The Effects of Managers on Employees' Learning in Selected New Zealand Small Manufacturing Firms

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Alan John Coetzer

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ABSTRACT

The view that there should be increased emphasis on learning in workplaces because of rapid changes in business environments, and the suggestion that managers should foster the learning of employees, is prevalent in the workplace learning, organisational learning and 'learning organisation' literature. In New Zealand, and in other developed economies, small firms represent a very significant part of the workplace-learning context. Given the vast knowledge and skills base vested in small firms, how knowledge and skills are developed and maintained through learning processes in these firms are matters of major interest.

Overall, this study seeks to answer the question: In selected small manufacturing firms, what effects, if any, do managers have on employees' learning? To help answer this question, data were collected through semi-structured interviews and mail survey questionnaires. Verbatim expressions of the interview participants were analysed using content analytic procedures. Data gathered from employees through mail survey questionnaires were analysed using a range of statistical methods.

Findings of the content analysis of the verbatim expressions of the interview participants reveal that managers use a variety of strategies to foster learning at and through work in the small firms studied. Analysis of the mail survey data provides a description of how employees in the sample firms perceive their workplaces as learning environments. Employees' attributions of their work-related learning to various sources and methods of learning are also described. Additionally, specific managerial actions and behaviours that have potential to increase employee satisfaction with workplace learning are identified.

Findings of this study contribute to knowledge in the fields of management and human resource management in the small firm context. Synthesis of the qualitative and quantitative findings suggest a conceptual framework that can be used for analysing the effects of managers on employees' learning and help to evaluate the current state of research in the fields.

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CHAPTER ONE

INTRODUCTION TO THE STUDY

This chapter starts by outlining the broad field of study, and then leads into the focus of the research problem. The importance of the research problem is justified on several theoretical and practical grounds. Thereafter, aspects of the study design that served the functions of focusing and bounding collection of data in the field are introduced. These aspects are the general research question, research objectives, and conceptual framework. This chapter ends with a brief description of the remaining thesis chapters.

1.1 BACKGROUND TO THE RESEARCH PROBLEM

The burgeoning literature on workplace learning (e.g., Billett, 2004), organisational learning (e.g., Easterby-Smith, 1997) and the 'learning organisation' (e.g., Senge, 1990a) is evidence of growing interest in making workplaces into effective learning environments. Moreover, there are numerous descriptive accounts of organisations striving to become learning-oriented (e.g., DiBella & Nevis, 1998; Marquardt, 1996; Marsick & Watkins, 1999; Tjepkema et al., 2002b). Why has learning at and through work become so important?

Importance of learning

Many commentators argue that learning has become increasingly important to the survival of organisations (e.g., Argyris, 1993; Marsick & Watkins, 1999; Nevis, DiBella & Gould, 1995; Pedler, Burgoyne & Boydell, 1997; Poell, Chivers, Van der Krogt & Wildemeersch, 2000; Schein, 1993; Senge, 1990a; Tannenbaum, 1997; Watkins & Marsick, 1993). They (and others) argue that the importance of learning is primarily because of the need for organisations to respond to rapid and continuous change in the organisation's external environment (Gardiner, Leat & Sadler-Smith, 2001; Pedler et al., 1997; Revans, 1980). To survive, organisations must monitor their external environments and anticipate and adapt to continual change (Marquardt, 1996). Implementation of change initiatives in organisations, such as the introduction of new technology, products or processes, usually requires the

acquisition of new knowledge and skills. Some commentators believe that organisations that learn faster will be able to adapt quicker and thus avoid the economic evolutionary 'weeding out' process (Revans, 1980; Schein, 1993). According to De Geus (1988), learning is important, not only for organisational survival, but also because "the ability to learn faster than your competitors may be the only sustainable competitive advantage" (p.71).

There is also wide agreement that we have entered a knowledge-based era, where the emphasis is increasingly on human capital, rather than financial and physical assets (Dixon, 1990; Ulrich, 1998). For example, Nonaka (1991) contends that, "in an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge" (p.96). Knowledge is thus regarded as a key asset of employees, and their ability to acquire and use it is considered a source of competitive advantage (Argyris, 1991; Drucker; 1992). It is also argued that individuals at every level of the organisation have to think for themselves, exercise initiative, innovate, and solve problems at the source as quickly as possible (Poell et al., 2000; Senge, 1990b). According to Tjepkema (2002a), while business is inevitably becoming more technological, it is people that are becoming the key to competitiveness.

