarchical view of knowledge and learning;
- content of learning determined by teacher or others; and
- the recognition of excellence through competitive assessment.

Learner-centred learning is usually:

- a mixture of practical and acquisitional learning;
- mainly bounded learning in which the teacher is expert although there is room for some unbounded learning;
- an integrated approach to teaching and assessment; learning is cognisant of the context in which it occurs;
- individual learning;
- a more context-based view of knowledge although still some adherence to the hierarchical nature of knowledge and skill;
- learning based on learner needs and negotiated with individual learners; and
- characterised by much less emphasis on recognition of excellence and more on the achievement of negotiated needs.

At the other end of the continuum, there is learner-activity-centred learning. Its characteristics are:

- a focus on learning to do (that is, learning for improved practice) and to reflect on that practice;
- expansive and unbounded learning in which the teacher (or, more accurately, the facilitator) is a co-learner and critical friend;
- assessment based on the recognition of enhanced practice;
- a mixture of individual and group learning as the learning comes from the tension of the social, emotional and cognitive fields which the learner experiences;
- learning determined by its context and community of practice;
- the activities of the learners and their active interaction with the context of the activity determine the possible learning; and
- external competition replaced by learners' motivation and agency.

As might be expected, the smallest groups were those at either ends of each continuum. In the case of the teacher-centred to learner activity-centred continuum, most respondents demonstrated a largely learner-centred position. Some of these showed reversion to teacher-centred practice in many of their responses, while others demonstrated concepts associated with activity-based learning. This confirmed my expectations given the age, expertise and experience of the participants. However, their approaches and understandings are not those of a representative sample, where, based on my experience in facilitating professional development activities with vocational education and training practitioners as well as university teachers, I would predict that the majority of participants would be positioned much closer to the teacher-centred end of the continuum.

The selection of participants in the research was largely serendipitous. They were people I knew, whose practice and approach I respected, or others who volunteered to take part in the research project after hearing me speak about it. The size of the questionnaire meant that more than half of those, who had agreed to participate, did not return a completed questionnaire. Therefore, the planned ratios of higher education practitioners (involved in VET research or teacher training) to vocational education and training practitioners, to workplace trainers and employees, were distorted.

The serendipitous nature of participant selection was my only option, given that I required participants who were interested in the question of the transfer of learning. The skewed sampling was the result of wanting the participants to reflect deeply on their experience and perceptions. I do not believe it affected the quality of the research. However, it did mean that comparison using particular characteristics was not possible.

Even so, the participant responses reflected that the respondents were positioned along the whole length of several continua whose extremities indicate a journey, or transition, from:

- teacher-centred through learner-centred to learner activity-centred
- learning-about to learning-how-to-do
- learning about work to learning through work
- learning at a distance to situated learning
- learning as an individual activity to learning as a reflexive social interaction
- adherence to learning specified as externally designed curriculum to self-directed, experiential learning
- generalisation as abstraction to generalisation as the embedding of one context in another
- instrumental learning to communicative learning.

An outline of the theoretical backgrounds to these transitions have been discussed in Chapter 2 and the analysis of the participant data for both stages of the research provides examples of the different positions of the participants along each of these continua. The following table, Table 7.2, provides examples of differential progression along each of these transitions.

**Table 7.2: Examples of differential progression**

Transition	Minimal progression	Maximal progression
Teacher-centred through learner-centred to learner activity-centred	The safety net can be nurses completing tasks under the guidance of an Educator or RN. Therefore they are not completing tasks independently. Mistakes can be minimalised and reduced if an Educator or RN is guiding a student nurse step by step. The Educator can predict complications that may occur. (s2p006)	The aim is to facilitate an active, inclusive, interesting, challenging environment (physical, social, intellectual and psychological/emotional) in which the learner learns through action and interaction and which provides sufficient exposure to variation to cause the learner to question his/her experience, feelings and thoughts. (s2p003)
Learning about to learning how to do	Thoughts on Patterning: Yes, valid, useful, in fact an essential survival technique when changing high schools, or finishing first year at uni. In this particular work context (of very different individual jobs, as organisation very small) only part of the process. Applied to things like writing letters in approved co. format, rather than across many contexts.(s2p083)	As I see it, we 'do' knowledge & skills (we enact them) rather than internalise them. They are a practice not a substance. (s2p032)
Learning about work to learning through work	I suppose this is the case for some workplaces, however I am not sure this is the case in the commercial/business sector where they may not allow sufficient time for learners to learn new skills. (s2p049)	Stories 2 & 3 highlight two key things about my approach to learning (and transfer of skills). They are: <ul style="list-style-type: none"> <li>- the importance for me of group learning situations where others help one reflect, shape and critique one's learning</li> <li>- the importance of learning in situations where practice and reflecting on that practice come together, and where outcomes/rewards are fairly immediate and obvious</li> </ul>
Learning at a distance to situated learning	I don't think that this stage is essential for all learners particularly if the knowledge or skills being learned is within a broadly familiar domain. I think that for learners approaching an entirely new domain of skills and knowledge this stage is more likely to be relevant. (s2p046)	I find in my own experience that there are some things I only know as part of a group. Learning in this formulation is not just situated it is situational. In other words, I only know these things as a collective. From these collective experiences of learning I retain some learning that is "mine" but it is less than the collective understanding. In a way, what I know is not very nameable but is about the processes of eliciting the collective understanding and shaping collective actions. (s2p044)
Learning as an individual activity to a reflexive social interaction	Not sure. I think it is up to the individual. Basic training/orientation may be provided but it's up to the individual to apply it.	It becomes unreasonable to separate cognition or motivation from the socially mediating context, or for that matter, individuals from their activities and the contexts in which they take place. As stated by Resnick (1991): "We seem to be in the midst of multiple efforts to merge the social and cognitive, treating them as essential aspects of one another rather than as dimly sketched background or context." (p. 3). (s2p026)

Transition	Minimal progression	Maximal progression
Adherence to learning, specified as externally designed curriculum, to self-directed, experiential learning	The key person here wanted to learn, but clearly did not have the background foundation knowledge and those supervising him had not realised this and did not give him adequate instruction or guidance. (s2p008)	I think there is a process of what I will call 'flooding' where you lose yourself in what is happening around you. I think you have to step into the emotional and sensual space of others and let it wash over you until you see the world through their eyes without intellectualising. (s2p045)
Generalisation as abstraction to generalisation as the embedding of one context in another	Current competence is important but depends on how easily the learner can separate the "skill" from the context in this competence so that they can apply it freely in different contexts and not feel hamstrung by the previous context. (s2p081)	I suspect that there is a sense of reciprocal "fitness" with the context. That is, is the learner "fit" to interact with the context and does the context aid the learner? Similarly, when moving across contexts, the same sort of reciprocal fitness needs to be tested through enactment and transition. (s2p023)
Instrumental learning to communicative learning	There are time factors in learning – the need for information to become firmly established in memory – and also time in becoming comfortable with one's learning or understanding. This latter is bound up with the concept of self-efficacy – one of the best predictors of performance and attitude to new activities. (s2p055)	A strong motivation was also to maintain an intellectual dialogue and social interaction with other people. This was about gaining attention, feedback and validation of my competence and worth as a human being. (s2p037)  Access to conversations with critical friends and others to allow conceptualisation at a variety of levels, e.g. the immediate doing of a microskill, the broader approach to a set of tasks (including planning) (this is both doing and conceptualising) and theorising (before, after and during). (s2p042)

When selecting material for the above table, I was very conscious that participants may be uncomfortable with their statements being selected for the “minimal progression” column. I was also limited by the fact that the participants were not responding to items which directly addressed the transitions described in Table 8.2 and thus have chosen statements which appeared to reflect contrasts between the “minimal” and “maximal” columns for each continuum. Also, comments which participants made should only be understood in the context of learning through, and from, the crossing of work contexts.

The reality is that an individual's learning can not be located on a single spot on these continua. On a microgenetic basis, our understandings vacillate depending on our actions and the contexts in which they occur. However, there appears to be evidence that, over longer time spans, our understandings do progress. Micro- and macro-societal understandings will influence this rate of progress. Given that the participants are, in the main, educational practitioners with considerable experience in their field, it is expected that they (and the communities of practice to which they belong) are progressing at a faster rate than those of the wider society, with respect to their understandings of learning and transfer.

The changes in orientation to learning, which are reflected in the participant's responses, are concomitant with the learning journeys they are experiencing as educational practitioners. The metaphor of a journey is important as it expresses both the inevitability of progress as well as accompanying baggage. People do not stop learning per se. We may resist certain areas of learning and may avoid or minimise our conscious reflection on certain situations. However, we will continue to learn from the social world in which we are situated. Furthermore, we also carry with us our prior learning, which may enhance or impede our understanding of, and learning from, future situations.

## 7.6 Implications for institutional learning

The stage 2 questionnaire was designed to validate the model developed as a result of the stage 1 data analysis. It was also designed to elicit the perceptions of the respondents as to:

- What learning strategies do you believe help people to prepare for the transfer of competence across work contexts?
- What is the role of formal education in preparing people for this process?
- What changes in practice might be necessary to achieve this?

These three questions relate to the role of formal learning in the preparation and support of workplace learning and are associated with the development of the capacity for intrapersonal transfer. The responses received were discussed in §6.3.1 and contained the participants' responses to actions needed to help people prepare for intercontextual transfer, the role of formal education, and necessary changes in educational practice.

### Strategies to help people prepare for transfer

In response to this item, participants provided a wealth of information as to possible strategies, conditions and attitudes which would enable those in formal, or institutional, learning settings develop the capacity to learn through their work activities.