Learning at and through work is also increasingly important for employees to ensure their employability, because of insecurity in employment, and proliferation of flexible contracts of employment (Swanson & Holton, 2001). Organisations expect employees to be flexible, adaptable and constantly learning to perform new and changing tasks (Poell et al., 2000). Although organisations can no longer provide employment security, the employees' ability and willingness to learn and adapt are the key determinants of their employability elsewhere (Ghosal, Barlett & Moran, 1999). Thus, employability is the 'new security'. It is also argued that, as part of the 'new deal' in employment, good employers will ensure that their employees remain employable by keeping them up to date through learning and development (Swanson & Holton, 2001).

Arguments for the importance of learning at and through work are not limited to economic considerations. For instance, it is argued that the conditions that promote learning at work are also instrumental in reducing stress and promoting healthier working conditions (Ellstrom, 2001). Another line of reasoning emphasises learning at work as part of general education for citizenship and fuller participation in society as a whole:

> Employees develop skills of expression and communication that spill over into their personal lives. They learn new ways of collaborating and planning that they apply in the families and community organisations to which they belong. They not only become more effective in their present responsibilities but help transform the nature of work in which they are engaged creating new work practices and forms of production (Boud & Garrick, 1999, p.1).

These arguments for the importance of learning suggest that learning in organisational settings should be continuous, if both the economic and social goals of enhanced participation in learning are to be realised.

Contributions of training to learning

As described above, a number of factors have contributed to the growing interest in making workplaces into effective learning environments. In combination these factors have focused attention on a wide variety of alternatives to formal training that can contribute to learning. Training was the term that dominated discussion of work-related learning in the past (Field, 1998; Rowden, 1995). The connotations of training were of specific kinds of formal learning provided, often in a classroom setting. Tjepkema, ter Horst and Mulder (2002c), Rowden (1995) and others assert that most employees and managers still hold a somewhat limited view on 'learning'. They usually (implicitly) equate it to 'classroom-based' training.

It is also argued that although training can play an important role in learning, it is not the primary means by which people learn in organisational settings (Bishop, 1991; Boud & Middleton, 2003; Eraut, 2004; Frazis, Gittleman, Horrigan & Joyce, 1998; Tannenbaum,

1997). Thus, although training remains a well-recognised and widely used practice, the multiple ways of fostering learning and integrating learning and work have gradually gained significance (Poell et al., 2000). As explained further in Chapter Two, these include coaching, mentoring, action learning and collaborative learning in teams.

A new role for managers: Fostering learning of employees
The growing awareness of the need to encourage learning at and through work (which has already been noted) has far-reaching consequences for managers, who are expected to manage the workplace as a place fit for learning. Empirical research into factors that enhance or inhibit learning (e.g., Sambrook & Stewart, 2000; Tannenbaum, 1997) has identified the key role of managers, and explained how their attitudes and skills can influence the learning environment. Similarly, studies of what managers actually do (e.g., Kraut, Pedigo, McKenna & Dunnette, 1989; Luthans, 1988) suggest that helping their staff with their learning is an important part of managerial work.

The literatures that focus on workplace learning, organisational learning and the 'learning organisation' encourage managers to move away from a directing role and towards that of coach and facilitator, and thus take on increasing responsibility for supporting the learning of their staff (e.g., Ellinger, Watkins & Bostrom, 1999; Ghoshal, Bartlett & Moran, 1999; Hughes, 2004; Lang & Wittig-Berman, 2000; Sambrook & Stewart, 2000). In fact, Boud and Garrick (1999) assert that, "there is no place for managers who do not appreciate their own vital role in fostering learning" (p. 1).

Preference towards informal learning processes in small firms
Small firms (however defined) represent a very significant part of the workplace-learning context in New Zealand (Cameron & Massey, 1999), and in other developed economies (Curran & Blackburn, 2001; Field, 1998; Storey, 1994, 2004). Small business researchers (e.g., Chaston, Badger & Sadler-Smith, 2001; Dalley & Hamilton, 2000; Fernald, Solomon & Bradley, 1999; Field, 1998; Gibb, 1997; Hill & Stewart, 2000; Kerr & McDougall, 1999) all emphasise the importance of learning for small business in order to ensure success in the long term. They also agree that formal training is generally not suited to small businesses

for a variety of reasons (e.g., Gibb, 1997; Marlow, 1998). Instead, informal workplace learning processes are preferred (Sadler-Smith, Down & Lean, 2000a). The views of these researchers are confirmed by findings of research into the human resource management practices of New Zealand organisations (e.g., Decision Research Limited, 1997; Gilbert & Jones, 2000; Knuckey et al., 1999; Massey, 2003). The importance of learning for the competitive performance of small businesses, and the strong preference towards informal learning processes in this sector, suggests that managers in small businesses could play an important role in fostering employee learning at and through work (Hendry, Arthur & Jones, 1995; Sadler-Smith, Gardiner, Badger, Chaston & Stubberfield, 2000b).

The aim of this section was to provide a context that locates the general research problem (described below) in a relevant background, by presenting an analysis of immediately pertinent literature. This included literature related to the importance of workplace learning, the contributions of training to learning, the role of the manager in fostering employee learning, and the preference towards informal learning processes in small firms. Only those concepts and findings that helped to set the research problem into a broad perspective were selected from the cited sources. (A broader view of the research problem is available to the reader in the review of the literature in Chapter Two.) From the background presented here, the general research problem emerged, as elaborated in the next section.

1.2   GENERAL RESEARCH PROBLEM AND ITS SIGNIFICANCE

In this section, the aim is to extract (from the general background of knowledge on the topic) the general research *problem* of interest and explain its *significance*. We start by describing the nature of the general research problem, in terms of gaps in the literature and the need to understand informal learning processes in small businesses. Thereafter, the significance of resolving the general research problem will be explained, with reference to policy implications and potential benefits of outcomes for practice.

1.2.1   General Research Problem

As previously noted, concepts such as the 'learning organisation' and 'organisational learning' are well established in the literature and there are numerous descriptive accounts of organisations that are striving to enhance learning at the individual, team and organisational levels (e.g., DiBella & Nevis, 1998; Filipczak, 1996; Marsick & Watkins, 1999). The balance of the evidence thus suggests that there is wide consensus about the workplace as a key context for learning. Also, the knowledge and skill formation process is now increasingly viewed as being a continuous process, rather than one which is one-off, which has been moved from the 'training department' to the workplace at large (e.g., Ashton, 1998; Billett, 2000; Eurat et al., 1998; Poell et al., 2000; Senge, 1990a; Watkins & Marsick, 1993). However, there still appears to be a widespread lack of appreciation of the importance of informal learning at work, and research literature on informal learning at work seems sparse (Ashton, 1998; Coffield, 2000; Eraut, 2004). To illustrate, in their comprehensive review of the literature on enterprise-based education and training, Long, Ryan, Burke and Hopkins (2000) state that:

> Almost all the research on training is about formal training – learning that takes place during a time set aside from normal work. Many people, though, learn informally while they are working, by watching workmates, asking questions, or just trying to figure things out for themselves. Little is known about this type of training – except that there is a lot more of it than formal training (p. ix).

Similarly, within New Zealand, the small numbers of surveys of work-related learning that have been conducted have focussed on formal training. Findings of these studies suggest that firms are not providing their employees with formal training to any great degree (e.g., Decision Research Limited, 1997; Knuckey et al., 2002; Massey, 2004). Thus, it seems that formal training represents only a small part of the total employee development effort.

Furthermore, despite the importance of small businesses in the New Zealand economy (Cameron & Massey, 1999) and other national economies (Curran & Blackburn, 2001; Field, 1998; Storey, 1994, 2004), researchers have tended to devote much more attention to

large enterprises, and some researchers have treated the small business as a 'scaled-down' version of a large business (Curran & Blackburn, 2001; Field, 1998; Hill, 2004; Kerr & McDougall, 1999).

To illustrate this tendency, Walton (1999) points out that there has been little attempt in the human resource development (HRD) literature to differentiate between larger and smaller organisations, and to address the impact that size and associated resource constraints might have upon actual and desired approaches to learning. Most of the mainstream literature seems to be based on the assumption that HRD activities take place in organisations where learning issues are addressed by specialist staff, operating within a dedicated functional unit (Vickerstaff, 1992). But the majority of small firms have no such specialist function or department, and not even a dedicated member of staff. Yet, attention given to small businesses has, on the whole, focused on the provision or absence of 'training' as the measure of 'learning'.