In terms of the attitudes which needed to be fostered, the respondents nominated confidence, being open and adaptable, persistence, patience, keeping an open mind, and motivation. This was summed up by one participant who wrote:



People who are thoughtful and reflective about their work, and who take the trouble to plan and prepare are more likely to make the transition.

(s2p085)

The conditions needed for the development of the skills necessary for the transfer of competence across different work contexts were much more diverse and could be grouped as internal conditions, external conditions and necessary actions. These are discussed in §6.3.1 (p. 207). Internal conditions raised by the stage 2 participants were mainly concerned with fostering motivation and ranged from a simple 'willingness to learn' to 'a dream, a reason to undertake the painful and troublesome process of learning' (s2p025). The external conditions raised were usually based on the environment and culture of the workplace and included support to newcomers to the workplace, a tolerance of risk, group learning, and using failure as a springboard for learning.

The necessary actions were, generally centred on providing models for effective practice, mutual trust and respect, and access to 'the different groups and values within the organisation in relation to [one's] work' (s2p018).

The strategies can be grouped into seven categories, that is: strategies which develop:

- self-awareness skills;
- capability for reflection on experience;
- learning and research skills;
- context analysis and understanding;
- experience in different work contexts; and
- effective use of the affordances and agency offered available within the workplace.

These attitudes, conditions and strategies provide the bare skeleton around which the participants' responses need to be considered in the light of the contexts from which they arose. They provide the trunk and branches of a deciduous tree in winter. In order to become our lived experience, of the transfer and adaptation of what we know, and can do, we need to explore, enact, engage with, and apply these ideas, in order to bring the tree to life as a useful framework for our everyday learning.

### Role of formal education in preparing people for this process?

Most of the respondents did not believe that formal education played a strong role in preparing people for entry to, and movement across, different workplaces. Some of the participants acknowledged that there were some positive roles currently provided by participation in institutional learning. These revolved around developing 'specific occupational skills or content knowledge' (s2p020), being able to learn in a 'non-threatening environment' (s2p012) and developing underpinning skills and knowledge (s2p006, 013, 009, and 061) such as 'the discipline of critical thinking skills, problem solving, research and analytical skills, and access to theoretical models' (s2p059). These are discussed in §6.3.1.

However, as the discussion in §6.3.1 notes, although formal education can, and does, all the roles identified by the stage 2 participants, these are not the curricula outcomes or the intended outcomes of training specifications. These key working and living skills are relegated to being part of the unintended or serendipitous outcomes which depend on the philosophy and practice of the teacher for their development or otherwise.

The majority of respondents to this question replied in terms of what formal education should be doing. The dominance of content, adherence to hierarchical learning structures and the use of

formal education as mechanisms for gate-keeping and ranking, were all described as conditions which prevent it from currently meeting the expectations of many of the participants.

### What changes are necessary to achieve this?

The responses to this question placed the onus to change on learners, teachers, trainers, mentors, workplaces, institutions and systems. The respondents advocated significant changes in our approach to formal learning. These were mainly concerned with moving the focus away from learning about and towards providing the learner with the metacognitive skills, research and analysis skills, and experience in exploring, enacting and engagement within authentic contexts. Many of the respondents recognised that this could only happen when educational practitioners demonstrated that they valued the whole experience of learning – not just its measurable outcomes.

Stevenson (2002) notes that society and institutions need to recognise different ways of understanding and rendering meaning. He writes that:

Meaningfulness is highly contextualised, related to the framework that we know-with, to intentions and to personal significance. Moreover, the frameworks are multi-dimensional (including, among other things, normative dimensions) and are dynamic, undergoing change even as they are utilised. It is through struggling in the contextualised transitions that we are engaging in new social activities that we undergo transformation in our knowledge, skill and identity; and this creates a space for reflecting upon the different kinds of contextualised meaning-making frameworks for apprehending, utilising and rendering meaning.

(p. 165)

Stevenson argues that transitions and our frameworks for making sense of these transitions, are essential to the development of competence (understood as our skill, knowledge and identity as learners). Transitions across contexts are not a special type of learning, they are key experiences which inform and shape our learning.

A number of researchers (for example, the work of Dyson 1999; Van Oers 1998) have shown that young children are well aware of the difference between school and home contexts and that their discourse whilst engaged in group play and learning show how they embed one context in another in order to generalise from their experiences. Secondary school children often cross three or four contextual boundaries as they juggle school, home, sporting and part-time work activities. Yet our formal education ignores the learning which occurs outside its boundaries.

As many of the stage 2 participants pointed out, we need to deliberately focus on the transitional experiences of our students in order to help them to understand, learn from them and to construct contextual-rich generalisations in order to build their own, unique frameworks of meaning about the whole of their lives. These transitions will include lateral, collateral, encompassing and mediational transitions and the use of formal learning groups, to reflect on, and make multiple meanings from, such consequential transitions. This will help the groups of co-learners to develop their reflective and learning capabilities and explore the role that the context has in shaping our understandings. To do this, learners need to bring real experiences into the classroom that they can critically discuss with their peers. They also need to be given the freedom to design their own subsequent learning activities.

In my Masters' thesis (Down 1997b, pp. 136-137), I described some project work I facilitated for a group of trainees working within the Ford Motor Company (Australia) Ltd. These trainees worked in small groups of twos, threes and fours to investigate something they wanted to learn

about the company they now worked for. As a facilitator, I allowed them complete control over the design, planning, execution and completion of the project within some clearly defined and reasonable parameters. Whilst I met with them each week to ensure they had produced the necessary design and planning documentation and to discuss their progress, it seemed, at the time, that my main role was to ensure that they attended to the usual protocol for visiting different work areas and to order the requisite number of fleet cars so that the groups had the mobility they needed. At the end of the project, the groups reported their activities and their reflections on the process, to 79 very senior managers who, as one reported later, were 'blown away by the high standard and thoughtfulness of their work' (Down 1997b, p. 137).

In retrospect, I now understand that the projects represented activities which involved making a number of collateral and mediational transitions across different workplaces within the company. These transitions were of short duration but, in order to get the information they needed, the various groups had to interact with different managers and work groups, often across plants and geographical locations. Visits to dealers and suppliers also meant crossing contextual boundaries. This need to recognise the features and working conditions of different contexts was something all the groups reported on in their final presentations. As one participant described it, 'we found that we had to relate to each workplace group we visited. It wasn't easy as they were all different and inclined to resent spending time with us as we were only bloody trainees' (previously unused part of transcript for Down 1997b).

The above example reminds me that whilst, unfortunately, it is not usually possible for us to initiate and maintain large scale change at the systemic, institutional or workplace level, we can help those we work with to learn from their experiences and to develop the necessary metacognitive and other skills necessary for effective learning. Given our ready access to information via books and the Internet, we need to move our attention away from "just-in-case" learning-about and to focus on the "how" of learning. This involves enabling access to authentic activities and contextual transitions.

## **7.7 Achievement of the research objectives**

At the commencement of this research I knew what I wanted to discover but not what it would look like. Certainly I had ideas about what I might find but these were not concrete or bounded. The research journey was essentially one of green field exploration. The objectives I formulated at the outset of my journey were posited to form a framework for my research but not to constrain it.

It is useful to revisit these objectives in order to assess what has been achieved by the research. As I state in Chapter 3, my overall research objective was to explore the perceptions of training practitioners, based on their own experience and on their expertise as facilitators of situated learning. The research focused on how these practitioners perceived that the transfer of competence (that is, what people already know and can do) occurred, and on how they facilitate its development within their practice as teachers.

The analysis of the data collected started with the relevant perceptions of the stage 1 participants (§ 4). From an analysis of their accounts, a possible model of the process was constructed. This was done with a consciousness of the inherent contradiction of the construction of a generalised model from a contextually-based analysis. However, the model was constructed by taking into account, rather than ignoring, the different contexts from which the stage 1 participants' accounts were derived.

The questionnaire used in stage 2 of the research was designed for three distinct, yet overlapping, purposes, that is:

- the validation, or otherwise, of the model constructed on the basis of the stage 1 data
- the collection of further data relating to the transfer of competence across different work contexts
- collecting participant perceptions of the role of formal education in preparing and supporting learning in the workplace

In addition, the questionnaire was designed as a learning tool to assist respondents to reflect deeply on their understandings and to provide data which came from their experience as educational practitioners.

The analysis of the data provided by the stage 2 participants demonstrates that all three of these objectives were achieved. The findings of this analysis constitute §5 and §6 inclusive and provide a rich account of the perceptions of practitioners as to how people transfer their competence across different work contexts.

In doing this, I have recognised the validity of Schön's theorising of professional practice and have adopted and adapted his metaphor of professional practice as a swamp (messy, complex, contradictory and context-bound). The material analysed in chapters 4-6 repeatedly demonstrates the extent to which Schön's ideas about professional practice have permeated into the thinking of the participants in this research.

One of the things I have learnt from this research is that there is a gap between the ways in which educational practitioners and outsiders understand learning contexts and experiences. This discontinuity often results in the formulation of policies and procedures by bureaucrats and politicians which add rather than ameliorate issues in teaching and learning. As in a swamp, what is messy to the outsider is a complex, delicate and self-regulating ecosystem to those within a learning context. Thus, Schön's analogy has been an effective tool in making sense of the various factors which influence our learning across different contexts.

This does not mean that the analysis of the data owes more to Schön than to activity theory or to expansive learning. The unit of analysis of Activity Theory provides a framework for understanding how the context affects and influences our actions. It enables us to interpret a particular change in terms of the mediating artefacts, the community of practice, the rules for the division of labour and other contextual infrastructures. By using the unit of analysis as an analytic tool, I was able to interpret the participant responses without undue abstraction as they were responding to specific situations not generalised ones. Similarly, the questions;

- who is learning?
- why are they learning?
- what are they learning?
- how are they learning?

need to be answered in terms of the activity system in which the learning is occurring, the historicity of the learning participants, the multi-voicedness of this group, the contradictions and paradoxes which shape the learning and the new understandings and expansive learnings which come from it. Thus the work of Engeström has been indispensable in the formulation of this account.

Whilst the research objectives have been met, this does not, however, mean that the original questions posed have been answered. This research will contribute to the debate on learning through work and provide a rich panorama of participant views on learning within work contexts. However, questions such as the research question for this piece of research will continue to be

asked and others will continue to build on our rich heritage of theory and experience to formulate more complete answers.

## 7.8 Conclusions

Chapter 7 has described the integration and formalisation of what I have learnt, and what has been discovered, through the research process. It commenced with the development, and its rationale, of a metaphoric framework which replaces the stage 1 model. This is a more encompassing, and powerful, model of the activities inherent in the transfer and adaptation of our competence as we move across contextual boundaries. It is, also, a more potent model because it comes in the form of a memorable story and is readily adaptable to different contextual “readings” and to the construction of understandings with ‘personal significance’ (Stevenson 2002, p. 165).

Following this discussion, was an account of my emerging theory around learning and transfer (understood as consequential transitions). Data from the stage 2 participants as well as extracts from recent literature was used to support and illustrate these understandings. The account also involved a redefinition of generalisation which does not involve decontextualisation (Van Oers 1998).

A discussion of the different journeys we undertake followed. This included an identification of the baggage we carry from past experiences and the continua, paradoxes and contradictions that we experience as we try to develop meaning and to construct new identities. The concept of a learning journey is important in the development of our sense of identity which undergoes transitions as we move across contextual boundaries. Reflection on identity, and the multiple frameworks we use to make sense of our lives, helps to tease out some of our actions which arise from our tacit understandings and to make these explicit.

The final part of the chapter was concerned with the relationships between the findings of the research and the role of formal, or institutional, learning settings in preparing us for, and supporting us in, our workplace activities and experiences. This account started by summarising the findings already outlined in §6.3.1 and then integrating these with my own experience and the wisdom from some of the relevant literature. This provided an indication of practice consistent with the ideas discussed in the thesis.

Finally, the contribution of the work of Schön, activity theory and Engeström’s theory of expansive learning have been considered in the light of both the objectives of the research and its findings. This discussion acknowledged the strong role played by these theoretical constructs in providing a conceptual framework for my analysis. It has also demonstrated the relevance of this body of literature to the work and learning of educational practitioners.

Undertaking this research has been a long, and for me, difficult process but also a very interesting and rewarding one. Much of the difficulty was of my own making, and originated in my identification and wording of the original research question and its three subsidiary questions. At this point it is instructive to note that the research, while not providing definitive answers to these questions, has provided evidence of new practitioner understandings of the role and meaning of contextual boundary crossing.

My research provides a significant advance in our understanding of the phenomenon of contextual boundary crossing (or transfer) and the learning which is embedded in this process. This has been achieved by:

- developing a model from the stage 1 participant responses and refining it by comparison with those developed by other researchers;
- exploring the model deeply through the experiences of the 90 stage 2 participants; and
- explaining the concept through the metaphor of the swamp.

The thesis has, therefore, resulted in a new research method and serves to advance our collective understanding of learning and transfer.

The implications of this research are largely practical. The outcomes of the research provide a tool for understanding the process of crossing contextual boundaries, and a framework which we can use to focus our reflections and, thus, enhance our learning from experience. It, therefore, should be useful to those who prepare people for, and support, learning through and from work. It also provides directions in which institutional learning needs to move, if it is to effectively and usefully meet the vocational and occupational needs of learners.

Schön (1987, p. 3) identified that the problems of the swampy ground were those of the greatest human interest and that these problems were not amenable to rationalistic solutions. This research has extensively explored the complex, messy, context-bound experience of the swamp dwellers and provided a metaphor which gives workplace participants a framework to help them make sense of their lived experience.

Over the past six and a half years I have been on a voyage of discovery focused on learning and its transition across contextual boundaries. Although this work has had to be fitted in with my full-time work commitments, and family and domestic responsibilities, it has been such an engaging and pleasurable activity that I have not regretted undertaking it. The benefits for me have been countless. I hope that the sharing of this account of my journey will be as beneficial to all those who read it and relate it to their own experience and practice.

## References

- AAAJ Consulting Group, Down, C. M. and Standen, A. (2000). *Underpinning Knowledge in Competencies within Training Packages*. Melbourne, Australian National Training Authority.
- Abramson, L. Y., Seligman, M. E. and Teasdale, J. D. (1978). "Learned helplessness in humans: Critique and reformulation." *Journal of Abnormal Psychology* **87**: 49 - 74.
- Anderson, B. (1992). Task and reflection in learning to learn. *Empowerment Through Experiential Learning: Exploration of good practice*. Mulligan, J. and Griffin, C. (eds.). London, Kogan Page: 239-246.
- Anderson, B. and McMillan, M. (1992). Learning experiences for professional reality and responsibility. *Empowerment Through Experiential Learning: Exploration of good practice*. Mulligan, J. and Griffin, C. (eds.). London, Kogan Page: 222-232.
- Argyris, C. (2000). Teaching smart people how to learn. *Strategic Learning in a Knowledge Economy: Individual, collective and organizational learning process*. Cross, R. and Israelit, S. (eds.). Boston, Butterworth Heinemann: 279-295.
- Australian Education Council, M. C. (1992). *Putting Education to Work; The Key Competencies report*. Melbourne, Australian Education Council and Ministers of Vocational Education, Employment and Training.
- Australian National Training Authority (1998). *A Bridge to the Future: Australia's National Strategy for Vocational Education and Training 1998 - 2003*. Brisbane, Australian National Training Authority.
- Australian National Training Authority (ANTA) (2003). *Shaping our Future: Draft national strategy for vocational education and training 2004-2010*. Brisbane, Australia, ANTA.
- Bakhtin, M. M. (1981). *The dialogic imagination: Four essays by M. M. Bakhtin*. Austin, Texas, University of Texas Press.
- Bakhtin, M. M. (1986). *Speech genres and other late essays*. Austin, Texas, University of Texas Press.
- Bakhurst, D. (2003). Reflections on activity theory. unpublished seminar notes presented at the Institute of Education, London, 9 October 2003 and at the Centre for learning Research, Griffith University, Brisbane on 9 October 2003: 3.
- Bandura, A. (1977). *Social Learning Theory*. Eaglewood Cliffs, Prentice Hall.
- Bandura, A. and Walters, R. H. (1963). *Social Learning and Personality Development*. New York, Holt, Rinehart and Winston.
- Barnett, R. (2002). Learning to work and working to learn. *Supporting Lifelong Learning, Volume 2: Organizing learning*. Reeve, F., Cartwright, M. and Edwards, R. (eds.). London and New York, RoutledgeFalmer. **2**: 7-20.
- Barrows, H. S. and Tamblyn, R. M. (1980). *Problem-based Learning: An approach to medical education*. New York, Springer.
- Bateson, G. (1972). *Steps to an ecology of mind*. New York, Ballantine Books.
- Baudrillard, J. (1994). *The Illusion of the End*. Cambridge, Polity Press.
- Beach, K. (1999). Consequential transitions: A sociocultural expedition beyond transfer in education. *Review of Research in Education*. Iran-Nejad, A. and Pearson, P. D. (eds.). Washington, D.C., American Educational Research Association. **24**: 101-140.
- Beach, K. (2003). Consequential transitions: A developmental view of knowledge propagation through social organizations. *Between School and Work: New perspectives on transfer and boundary-crossing*. Tuomi-Gröhn, T. and Engeström, Y. (eds.). Oxford, UK, Pergamon: 39-61.
- Becker, H. S. (1996). The epistemology of quantitative research. *Ethnography and human development: Context and meaning in social inquiry*. Jessor, R., Colby, A. and Shweder, R. A. (eds.). Chicago, University of Chicago Press: 53 - 71.