Several commentators (e.g., Gibb, 1997; Rowden; 1995; Walton, 1999) argue that this concern with 'training' gives a narrow and distorted view of the realities of both what is being learned, and of how it is being learned. Billett, Hernon-Tinning and Ehrich (2003) also emphasise the need for small business researchers, policy analysts, and practitioners to look beyond the orthodoxy of taught courses, if both the economic and social goals of enhanced participation in learning by small businesses are to be realised. Similarly, Field (1998), Rowden (1995), Sadler-Smith et al. (2000b) and others contend that there is a paucity of research into learning in small businesses. Clearly, there is a case for empirical studies to further enhance understanding of learning processes in small businesses.

1.2.2   Significance of the General Research Problem

Policy implications
From evidence available from cross-country comparisons, there is now broad agreement amongst commentators that investment in human capability yields benefits to individuals, and the economy at large (OECD, 2001a). For individuals, investment in knowledge and skill development provides an economic return, increasing both employment rates and earnings (OECD, 2001a). In addition to the benefits captured by individuals, the collective

economic impact is likely to be improved organisational productivity and national performance in terms of per capita gross domestic product (GDP). It follows that in the current international business environment, a skilled workforce, capable of continuous learning and able to respond to changing skill needs, is an important foundation for national economic growth and international competitiveness.

Using gross domestic product (GDP) per capita as a measure, New Zealand has experienced a sustained period of economic under-performance in relation to other Organisation for Economic Cooperation and Development (OECD) countries (David, 2001; OECD, 2001b; OECD, 2004). There are perturbing signs that, in terms of GDP per capita, New Zealand has dropped down the rough rank ordering of OECD economies (OECD, 2004). Although there are many potential sources of economic growth (OECD, 2001b), a number of analysts (e.g., Easton, 1997; Elkin, 1997; Department of Labour, 2004; Grant, 1998) who have reviewed the overall performance of the New Zealand economy have suggested that to enhance long-term growth, more emphasis should be given to policies focusing on human resource development.

In this regard, the New Zealand Government has expressed a determination to ensure that the New Zealand economy will be based on knowledge, rather than slide to a low-skill, low-wage economy (Department of Labour, 2004; Skill New Zealand, 2001). Within the Government, there appears to be strong support for the idea that New Zealand's future, in terms of enhancing its competitive capacity, lies in the creation of a reservoir of highly skilled knowledge workers (Skill New Zealand, 2001). Thus, studies investigating micro-level processes involved in human capital formation would be directly relevant to the present situation of the New Zealand economy.

Possible benefits of outcomes for practice
Numerous commentators (e.g., David, 2001; Department of Labour, 2004; Easton, 1997; Elkin, 1997; Grant, 1998) suggest that there is a need to raise the capacity of New Zealand businesses to develop the large knowledge and skill base vested in these organisations. They argue that this is necessary if New Zealand is to achieve sustained economic growth,

and improve its international competitiveness. Their views are supported by evidence from empirical research.

For example, *Firm Foundations* (Knuckey at al., 2002) studied business practices and performance in New Zealand. As noted previously, the findings of this study suggest that employee practices (including employee development) are underdeveloped. In this study, employee practices were identified as a key differentiator between groups of businesses classified as 'leaders' and 'laggers' on a range of indicators, including sales growth, exports, profitability and value added. The results suggest that 'leaders' demonstrate superior employee practices to 'laggers'. Further advances in competitive advantage are thus likely to require increased attention to employee practices.

It is likely that as more organisations begin to recognise the importance of employee practices as a means of achieving business objectives and seek to become more learning-oriented, managers in these organisations will be expected to discharge their employee development duties more effectively. If the manager's ability to perform the role of learning facilitator becomes a key factor in managerial effectiveness, as some commentators suggest (e.g., Ghosal et al., 1999; Pedler et al., 1997; Senge, 1990b; Senge, 1993), then the outcomes of research into learning in small firms could provide valuable information for managers in small businesses, small business development agencies, and providers of management development programmes. Such research-based information is necessary before these stakeholder groups can give informed consideration to strategies for improving managerial performance, and seek to improve learning processes in small businesses. An investigation into learning in small businesses is thus particularly relevant to the human resource development, management development and small business fields.

To summarise, in this section the general research problem was identified (namely, the need for empirical studies to further enhance understanding of learning processes in small businesses) and its significance explained. In the discussion it was emphasised that field research on informal workplace learning in small firms has not been forthcoming, despite wide recognition of the need to leverage learning for competitive advantage, and the strong

preference towards informal learning processes in the small firm sector. Such research would increase the range of empirical information available to support policy on learning whilst in employment in New Zealand and improve practice. Furthermore, research in this area would respond to the research challenges as suggested by Billett, Hernon-Tinning and Ehrich, (2003), Field (1998), Gibb (1997), Hill (2004), Kerr and McDougall (1999), Rowden (1995), Sadler-Smith et al. (2000b) and Vickerstaff (1992), all of whom advocate a perspective on learning in small businesses that is broader than training. In the next section, the particular research question (which is part of the larger research problem described here) is isolated, and the research objectives that address the research question are identified.