- Belenky, M. F., Clinchy, B. M., Goldberger, B. M. and Tarule, J. M. (1986a). *Women's Ways of Knowing: The development of self, voice and mind*. New York, Basic Books.
- Belenky, M. F., Clinchy, B. M., Goldberger, N. R. and Tarule, J. M. (1986b). *Women's Ways of Knowing: The development of self, voice, and mind*. United States of America, Basic Books.
- Bereiter, C. (1995). A dispositional view of transfer. *Teaching for Transfer: Fostering generalization in learning*. McKeough, A., Lupart, J. and Marini, A. (eds.). Mahwah, New Jersey, Lawrence Erlbaum Associates: 21-34.
- Berman Brown, R. and McCartney, S. (1999). Multiple mirrors: Reflecting on reflections. *Developing the capable practitioner: Professional capability through higher education*. O'Reilly, D., Cunninham, L. and Lester, S. (eds.). London, UK, Kogan Page Ltd.: 16 - 32.
- Bernhardt, A. (1999). The future of low-wage jobs: Case studies in the rural industry, Institute on Education and the Economy, Columbia University.
- Bernstein, B. (1971). *Class, Codes and Controls*. London, Routledge and Kegan Paul.
- Beven, F. (1994). Pressing TAFE learners into far transfer within a CBT framework. *Cognition at Work: The Development of Vocational Expertise*. Stevenson, J. (ed.). Adelaide, National Centre for Vocational Education Research: 217 - 243.
- Biggs, J. (1999). *What the student does: teaching for enhanced learning*, unpublished paper.
- Billet, S. (1999). Guided learning at work. *Understanding Learning at Work*. Garrick, J. (ed.). London & New York, Routledge: 151-164.
- Billet, S. (2000). Coparticipation at work: Knowing and work practice. paper presented at *Learning together, working together: Building communities for the 21st Century. Proceedings of the 8th Annual International Conference on Post-compulsory Education and Training*, Gold Coast, Queensland, Centre for Learning and Work Research, Faculty of Education, Griffith University 16 - 24.
- Billett, S. (1994). Authenticity in workplace learning settings. *Cognition at Work: The Development of Vocational Expertise*. Stevenson, J. (ed.). Adelaide, National Centre for Vocational Education Research: 36-75.
- Billett, S. (1996a). Knowledge, learning and work: a synthesis of research at Griffith 1994 - 1996. paper presented at *Researching and Learning Together: AN TARAC Conference*, Melbourne, Australian National Training Authority 1-17.
- Billett, S. (1996b). "Towards a model of workplace learning: The learning curriculum." *Studies in Continuing Education* 18(1): 43-58.
- Billett, S. (1998a). Guided learning in the workplace: Five enterprises. paper presented at *6th Annual International Conference on Post-compulsory Education and Training - Vocational Knowledge and Institutions: Changing relationships*, Surfers Paradise, Centre for Learning and Work Research, Faculty of Education, Griffith University 12 - 23.
- Billett, S. (1998b). "Transfer and social practice." *Australian and New Zealand Journal of Vocational Education research* 6(1): 1-25.
- Billett, S. (1999). Work as social practice: Activities and interdependencies. paper presented at *Changing Practice through Research: Changing Research through Practice - 7th Annual International Conference on Post-Compulsory Education and Training*, Gold Coast, Griffith University 128 - 138.
- Billett, S. (2000a). Coparticipation at work: Knowing and work practice. paper presented at *Learning together, working together: Building communities for the 21st Century. Proceedings of the 8th Annual International Conference on Post-compulsory Education and Training*, Gold Coast, Queensland, Centre for Learning and Work Research, Faculty of Education, Griffith University 16 - 24.
- Billett, S. (2000b). Co-participation at work: Knowing and working knowledge. paper presented at *Working Knowledge: Productive learning at work*, Sydney NSW, University of Technology, Sydney 29 - 35.
- Billett, S. (2000c). Guidance, activities and participation: Towards a workplace pedagogy. paper presented at *Learning together, working together: Building communities for the 21st*



- Century. *Proceedings of the 8th Annual International Conference on Post-compulsory Education and Training*, Gold Coast, Queensland, Centre for Learning and Work Research, Faculty of Education, Griffith University 216 - 223.
- Billett, S. (2000d). Understanding workplace learning: Cognitive and sociocultural perspectives. *Current Issues and New Agendas in Workplace Learning*. Boud, D. (ed.). Leabrook, SA, National Centre for Vocational Education Research: 47 - 68.
- Billett, S. (2001a). *Learning in the Workplace: Strategies for effective practice*. Crows Nest, NSW, Allen & Unwin.
- Billett, S. (2001b). Workplace affordances and individual engagement at work, unpublished paper: 8.
- Billett, S., McKavanagh, C., Beven, F., Angus, L., Seddon, T., Gough, J., Hayes, S. and Robertson, I. (1999). *The CBT Decade: Teaching for flexibility and adaptability*. Adelaide, National Centre for Vocational Education Research.
- Bloom, B. S. (1965). *Taxonomy of Educational Objectives*. London, Longman.
- Borg, V. (1971). *industriarbejde og arbejderbevidsthed*. Copenhagen, Munksgaard.
- Boud, D., (ed.) (2000). *Current Issues and New Agendas in Workplace Learning*. Leabrook, SA, National Centre for Vocational Education Research.
- Boud, D., Cohen, R. and Walker, D. (1993). Understanding learning from experience. *Using Experience for Learning*. Boud, D., Cohen, R. and Walker, D. (eds.). Buckingham, SRHE and Open University Press: 1-17.
- Boud, D. and Garrick, J. (1999). Understandings of workplace learning. *Understanding Learning at Work*. Boud, D. and Garrick, J. (eds.). London & New York, Routledge: 1-11.
- Boud, D., Keogh, R. and Walker, D. (1985a). Promoting reflection in learning: A model. *Reflection: Turning experience into learning*. Boud, D., Keogh, R. and Walker, D. (eds.). London/New York, Kogan Page/Nichols Publishing Company: 18 - 40.
- Boud, D., Keogh, R. and Walker, D., (eds.) (1985b). *Reflection: Turning experience into learning*. London/New York, Kogan Page/Nichols Publishing Company.
- Boud, D., Keogh, R. and Walker, D. (1985c). What is reflection in learning. *Reflection: Turning experience into learning*. Boud, D., Keogh, R. and Walker, D. (eds.). London/New York, Kogan Page/Nichols Publishing Company: pp. 7 - 17.
- Bradburn, N. M. (1983). Response effects. *Handbook of Survey Research*. Rossi, P. H., Wright, J. D. and Anderson, A. B. (eds.). New York, Academic Press: 289 - 328.
- Bransford, J. D. and Schwartz, D. L. (1999). Rethinking transfer: A simple proposal with multiple implications. *Review of Research in Education*. Iran-Nejad, A. and Pearson, P. D. (eds.). Washington, D.C., American Educational Research Association. **24**: 61-100.
- Brookfield, S. (2000). Helping people learn what they do: Breaking dependence on experts. *Working with Experience: Animating learning*. Boud, D. and Miller, N. (eds.). London, Routledge: 27 - 40.
- Broudy, H. S. (1977). Types of knowledge and purposes of education. *Schooling and the acquisition of knowledge*. Anderson, R. C., Spiro, R. J. and Montague, W. E. (eds.). Hillsdale, NJ, Erlbaum: pp. 1-17.
- Brown, J. S. (2000). Organizational learning and communities-of-practice: Toward a unified view of working, learning and innovation. *Strategic Learning in a Knowledge Economy: Individual, collective and organizational learning process*. Cross, R. and Israelit, S. (eds.). Boston, Butterworth Heinemann: 143-165.
- Brown, J. S., Collins, A. and Duguid, P. (1989). "Situated cognition and the culture of learning." *Educational Researcher* **18**(1): 32-34.
- Brown, J. S., Collins, A. and Duguid, P. (1996). Situated cognition and the culture of learning. *Situated Learning Perspectives*. McLellan, H. (ed.). Englewood Cliffs, New Jersey, Educational Technology Publications: 19-44.
- Brown, J. S. and Duguid, P. (2002). *The Social Life of Information*. Boston, Massachusetts, Harvard Business School Press.
- Bruner, J. (1990). *The Process of Education*. Massachusetts, Harvard University Press.

- Bruner, J. (1996). *The Culture of Education*. Cambridge, Massachusetts, Harvard university Press.
- Carmichael, L. (1992). The competency movement - professional and vocational education. paper presented at *Competency and Professional Education: A Symposium*, Australian National University, Centre for Research in Professional Education, Australian National University
- Chaiklin, S. and Lave, J., (eds.) (1996). *Understanding Practice: Perspectives on activity and context*. Learning in Doing: Social, cognitive and computational perspectives. Cambridge, UK, Cambridge University Press.
- Charmaz, K. (2003). Grounded theory; objectivist and constructivist methods. *Strategies of Qualitative Inquiry*. Denzin, N. K. and Lincoln, Y. S. (eds.). Thousand Oaks, London & Delhi, Sage Publications: 249 - 291.
- Cohen, L. and Manion, L. (1989). *Research Methods in Education (Third edition)*. London, Routledge.
- Cohen, L., Manion, L. and Morrison, K. (2000). *Research Methods in Education (Fifth edition)*. London, RoutledgeFalmer.
- Cole, M. and Engeström, Y. (1993). A cultural-historical interpretation of distributed cognition. *Distributed Cognition: Psychological and educational considerations*. Salomon, G. (ed.). Cambridge, Cambridge University Press.
- Coyle, A. (1995). Discourse analysis. *Research Methods in Psychology*. Breakwell, G. M., Hammond, S. and Fife-Shaw, C. (eds.). London, Sage Publications: pp. 243-58.
- Cross, R. and Israelit, S., (eds.) (2000). *Strategic Learning in a Knowledge Economy: Individual, collective and organizational learning process*. Knowledge Based Economy Series. Boston, Butterworth Heinemann.
- Dall'Alba, G. (1994). Reflections on some faces of phenomenography. *Phenomenographic Research: Variations in method - The Warburton Symposium*. Bowden, J. A. and Walsh, E. (eds.). Melbourne, Royal Melbourne Institute of Technology (RMIT): 73 - 88.
- Danford (1998). "Teamworking and labour regulation in the autocomponents industry." *Work, Employment and Society* 12(3): pp. 409-431.
- Daniels, H., (ed.) (1996). *An Introduction to Vygotsky*. London & New York, Routledge.
- Darrah, C. N. (1996). *Learning and Work: An exploration in industrial ethnography*. New York, Garland Publishing.
- Darrah, C. N. (1997). Complicating the concept of skill requirements: Scenes from a workplace. *Changing Work, Changing Workers: Critical perspectives on language, literacy and skills*. Hull, G. (ed.). New York, State University of New York Press: pp. 249-272.
- Delors, J. (1996). *Learning: The treasure within, Report to UNESCO of the International Commission on Education for the Twenty-first Century*. Paris, UNESCO Publications.
- Deming, W. E. (1986). *Out of the Crisis*. Cambridge, Massachusetts, Massachusetts Institute of Technology.
- Denzin, N. K. and Lincoln, Y. S. (2003a). Introduction: The discipline and practice of qualitative research. *Strategies of Qualitative Inquiry*. Denzin, N. K. and Lincoln, Y. S. (eds.). Thousand Oaks, London & Delhi, Sage Publications: 1-45.
- Denzin, N. K. and Lincoln, Y. S. (2003b). Introduction: The discipline and practice of qualitative research. *The Landscape of Qualitative Research: Theories and issues*. Denzin, N. K. and Lincoln, Y. S. (eds.). Thousand Oaks, London & New Delhi, Sage Publications: 1 - 45.
- Detterman, D. L. (1993). The case for the prosecution: Transfer as epiphenomenon. *Transfer on Trial: Intelligence, cognition, and instruction*. Detterman, D. L. and Sternberg, R. J. (eds.). Norwood, NJ, Ablex.
- Devos, A. (2002). Gender, work and workplace learning. *Supporting Lifelong Learning, Volume 2: Organizing learning*. Reeve, F., Cartwright, M. and Edwards, R. (eds.). London and New York, RoutledgeFalmer. 2: 51-63.

- Dewey, J. (1916). *Democracy and Education*. New York, Macmillan.
- Dewey, J. (1933). *How We Think*. Lexington, Massachusetts, Houghton Mifflin Company.
- Dewey, J. (1971). *The Early Works of John Dewey 1882-1898, vol. V: Pedagogic Creed*. London, Feffer and Simons.
- Down, C. M. (1995). The Wisdom of Hindsight: Training Reform within the Ford Motor Company (Australia) Pty Ltd 1990-1995. paper presented at *Research and Practice: Building the Links*, Melbourne, Office of Training and Further Education 666 - 681.
- Down, C. M. (1996). "CBT: a personal view." *Transfer* 1(1): 5 - 8.
- Down, C. M. (1997a). "Commonsense, Experience and Nous." *Transfer: VET Research and Practice* 2(1): 10-14.
- Down, C. M. (1997b). The Wisdom of Hindsight: Training Reform within the Ford Motor Company (Australia) Ltd. *Faculty of Education, Health and Professional Studies*. Armidale, NSW, University of New England: 425.
- Down, C. M. (2001). The Triple C Project: Teachers, technology and Training Packages. paper presented at *Knowledge Demands for the New Economy*, Parkroyal Surfers Paradise, Gold Coast, Queensland, Centre for Learning and Work Research, Faculty of Education, Griffith University 187 - 192.
- Down, C. M. (2002). Strategic evaluation of the qualitative impact of the introduction of Training Packages on vocational education and training clients. Melbourne, Australian National Training Authority.
- Down, C. M. (2003a). Employability Skills: Revisiting the Key Competencies or a new way forward? paper presented at *11th Annual International Conference on Post-Compulsory Education and Training*, Crowne Plaza Surfers Paradise, Gold Coast, Queensland, Australia, Centre for Learning Research, Faculty of Education, Griffith University 171 - 178.
- Down, C. M. (2003b). "The impact of training packages: What might we learn about substantial system-wide change processes?" *International Journal of Training Research* 1(2): 1 - 20.
- Down, C. M. (2004). Making sense of transfer and adaptation across differing contexts. paper presented at *Doing-Thinking-Activity-Learning. Proceedings of the 12th Annual International Conference on Post-compulsory Education and Training*, Crowne Plaza Surfers Paradise, Gold Coast, Queensland, Australia, Australian Academic Press for Centre for Learning Research, Faculty of Education, Griffith University 116 - 123.
- Down, C. M. (2005). Making sense of transfer and adaptation across differing contexts: A metaphoric framework. paper presented at *AVETRA 8th Annual Conference, "Emerging Futures: Recent, responsive and relevant research"*, Sofitel Brisbane Hotel, Brisbane, Queensland, Australian Vocational Education and Training Association 1-10.
- Down, C. M. and Cleary, M. (2005). Final Report; Enterprise RPL project. Melbourne, Victoria, Australian National Training Authority: 66.
- Down, C. M. and Hager, P. (1999). Making judgements: Practical strategies from research outcomes. paper presented at *Quality and Diversity in VET Research: Proceedings of the second national conference of the Australian Vocational Education and Training Research Association (AVETRA)*, Royal Melbourne Institute of Technology, AVETRA
- Dreyfus, H. and Dreyfus, S. (1986). *Mind Over Machine: The power of human intuition and expertise in the era of the computer*. Oxford, UK, Basil Blackwell.
- Dyson, A. H. (1999). Transforming transfer: Unruly children, contrary texts and the persistence of the pedagogical order. *Review of Research in Education*. Iran-Nejad, A. and Pearson, P. D. (eds.). Washington, D.C., American Educational Research Association. 24: 141-171.
- Edwards, R. (2000). A working ethic? Enterprise and flexibility in the contemporary workplace. paper presented at *Working Knowledge: Productive learning at work*, Sydney NSW, University of Technology, Sydney 133 - 138.
- Elias, J. (1979). "Andragogy revisited." *Adult Education* 26: 252 - 56.

- Engel, C. (1991). Not just a method but a way of learning. *The Challenge of Problem Based Learning*. Boud, D. and Feletti, G. (eds.). London, Kogan Page.
- Engeström, R. (1995). "Voice as communicative action." *Mind, Culture and Activity* 2: 192-214.
- Engeström, Y. (1987). *Learning by expanding: An activity-theoretical approach to developmental research*. Helsinki, Orienta-Konsultit.
- Engeström, Y. (1999a). Expansive learning at work: Toward an activity-theoretical reconceptualization. paper presented at *7th Annual International Conference on Post-Compulsory Education and Training*, Gold Coast, Centre for Learning and Work Research, Griffith University 1-26.
- Engeström, Y. (1999b). Activity theory and individual and social transformation. *Perspectives on activity theory*. Engeström, Y., Meittinen, R. and Punamäki, R.-I. (eds.). Cambridge, Cambridge University Press: 19 - 38.
- Engeström, Y. (1999c). Innovative learning in work teams: Analysing cycles of knowledge creation in practice. *Perspectives on activity theory*. Engeström, Y., Meittinen, R. and Punamäki, R.-I. (eds.). Cambridge, Cambridge University Press: 377 - 404.
- Engeström, Y., Engeström, R. and Kärkkäinen, M. (1995). "Polycontextuality and boundary crossing in expert cognition: Learning and problem solving in complex work activities." *Learning and Instruction* 5: 319-336.
- Engeström, Y. and Escalante, V. (1996). Mundane tool or object of affection? The rise and fall of the Postal Buddy. *Context and Consciousness: Activity theory and human-computer interaction*. Nardi, B., A. (ed.). Cambridge, Mass., The MIT Press.
- Engeström, Y., Meittinen, R. and Punamäki, R.-I., (eds.) (1999). *Perspectives on Activity Theory*. Cambridge, Cambridge University Press.
- Engeström, Y., Meittinen, R. and Punamäki, R.-I., (eds.) (1999d). *Perspectives on Activity Theory*. Cambridge, Cambridge University Press.
- Engeström, Y. and Middleton, D., (eds.) (1996a). *Cognition and Communication at Work*. Cambridge, UK, Cambridge University Press.
- Engeström, Y. and Middleton, D. (1996b). Introduction: Studying work as mindful practice. *Cognition and Communication at Work*. Engeström, Y. and Middleton, D. (eds.). Cambridge, UK, Cambridge University Press: 1 - 14.
- Eraut, M. (1994). *Developing Professional Knowledge and Competence*. London, Falmer Press.
- Eraut, M., Alderton, J., Cole, G. and Senker, P. (2002). Learning from other people at work. *Supporting Lifelong Learning, Volume 1: Perspectives on learning*. Harrison, R., Reeve, F., Hanson, A. and Clarke, J. (eds.). London and New York, RoutledgeFalmer. 1: 127-145.
- Evans, K., Behrens, M. and Kaluza, J. (2000). *Learning and Work in the Risk Society: Lessons for the labour markets of Europe from Eastern Germany*. Basingstoke, UK, Macmillan Press Ltd.
- Evans, K. and Hoffmann, B. (2000). Engaging to learn. *Combating Social Exclusion through Education*. Evans, K. and Hoffmann, B. (eds.). The Netherlands, Garant.
- Evans, K. and Rainbird, H. (2002). The significance of workplace learning for a 'learning society'. *Working to Learn: Transforming learning in the workplace*. Evans, K., Hodgkinson, P. and Unwin, L. (eds.). London, Kogan Page Limited: 7 - 28.
- FitzSimons, G. E. (2000). Teaching for difference in VET: Working and learning together in mathematics. paper presented at *Learning together, working together: Building communities for the 21st Century. Proceedings of the 8th Annual International Conference on Post-compulsory Education and Training*, Gold Coast, Queensland, Centre for Learning and Work Research, Faculty of Education, Griffith University 238 - 245.
- Fontana, A. and Frey, J. (2003). The interview: From structured questions to negotiated text. *Collecting and Interpreting Qualitative Materials*. Denzin, N. K. and Lincoln, Y. S. (eds.). Thousand Oaks, London & New Delhi, Sage Publications: 61 - 106.