1.3   RESEARCH QUESTION AND OBJECTIVES

Although the discourses of workplace learning, organisational learning and 'learning organisation' suggest that learning should be a central concern in the workplace, there is some evidence which would seem to indicate that the potential of small business organisations as sites for learning is not being fully realised. For instance, studies of problems faced by small businesses and future issues important to small businesses have highlighted the employee development concerns of managers of small businesses (e.g., Hornsby & Kuratko, 1990; Huang & Brown, 1999). Similarly, in New Zealand, the results of a large-scale study of business practices and performance (Knuckey et al., 2002) suggest that, on the whole, employee practices (including employee development) are underdeveloped. The results also show that there are differences between the employee practices of small and large firms; small firms (as defined in the study) are less likely to demonstrate best practice in relation to their employees.

These concerns need to be investigated from a perspective that is broader than training to further understand learning processes in small businesses, and to suggest practice that might, if addressed, improve both managerial performance and the quantity and quality of workplace learning. This is important, particularly because of the strong contention that there is a connection between how firms manage their people and the economic results

achieved (Pfeffer & Veiga, 1999). The actions managers in small business organisations do take to support and encourage workplace learning are thus matters of major interest.

Overall, this study seeks to answer the question:

In selected small manufacturing firms, what effects, if any, do managers have on employees' workplace learning?

The choice of the manufacturing sector was influenced by its importance to the New Zealand economy, and the prevalence of larger-size firms within this sector, compared to other sectors (Statistics New Zealand, 2003). (A rationale for a preference towards larger-size firms is provided in the next paragraph.) Additionally, factors such as the relative mix of learning sources and approaches to fostering employee learning are likely to vary across sectors (Tannenbaum, 1997). By focusing on just the manufacturing sector, the current study also acknowledges that businesses from different sectors, with nothing in common but their size, should not be assumed to be homogeneous (Curran & Blackburn, 2001; Storey, 1994).

For the current study, a manufacturing firm is defined as small if it has 10-49 full time equivalent (FTE) employees. Firms with these numbers of employees are likely to have a recognisable management structure, and therefore demonstrate the phenomenon of interest to the researcher. This size category matches the Cameron and Massey (1999) and European Union (European Commission, 1996) definition of the small firm (10-49 FTE employees). Adopting the European Union definition should promote comparability with other studies, and facilitate integration of the current study with the results, methods, interpretations, and conclusions of other studies to make them part of the larger framework of the field.

As the general research question indicates, this study examines *employee learning processes* in small manufacturing firms. Although learning can be defined in many different ways, two definitions of individual learning seem particularly closely aligned to

the conception of learning underlying the current study. Kim (1993) defines individual learning as "increasing one's capacity to take effective action" (p.38). Tannenbaum (1997) offers an extended, but similar definition of individual learning: "the acquisition of new knowledge, skill, or attitudes that enhances an individual's capacity for action" (p.438).

A basic assumption behind this study is that learning is continuous, natural and inevitable as individuals interact spontaneously with the environment (Billett, 2001a; Eraut, 2000). Thus, it is not reserved for the classroom or training room, but it is ongoing in our everyday experiences (Billett, 2001a). Although learning is continuous, because it is a fundamental characteristic of human beings, this study is not concerned with learning of only momentary significance (Eraut, 2000). Its focus is on informal learning at the individual level that contributes to significant changes in capability or understanding. (Chapter Two contains a more detailed discussion of workplace learning.)

Thus, the primary aim of this study was to contribute to the description of the effects of managers on employees' informal workplace learning processes in selected small manufacturing firms. In view of the facts that this field of investigation is relatively recent, and that there is a lack of New Zealand research in this area, it was considered desirable to work within a framework of research questions and research objectives, rather than a hypothesis. (It is unlikely that hypothesis could be developed, because of the limited theory available.) The specific research objectives were:

1.   To establish if managers in selected small manufacturing firms affect employees' workplace learning.
2.   To determine in what ways managers foster employees' workplace learning.
3.   To explore outcomes of learning experiences for individuals and the organisation.