- Foster, S. (1999). What motivates a student most to succeed in education? paper presented at *Cornerstones; What do we value in higher education?*, University of Melbourne, Parkville, Higher Education Research & Development Society of Australasia 9.
- Foucault, M. (1986). What is enlightenment? *The Foucault Reader*. Rainbow, P. (ed.). Harmondsworth, Peregrine Books.
- Fowler, J. (1981). *Stages of Faith*. San Francisco, Harper and Row.
- Fraser, W. (1995). *Learning from Experience: Empowerment or incorporation?* Leicester, UK, National Institute of Adult Continuing Education.
- Freire, A. M. A. and Macedo, D., (eds.) (2000). *The Paulo Freire Reader*. New York & London, The Continuum International Publishing Group.
- Freire, P. (1970). *Pedagogy of the Oppressed*. New York, Continuum Publishing Company.
- Gardner, H. (1993). *Frames of Mind*. London, Fontana Press.
- Gardner, H. (1999). *Intelligence Reframed: Multiple intelligences for the 21st Century*. New York, Basic Books.
- Gardner, H., Csikszentmihalyi, M. and Damon, W. (2001). *Good Work: When excellence and ethics meet*. New York, Basic Books.
- Gee, J. P. and Green, J. L. (1998). Discourse analysis, learning and social practice: A methodological study. *Review of Research in Education*. Pearson, P. D. and Iran-Nejad, A. (eds.). Washington, DC, American Educational Research Association. **23**: 119-169.
- Gibb, J. and Curtin, P. (2004). Overview. *Generic skills in vocational education and training: Research readings*. Gibb, J. (ed.). Adelaide, SA, National Centre for Vocational Education Research.
- Giddens, A. (1993). *The Consequences of Modernity*. Cambridge, Polity Press.
- Gilligan, C. (1982). *In a Different Voice; Psychological theory and women's development*. Cambridge, MA, Harvard University Press.
- Glaser, B. G. and Strauss, A. L. (1967). *The Discovery of Grounded Theory: Strategies for qualitative research*. Chicago, Aldine.
- Goleman, D. (1995). *Emotional Intelligence*. New York, Bantam Books.
- Goleman, D. (1998). *Working With Emotional Intelligence*. London, UK, Bloomsbury Publishing Pty.
- Goleman, D. (1999). *Working with emotional intelligence*. London, Bloomsbury Paperbacks.
- Greenfield, P. M. (1984). A theory of the teacher in the learning activities of everyday life. *Everyday cognition: Its development in social context*. Rogoff, B. and Lave, J. (eds.). Cambridge, Massachusetts, Harvard University Press: 117-138.
- Greeno, J., G. (1997). "Response: On claims that answer the wrong question." *Educational Researcher* **26**(1): pp. 5-17.
- Grundy, S. (1982). "Three modes of action research." *Curriculum Perspectives* **2**(3): pp. 23-34.
- Guba, E. G. (1990). The alternative paradigm dialog. *The paradigm dialog*. Guba, E. G. (ed.). Newbury Park, CA, Sage: 17-30.
- Gutierrez, K. D., Rymes, B. and Larson, J. (1995). "Script, counter script anderlife in the classroom - Brown, James versus Brown v. Board of Education." *Harvard Educational Review* **65**: 445-471.
- Habermas, J. (1970a). "On systematically distorted communication." *Inquiry* **13**(5): 205 - 218.
- Habermas, J. (1970b). "Towards a theory of communicative competence." *Inquiry* **13**(6): 360 - 375.
- Habermas, J. (1971). *Towards a Rational Society*. London, Heinemann.
- Habermas, J. (1972). *Knowledge and Human Interest*. London, Heineman.
- Habermas, J. (1974). *Theory and Practice*. London, Heinemann.
- Habermas, J. (1979). *Communication and the Evolution of Society*. London, Heinemann.
- Hager, P. (2003). Why we need to refurbish our understanding of learning - the strange case of competence. paper presented at *11th Annual International Conference on Post-Compulsory Education and Training*, Crowne Plaza Surfers Paradise, Gold Coast,

Queensland, Australia, Centre for Learning Research, Faculty of Education, Griffith University 7 - 22.

- Hager, P. and Gonczi, A. (1993). "Attributes and competence." *Australian and New Zealand Journal of Vocational Education research* 1(1): 36 - 45.
- Handy, C. (1996). *Beyond Certainty*. Boston, Massachusetts, Harvard Business School Press.
- Heron, J. (2000). Helping whole people learn. *Working with Experience: Animating learning*. Boud, D. and Miller, N. (eds.). London, Routledge: 75 - 91.
- Horton, M. (1990). *The Long Haul*. New York, Doubleday.
- Houle, C. O. (1961). *The Inquiring Mind: A study of the adult who continues to learn*. Madison, Wisconsin, University of Wisconsin Press.
- Huber, J. (1995). "Centennial essay: Institutional perspectives on sociology." *American Journal of Sociology* 101: 194-216.
- Hull, G. (1997). Preface and introduction. *Changing work, changing workers: Critical perspectives on language, literacy and skills*. Hull, G. (ed.). New York, State University of New York Press.
- Humphreys, M. (2003). Telling tales: Conflicting narratives of identity in a further education college. paper presented at 11th Annual International Conference on Post-Compulsory Education and Training, Crowne Plaza Surfers Paradise, Gold Coast, Queensland, Australia, Centre for Learning Research, Faculty of Education, Griffith University 42 - 50.
- Hutchins, E. (1991). The social organisation of distributed cognition. *Perspectives on socially shared cognition*. Resnick, L. B., Levine, J. M. and Teasley, S. D. (eds.). Washington, DC, American Psychological Association: 283-307.
- Il'enkov, E. V. (1977). *Dialectical logic: Essays in its history and theory*. Moscow, Progress.
- Il'enkov, E. V. (1982). *The dialectics of the abstract and the concrete in Marx's 'Capital'*. Moscow, Progress.
- Illeris, K. (2002). *The Three Dimensions of Learning: Contemporary learning theory in the tension field between the cognitive, the emotional and the social*. Frederiksberg, Denmark, Roskilde University Press.
- Illeris, K. (2003). "Towards a contemporary and comprehensive theory of learning." *International Journal of Lifelong Education* 22(4): 396-406.
- Janesick, V. J. (2003). The choreography of qualitative research design: Minuets, improvisations and crystallization. *Strategies of Qualitative Inquiry*. Denzin, N. K. and Lincoln, Y. S. (eds.). Thousand Oaks, London & Delhi, Sage Publications: 46 - 79.
- Jarvis, P. (1987). *Adult Learning in the Social Context*. London, Croom Helm.
- Jarvis, P., Holford, J. and Griffin, C. (2003). *The Theory and Practice of Learning*. London, RoutledgeFalmer, Taylor and Francis Group, London and New York.
- Johnson, S. (1998). *Who moved my cheese?: An amazing way to deal with change in work and in your life*. New York, Putnam.
- Kant (1788). *Critique of Pure Reason*. London, J. M. Dent.
- Kearns, P. (2001). *Review of Research: Generic skills for the new economy*. Adelaide, SA, National Centre for Vocational Education Research.
- Keats, J. (1884). *Poetical Works*. London, Macmillan.
- Kelly, G. A. (1955). *A Theory of personality: The psychology of personal constructs*. New York, W. W. Norton.
- Kemmis, S., (ed.) (1982). *The Action Research Reader*. Geelong, Deakin University.
- Kemmis, S. and McTaggart, R. (1981). *The Action Research Planner*. Geelong, Deakin University.
- Kerr, A. W., Hall, H. K. and Kozub, S. A. (2002). *Doing Statistics with SPSS*. London, Thousand Oaks & New Delhi, Sage Publications.
- Knights, S. (1985). Reflection and learning: The importance of a listener. *Reflection: Turning experience into learning*. Boud, D., Keogh, R. and Walker, D. (eds.). London/New York, Kogan Page/Nichols Publishing Company: 85 - 90.

- Knowles, M. (1990). *The Adult Learner: A Neglected Species*. Houston, Gulf Publishing Company.
- Knowles, M., Holton, E. F. I. and Swanson, R. A. (1998). *The Adult Learner*. Houston, Texas, Gulf Publishing Company.
- Knowles, M. S. (1984). *Andragogy in Action*. San Francisco, Jossey-Bass.
- Kohlberg, L. (1986). *The Philosophy of Moral Development*. San Francisco, Harper and Row.
- Kolb, D. (1984). *Experiential Learning: Experience as the source of learning and development*. New Jersey, Prentice Hall.
- Kolb, D. (2000). The process of experiential learning. *Strategic Learning in a Knowledge Economy: Individual, collective and organizational learning process*. Cross, R. and Israeliit, S. (eds.). Boston, Butterworth Heinemann: 313-331.
- Lambert, P. (2003). Promoting developmental transfer in vocational teacher education. *Between School and Work: New perspectives on transfer and boundary-crossing*. Tuomi-Gröhn, T. and Engeström, Y. (eds.). Oxford, UK, Pergamon, Elsevier Science: 233 - 254.
- Latour, B. (1987). *Science in action: How to follow scientists and engineers through society*. Cambridge, Massachusetts, Harvard University Press.
- Latour, B. (1993). Ethnography of a "high-tech" case: About Aramis. *Technological Choices: Transformation in material cultures since the neolithic*. Leminnier, P. (ed.). London, Routledge.
- Latour, B. (1996). "On interobjectivity." *Mind, Culture and Activity* 3: 228-245.
- Lave, J. (1988). *Cognition in practice; mind, mathematics and culture in everyday life*. Cambridge, Cambridge University Press.
- Lave, J. (1996a). The practice of learning. *Understanding Practice: Perspectives on activity and context*. Chaiklin, S. and Lave, J. (eds.). Cambridge, UK, Cambridge University Press: pp. 3-32.
- Lave, J. (1996b). "Teaching, as learning, in practice." *Mind, Culture and Activity* 3(3): 149-164.
- Lave, J. and Wenger, E. (1991). *Situated Learning: Legitimate peripheral participation*. Cambridge, Cambridge University Press.
- Lave, J. and Wenger, E. (1996). Practice, person, social world. *An Introduction to Vygotsky*. Daniels, H. (ed.). London & New York, Routledge: 143 - 150.
- Lave, J. and Wenger, E. (2002). Legitimate peripheral participation in communities of practice. *Supporting Lifelong Learning, Volume 1: Perspectives on learning*. Harrison, R., Reeve, F., Hanson, A. and Clarke, J. (eds.). London and New York, RoutledgeFalmer. 1: 111-126.
- Lawton, D. (1973). *Social Change, Educational Theory and Curriculum Planning*. London, Hodder Stroughton.
- Leont'ev, A. N. (1978). *Activity, consciousness, and personality*. Englewood Cliffs, Prentice-Hall.
- Leont'ev, A. N. (1981). *Problems of the development of the mind*. Moscow, Progress.
- Lilly, M., Younger, A., Rumsey, D., Down, C., Cleary, M. and et al. (1996). *Integrating Key Competencies: Identification and Further Integration of Key Competencies into the Curriculum, Delivery, Assessment and Reporting of Apprenticeships*. Melbourne, Office of Training and Further Education.
- Lohrey, A. (1995). *A Report on Transferability in Relation to the Key Competencies*. Sydney, University of Technology Sydney and the Department of Employment, Education and Training.
- Loughran, J. (1996). *Developing Reflective Practice: Learning about teaching and learning through modelling*. London & Washington, Falmer Press.
- Marcus, G. E. and Fisher, M. M. J. (1986). *Anthropology as cultural critique: An experimental moment in the human sciences*. Chicago, University of Chicago Press.
- Marshall, I. and Mill, M. (1992). Learning contracts: how they can be used in work-based learning. *Empowerment Through Experiential Learning: Exploration of good practice*. Mulligan, J. and Griffin, C. (eds.). London, Kogan Page: 211-221.