In this section, the overall research question was extracted from the general research problem (identified in the previous section) and the research objectives that address the research question were presented. (As detailed in Chapter Three, the general research question was broken into six specific research questions. The relationships between the

specific research questions and the research objectives are also explained in this chapter.) The following section continues the process of successive focusing from the general literature, to the general research problem that forms the background to the research, to the particular overall research question, by introducing the research conceptual framework that guided the investigation.

1.4   FRAMEWORK GUIDING THE STUDY

Figure 1.1 presents the framework, adapted from Lewin's (1951) B-P-E model, which guided this study, through its focussing and bounding function (Miles & Hubermann, 1994). (This framework is further explained in Chapter Three. Also, the ways in which the specific research questions were linked to elements of the conceptual framework are described.)
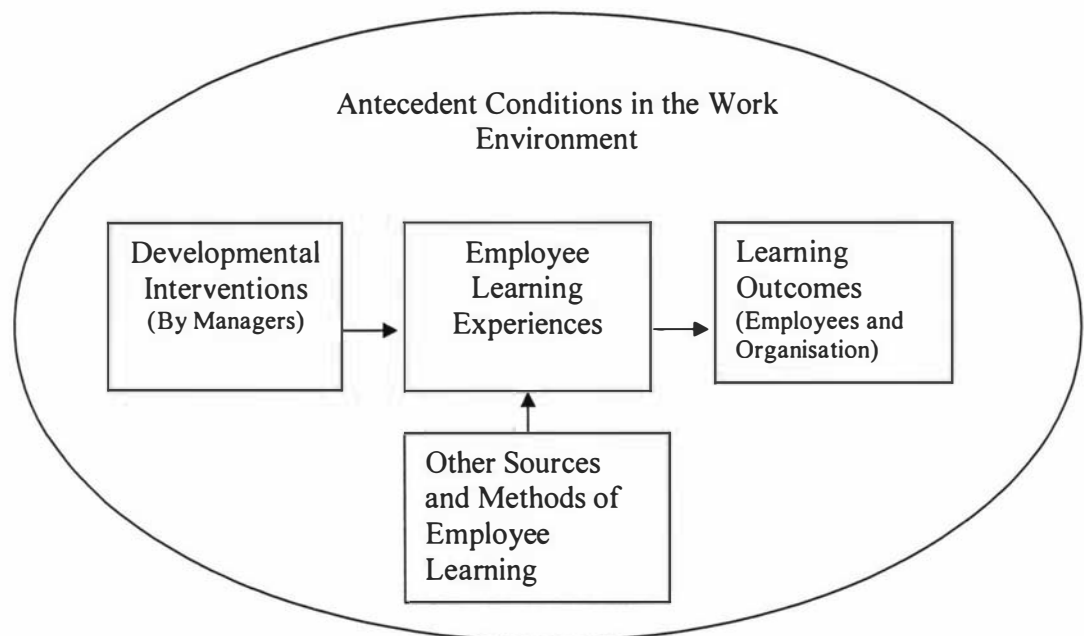
Figure 1.1
Framework guiding the study

The effects of managers on employees' informal workplace learning were studied within the boundaries furnished by this framework. Specifically, this included an investigation of:

- the effects of managers on conditions in the work environment assumed to be critical for facilitating or constraining learning;
- employee development interventions by the workplace supervisor;
- sources and methods of employees' learning; and
- outcomes associated with employees' learning experiences.

1.5   ORGANISATION OF THE DISSERTATION

This dissertation is organised into seven chapters. The study of the effects of managers on employees' informal learning in the context of selected New Zealand small manufacturing firms is continued in the remaining six chapters.

Chapter Two presents a review of the relevant literature. Empirical and conceptual literature relevant to studying the effects of managers on employees' learning in small firms is summarised. The review covers four pertinent areas: (1) workplace learning; (2) the evaluation of outcomes associated with employee learning experiences; (3) varying conceptions of the small business, and formal and informal learning in small businesses; and (4) managers as facilitators of learning. This chapter further demonstrates the need for the research reported, and builds a theoretical foundation upon which this research is based.

Chapter Three describes the research design and methods of inquiry employed for the current study. It begins by identifying major limitations in research designs of prior research into employee development in small firms. Then the research design for this study is explained and justified. The chapter provides an in-depth description of the methods of inquiry, including the sample selection, data collection procedures, and data analysis. It also covers ethical considerations of the research.

Findings of this study, and discussion of the findings, are covered in Chapters Four, Five and Six. Chapter Four presents findings of content analysis of the verbatim expressions of the interview participants and includes a discussion of the findings. Overall, the chapter provides a descriptive account of how managers seek to foster employee learning in the small firms studied. Chapter Five reports results of analysis of the mail survey data. The chapter provides a description of how employees in the sample firms perceived their workplaces as learning environments, and further explores the effects of managers on employees' informal workplace learning through an examination of associative relationships between dependent and independent variables employed in the current study. Results of analysis of the mail (employee) survey data are discussed in Chapter Six.

Chapter Seven presents the conclusions about the research objectives and research questions, based on the research results. Implications that this study has for management practice, policy development, small business literature and theory development, and future research, are also discussed in this final chapter.

This chapter laid the foundations for the thesis. It introduced the research problem and then justified its importance on theoretical and practical grounds. The boundaries of the problem area were clarified through the general research question, research objectives, and a conceptual framework that guided the study. Then the thesis report was outlined. On these foundations, the thesis report can proceed with a detailed description of the research.

CHAPTER TWO

REVIEW OF THE LITERATURE

Chapter One laid the foundations for the thesis. It started with an outline of the broad field of study, and then led into the focus of the research problem. The importance of the research problem was then justified on several theoretical and practical grounds. Thereafter, aspects of the research design that served the functions of focusing and bounding collection of data in the field were introduced. These aspects are the general research question and research objectives, and the descriptive research conceptual framework.

This chapter presents the review of the empirical and conceptual literature relevant to studying the effects of managers on employees' informal workplace learning in small firms. The primary objectives of the review of the literature are to: (1) establish the context of the research topic; (2) summarise and critically evaluate previous work related to the topic; (3) build a theoretical foundation upon which the research is based; and (4) guide decisions relating to the research design for the current study. The presentation of the review of the literature is divided into four sections (as explained below). Each section ends with summative arguments and an indication of where the argument is leading. At the end of this chapter, an overall summary of the analysis and evaluation of the literature is used to justify the current study.

Section 2.1 presents the review of the literature related to workplace learning. The organisation of the analysis and evaluation of the literature proceeds from a general discussion of workplace learning, towards a more specific examination of formal and informal attributes of learning situations.

Section 2.2 presents the review of the literature related to the evaluation of outcomes associated with employee work-related learning experiences. In this section, analysis and

evaluation of the literature focuses on Kirkpatrick's (1998) four-level evaluation framework.

In section 2.3, an analysis and evaluation of the varying conceptions of small business is followed by a presentation of the review of the literature on employee learning and development in the small firm context.

Section 2.4 presents the review of the literature related to the manager as facilitator of employees' learning in the workplace. This includes managerial tasks and activities associated with the concept of both the manager as a facilitator of learning through employee development interventions, and the manager as a creator of conditions in the work environment that are favourable to learning. After section 2.4, the chapter closes with a summary of the rationale for the investigation, based on the literature review.

2.1   WORKPLACE LEARNING

This section begins with a discussion of the importance, potential and limitations of the workplace as a site for learning. Next, the theoretical perspective of constructivist learning, adopted for the current study, is discussed. Then, three levels of learning (individual, team and organisational) and other classifications of learning are examined. Thereafter, the distinction between formal and informal learning, and the significance of informal learning, is reviewed. Section 2.1 ends with a summary of the review of workplace learning literature.

2.1.1   Workplaces as Sites for Learning

Many commentators argue that workplace learning has become increasingly important to the survival and competitive advantage of organisations, as a result of changes both in the context of organisations and within organisations (e.g., Argyris, 1993; Gilley & Maycunich, 2000ab; Marsick & Watkins, 1999; Nevis, DiBella & Gould, 1995; Pedler, Burgoyne & Boydell, 1997; Poell, Chivers, Van der Krogt & Wildemeersch, 2000; Schein,

1993; Senge, 1990a; Watkins & Marsick, 1993). This growing awareness of the importance of learning has focused attention on a wide variety of alternatives to formal training that can contribute to learning, and apparently employees in modern organisations cannot afford not to be learning in one way or another (Poell et al., 2000). These alternatives to formal training include action learning (e.g., Revans, 1980), coaching (e.g., Whitmore, 2002) mentoring (e.g., Higgins & Kram, 2001), and collaborative learning in teams (e.g., Edmondson, 1999). Furthermore, interest in using computer technology to support learning seems to be increasing rapidly (e.g., Roth & Niemi, 1996).