- Marsick, V. and Watkins, K. E. (1990). *Informal and Incidental Learning in the Workplace*. London, Routledge.
- Marton, F. (1994). On the structure of awareness. *Phenomenographic Research: Variations in method - The Warburton Symposium*. Bowden, J. A. and Walsh, E. (eds.). Melbourne, Royal Melbourne Institute of Technology (RMIT): 89 - 100.
- Marton, F. and Booth, S. (1997). *Learning and Awareness*. Mahwah, New Jersey, Lawrence Erlbaum Associates.
- Marton, F. and Trigwell, K. (2000). "Variato est mater studiorum." *Higher Education Research & Development* 19(3): 381-395.
- Maslow, A. H. (1968). *Towards a Psychology of Being*. New York, Van Nostrand.
- Maslow, A. H. (1970). *Motivation and Personality*. New York, Harper and Row.
- Mayer, E. c. (1992). *Employment Related Key Competencies for Post -Compulsory Education and Training: A discussion paper*. Melbourne, Australian Education Council and Ministers of Vocational Education, Employment and Training.
- Mayer, R. E. (1975). "Information processing variables in learning to solve problems." *Review of Educational Research* 45: 525-541.
- McCormack, R. and Pancini, G. (1990). *Learning to Learn; Introducing adults to the culture, context and conventions of knowledge*. Melbourne, Division of Further Education, Ministry of Education, Victoria.
- McWhinney, W. and Batista, J. (1988). "How remythologizing can revitalise organizations." *Organisational Dynamics* 17: pp. 46-58.
- Mead, G. H. (1934). *Mind, Self and Society: From the standpoint of a social behaviourist*. Chicago, University of Chicago Press.
- Mezirow, J. (1991). *Transformative Dimensions of Adult Learning*. San Franscisco, Jossey-Bass.
- Mezirow, J. (2000). Learning to think like an adult. *Learning as Transformation*. Mezirow, J. (ed.). San Franscisco, Jossey-Bass: 3 - 33.
- Miettinen, R. (1999). Transcending traditional school learning: teachers' work and networks of learning. *Perspectives on activity theory*. Engström, Y., Meittinen, R. and Punamäki, R.-I. (eds.). Cambridge, Cambridge University Press: 325 -344.
- Miller, N. and Boud, D. (2000). Animating learning from experience. *Working with Experience: Animating learning*. Boud, D. and Miller, N. (eds.). London, Routledge: 3 - 13.
- Minick, N. (1996). The development of Vygotsky's thought: An introduction, *Thinking and Speech. An Introduction to Vygotsky*. Daniels, H. (ed.). London & New York, Routledge: 53 - 74.
- Misko, J. (1995). *Transfer: Using learning in new contexts*. Adelaide, National Centre for Vocational Education Research.
- Misko, J. (1999). *The Transfer of Knowledge and Skill to Different Contexts: An empirical perspective*. Leabrook, SA, National Centre for Vocational Education Research.
- Mulcahy, D. and James, P. (1998). Evaluating the Contribution of Competency-based Training: Tales from training managers. paper presented at *7th National Vocational Education and Training Research Conference/Workshop*, Charles Sturt University, Wagga Wagga, NSW
- Mulligan, J. and Griffin, C., (eds.) (1992). *Empowerment through Experiential Learning: Explorations of good practice*, Kogan Page.
- National Centre for Vocational Education Research (1997). *Australian Vocational Education & Training - Employer Satisfaction with Vocational Education and Training 1997: National report*. Adelaide, NCVER.
- National Training Board (1992). *National Competency Standards: Policy and Guidelines - Second Edition*. Canberra, National Training Board.
- NCVER (1997). *The national research and evaluation strategy for vocational education and training In Australia: 1997 - 2000*. Adelaide, National Centre for Vocational Education Research.



- Nonaka, I. and Takeuchi, H. (1995). *The Knowledge Creating Company: How Japanese companies create the dynamics of innovation*. New York, Oxford University Press.
- Oleson, H. S. (1989 [1985]). *Adult Education and Everyday Life*. Roskilde, The Adult Education Research Group, Roskilde University.
- Patton, M. Q. (1990). *Qualitative Research and Evaluation Methods*. Thousand Oaks, California, London, UK and New Delhi, India, SAGE Publications.
- Patton, M. Q. (2002). *Qualitative Research and Evaluation Methods (Second edition)*. Thousand Oaks, California, London, UK and New Delhi, India, SAGE Publications.
- Pea, R. D. (1987). "Socializing the knowledge transfer problem." *International Journal of Educational Research* **11**(6): 639-663.
- Pearson, M. and Smith, D. (1985). Debriefing in experience-based learning. *Reflection: Turning experience into learning*. Boud, D., Keogh, R. and Walker, D. (eds.). London/New York, Kogan Page/Nichols Publishing Company: 69 - 84.
- Perkins, D. N. (1995). *Outsmarting IQ: the emerging science of learnable intelligence*. Cambridge, Massachusetts, Harvard Graduate School of Education.
- Perkins, D. N. and Salomon, G. (1988). "Teaching for transfer." *Educational Leadership* **46**(1): pp. 22-33.
- Perkins, D. N. and Salomon, G. (1989). "Are cognitive skills context bound?" *Educational Researcher* **18**(1): 16-23.
- Piaget, J. (1929). *The Child's Conception of the World*. London, Routledge and Kegan Paul.
- Powell, J. P. (1985). Autobiographical learning. *Reflection: Turning experience into learning*. Boud, D., Keogh, R. and Walker, D. (eds.). London/New York, Kogan Page/Nichols Publishing Company: 41 - 51.
- Richardson, L. (2003). Writing: A method of inquiry. *Collecting and Interpreting Qualitative Materials*. Denzin, N. K. and Lincoln, Y. S. (eds.). Thousand Oaks, London & New Delhi, Sage Publications: 499 - 541.
- Rogers, A. (2002a). Learning and adult education. *Supporting Lifelong Learning, Volume 1: Perspectives on learning*. Harrison, R., Reeve, F., Hanson, A. and Clarke, J. (eds.). London and New York, RoutledgeFalmer. **1**: 8-24.
- Rogers, A. (2003). *What is the difference? A new critique of learning and teaching*. Leicester, UK, National Institute of Adult Continuing Education (NIACE).
- Rogers, C. (1985). *Freedom to Learn in the 80's*. Columbus, Ohio, Charles E. Merrill Publishing Company.
- Rogers, C. R. (1974). *On Becoming a Person*. London, Constable.
- Rogers, C. R. (2002b). The interpersonal relationship in the facilitation of learning. *Supporting Lifelong Learning, Volume 1: Perspectives on learning*. Harrison, R., Reeve, F., Hanson, A. and Clarke, J. (eds.). London and New York, RoutledgeFalmer. **1**: 25-39.
- Rogoff, B. (1990). *Apprenticeship In Thinking: Cognitive development in social context*. Oxford, Oxford University Press.
- Rogoff, B., Radziszewska, B. and Masiello, T. (1995). Analysis of developmental processes in sociocultural activity. *Sociocultural psychology: Theory and practice in knowing and doing*. Martin, L., Nelson, K. and Tobach, E. (eds.). New York, Cambridge University Press: 125-149.
- Russell, D. R. (1997). "Rethinking genre in school and society; An activity theory analysis." *Written Communication* **14**: 504 - 554.
- Russell, P. (1999). Motivation. *Adult Educational Psychology*. Athanasou, J. A. (ed.). Katoomba, NSW, Social Science Press: 97-127.
- Ryle, G. (1949). *The Concept of Mind*. London, Hutchinson.
- Salomon, G. and Perkins, D. N. (1998). Individual and social aspects of learning. *Review of Research in Education*. Pearson, P. D. and Iran-Nejad, A. (eds.). Washington, DC, American Educational Research Association. **23**: 1-24.
- Schön, D. (1991). *The Reflective Practitioner: How professionals think in action*. New York, Basic Books.

- Schön, D. (2002). From Technical Rationality to reflection-in-action. *Supporting Lifelong Learning, Volume 1: Perspectives on learning*. Harrison, R., Reeve, F., Hanson, A. and Clarke, J. (eds.). London and New York, RoutledgeFalmer. **1**: 40-61.
- Schön, D. A. (1987). *Educating the Reflective Practitioner: Towards a new design for teaching and learning in the professions*. San Fransisco, Jossey-Bass.
- Schuller, T. and Field, J. (2002). Social capital, human capital and the learning society. *Supporting Lifelong Learning, Volume 3: Making policy work*. Edwards, R., Miller, N., Small, N. and Tait, A. (eds.). London and New York, RoutledgeFalmer. **3**: 76-87.
- Scott, G. (1992). Challenges facing vocational teachers and trainers in the 1990s. *Developing a Competent Workforce*. Gonczi, A. (ed.). Adelaide, National Centre for Vocational Education Research: 44 - 78.
- Scott, G. (1999). *Change matters: Making a difference in education and training*. St Leonards, NSW, Allen & Unwin.
- Sefton, R., Waterhouse, P. and Deakin, R. (1994). *Breathing Life into Training: A Model of Integrated Training*. Melbourne, National Automotive Industry Training Board.
- Seligman, M. E. P. (1975). *Helplessness*. San Franscisco, USA, Freeman Publishers.
- Senge, P. M. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organization*. Sydney, Random House.
- Shewhart, W. A. (1986). *Statistical Method from the Viewpoint of Quality Control*. New York, Dover.
- Smith, E. (2001). Training Packages: Ticky-tacky boxes or a brave new workers' paradise? paper presented at *Knowledge Demands for the New Economy*, Parkroyal Surfers Paradise, Gold Coast, Queensland, Centre for Learning and Work Research, Faculty of Education, Griffith University 232 - 245.
- Smith, E. and Keating, J. (2003). *From Training Reform to Training Packages*. Tuggerah, NSW, Social Science Press.
- Smith, J. and Spurling, A. (2001). *Understanding Motivation for Lifelong Learning*. London, UK, NAICE & Text Campaign for Living.
- Smyth, J. (2000). Developing socially critical educators. *Working with Experience: Animating learning*. Boud, D. and Miller, N. (eds.). London, Routledge: 41 - 57.
- Stein, D. (1998). Situated Learning in Adult Education, ERIC Clearinghouse on Adult, Career, and Vocational Education: 2.
- Sternberg, R. J., Forsythe, G. B., Hedlund, J., Horvath, J. A., Wagner, R. K., Williams, W. M., Snook, S. A. and Grigorenko, E. L. (2000). *Practical Intelligence in Everyday Life*. Cambridge, Cambridge University Press.
- Stevenson, J. (1993). Policies and practices in vocational education and training in Australia. *What Future for Technical & Vocational Education & Training*. Hall, W. (ed.). Adelaide, National Centre for Vocational Education and Training: 71 - 86.
- Stevenson, J. (2001). Constituting and connecting vocational knowledge. paper presented at *Knowledge Demands for the New Economy*, Parkroyal Surfers Paradise, Gold Coast, Queensland, Centre for Learning and Work Research, Faculty of Education, Griffith University 261 - 268.
- Stevenson, J. (2002). Connecting vocational meanings. paper presented at *Envisioning Practice - Implementing Change: Proceedings of the 10th Annual International Conference on Post-compulsory Education and Training convened by the Centre for Learning and Work Research, Faculty of Education, Griffith University, Parkroyal Surfers Paradise, Gold Coast, Queensland, Australian Academic Press Pty Ltd* 160-167.
- Stevenson, J. (2003a). Expertise for the workplace. *Developing Vocational Expertise: Principles and issues in vocational education*. Stevenson, J. (ed.). Crows Nest, Australia, Allen & Unwin: 1 - 25.

- Stevenson, J. (2003b). Vocational teaching and learning in context. *Developing Vocational Expertise: Principles and issues in vocational education*. Stevenson, J. (ed.). Crows Nest, Australia, Allen & Unwin: 26 - 47.
- Stevenson, J. (2005). What a difference a pedagogy makes: Researching lifelong learning and teaching. paper presented at *Third International Conference, Centre for Research in Lifelong Learning, University of Stirling*, University of Stirling, Scotland 19.
- Strauss, A., (ed.) (1977). *George Herbert Mead on Social Psychology: Selected papers*. Chicago, University of Chicago Press.
- Strauss, A. and Corbin, J. (1998). *Basics of Qualitative Research: Techniques and procedures for developing grounded theory (Second edition)*. Thousand Oaks, California, London, UK and New Delhi, India, SAGE Publications.
- Suchman, L. (2000). Human/machine reconsidered. Lancaster, Department of Sociology, Lancaster University: 15.
- Sweet, R. (1993). An anthropological perspective on the missionary position: employers and the national training reform agenda. paper presented at *Setting the National Agenda*, Sydney, Australian Association of Senior Educational Administrators
- Tam, M. (1997). *Part-time Employment: A bridge or a trap?* Brookfield, USA, Aldershot.
- Tate, P. (1992). Empowerment through experiential learning. *Empowerment Through Experiential Learning: Exploration of good practice*. Mulligan, J. and Griffin, C. (eds.). London, Kogan Page: 127-135.
- Taylor, M. (1997). Learning Organisations: A study of three enterprises. paper presented at *Learning Through Work: Exploring Innovative Approaches to Work-based Learning*, Moorabbin, Victoria, Australian Competency Research Centre 6.1-6.9.
- Thomas, R., Johnson, S. and Anderson, L. (1995). *Alternative Perspectives of Instruction and Cognitive Theory: Implications and Proposals*. Berkeley, California, National Center for Research in Vocational Education, University of California.
- Tuomi-Gröhn, T. and Engeström, Y., (eds.) (2003). *Between School and Work: New perspectives on transfer and boundary crossing*. Oxford, Pergamon, Elsevier Science.
- Tuomi-Gröhn, T., Engeström, Y. and Young, M. (2003). From transfer to boundary-crossing between school and work as a tool for developing vocational education: An introduction. *Between School and Work: New perspectives on transfer and boundary-crossing*. Tuomi-Gröhn, T. and Engeström, Y. (eds.). Oxford, UK, Pergamon, Elsevier Science: 1 - 15.
- Unwin, L. and Fuller, A. (2003). *Expanding Learning in the Workplace: Making more of individual and organisational potential*. Leicester, UK, National Institute of Adult Continuing Education.
- Usher, R. (1994). *Postmodernism and Education*. London, Routledge.
- Van Oers, B. (1998). "The fallacy of decontextualization." *Mind, Culture and Activity* 5: pp. 135-142.
- Vidich, A. J. and Lyman, S. M. (2003). Qualitative methods: Their history in sociology and anthropology. *The Landscape of Qualitative Research: Theories and issues*. Lincoln, Y. S. (ed.). Thousand Oaks, London & Delhi, Sage Publications: 55 - 129.
- Virgona, T., Sefton, R., Waterhouse, P. and Sanguinetti, J. (2002). Generic skills and displaced workers. paper presented at *Making a World of Difference? Innovation, Internationalisation, New Technologies and VET. Proceedings of the 5th annual conference of the Australian Vocational Education and Training Research Association (AVETRA)*, Caulfield Racecourse, Victoria, AVETRA
- Vygotsky, L. S. (1962). *Thought and Language*. Cambridge, Massachusetts, M.I.T. Press.
- Vygotsky, L. S. (1978). *Mind in Society; the development of higher psychological processes*. Cambridge, Mass., Harvard University Press.
- Vygotsky, L. S. (1986). *Thought and Language*. Cambridge, Massachusetts, MIT Press.
- Watkins, K. E. and Marsick, V. (1992). "Towards a theory of informal and incidental learning in organizations." *International Journal of Lifelong Education* 11(4): 287-300.

- Weber, S. (2003). Boundary-crossing in the context of intercultural learning. *Between School and Work: New perspectives on transfer and boundary-crossing*. Tuomi-Gröhn, T. and Engeström, Y. (eds.). Oxford, UK, Pergamon, Elsevier Science: 157 - 177.
- Wenger, E. (1998). *Communities of Practice: Learning, Meaning and Identity*. Cambridge, Cambridge University Press.
- Wenger, E. (2002). Communities of practice and social learning systems. *Supporting Lifelong Learning, Volume 2: Organizing learning*. Reeve, F., Cartwright, M. and Edwards, R. (eds.). London and New York, RoutledgeFalmer. 2: 160-179.
- Wenger, E., McDermott and Snyder, W. (2002). *Cultivating Communities of Practice: A guide to managing knowledge*. Boston, Massachusetts, Harvard Business School Press.
- Wertsch, J. V. (1991). *Voices of the mind: A sociocultural approach to mediated action*. Cambridge, Mass, Harvard University Press.
- Wertsch, J. V. (1998). *Mind as Mediated Action*. New York, Oxford University Press.
- Wertsch, j. V. and Tulviste, P. (1996). L.S. Vygotsky and contemporary developmental psychology. *An Introduction to Vygotsky*. Daniels, H. (ed.). London & New York, Routledge: 53-74.
- Westworth, J. (2004). Thinking, talking and writing through blogging. paper presented at *Doing-Thinking-Activity-Learning. Proceedings of the 12th Annual International Conference on Post-compulsory Education and Training*, Crowne Plaza Surfers Paradise, Gold Coast, Queensland, Australia, Australian Academic Press for Centre for Learning Research, Faculty of Education, Griffith University 244 - 252.