The burgeoning literature on workplace learning, organisational learning and the 'learning organisation' also reflects the growing interest in making workplaces into effective learning environments, as a means of capturing the learning potential that exists in everyday work (e.g., Kim, 1993; Senge, 1990a; Watkins & Marsick, 1993). Within these three streams of literature (workplace learning, organisational learning, and 'learning organisation') there are numerous descriptive accounts of organisations that are seeking to become more learning-oriented (e.g., DiBella & Nevis, 1998; Filipczak, 1996; Marsick & Watkins, 1999; Tjepkema et al., 2002b).

In particular, Billett (1995) has offered an account of the potential and limitations of the workplace as a setting for learning, from a synthesis of three studies into workplace learning. According to Billett (1995), the workplace offers the potential for rich learning outcomes through a combination of opportunities to engage in authentic work tasks of increasing complexity, close guidance from co-workers, and more indirect ongoing guidance provided by the setting.

On the other hand, factors limiting efficacy of workplace learning include: learning that is inappropriate; absence of expert guidance in the workplace, or reluctance of experts to provide guidance; difficulty gaining access to activities that are increasingly challenging; neglect of the development of conceptual knowledge; and reluctance of workers to engage in the learning process. Billett (1995) argues that unless these inhibiting qualities of workplace learning are addressed, the potential of workplaces as learning environments will

not be fully secured. This argument suggests that managers have a critical role in organising and managing workplace learning, and creating work environments fit for learning. To do this, managers will need to understand how people learn in the workplace.

2.1.2 Conceptions of Learning

Research on how people learn in the workplace suggests that what is taking place is constructivist, situated learning (e.g., Billett, 2001b; Lave & Wenger, 1991). The theory of constructivism rests on the notion that there is an innate human drive to make sense of the world. Accordingly, instead of passively receiving objective knowledge that is 'out there', learners actively construct their own knowledge, through interaction with their environments and integrating new information and experiences into what they have previously come to understand. Thus, old knowledge is revised and reinterpreted in order to reconcile it with the new. According to Billett (2001a), cognitive structures that learners build include: conceptual knowledge (facts, information, propositions, assertions, and concepts); procedural knowledge (techniques, skills, and the ability to secure goals); and dispositions (attitudes, values, and interests).

Constructionist learning environments have certain distinctive characteristics, including: learning occurs within a context of use; learning is authentic; learning is frequently collaborative; and learning is largely inquiry-based, rather than transmission-based (Hay & Barab, 2001). In such learning environments, functional context, social context, and usefulness are key features of knowledge construction. This means that the process of knowledge construction works most effectively when it is embedded in a context in which new knowledge and skills will be used. And although learning is a matter of personal and unique interpretation, it takes place within the social context. But learning must be useful to the learner; intrinsic motivation to learn emerges from the desire to understand, to construct meaning (Billett, 1996).

As mentioned previously, the concept of situated learning – that knowledge is created and made meaningful by the context in which it is acquired - is embedded in constructivism.

Situated learning results from undertaking authentic activities guided by expert practitioners situated in a culture of practice (Billett, 2001b). Many researchers (e.g., Cope, Cuthbertson & Stoddart, 2000; Lave & Wenger, 1991) have analysed the ways in which novices learn from expert practitioners. They are at pains to distinguish this process of learning from crude notions of 'sitting with Nellie'. Their analysis leads them to describe learning facilitation strategies that include modelling, coaching, scaffolding, fading, reflection, articulation, and exploration. Each of these learning facilitation strategies is briefly explained in the next two paragraphs.

Social learning theory (Bandura, 1977) emphasises that people learn by observing other persons (models) whom they believe to be credible and knowledgeable. According to this theory, learning new skills or behaviour comes from the process of directly observing others and seeing the consequences of their behaviour, or from directly experiencing the consequences of using behaviour or skills. Modelling thus involves demonstration of particular aspects of practice by the expert, whilst drawing attention to key learning points, whereas coaching entails the provision of feedback by the expert on the learner's performance. This feedback includes reinforcing and rewarding the models' behaviour or skill that the learner adopts. In addition, coaching often involves the notions of scaffolding and fading (Vygotsky, 1978) by which novices are supported in completion of tasks that they would be unable to achieve without help. As the learner becomes more competent and confident, the expert or co-worker gradually withdraws (fades) support (scaffolding) in such a way to transfer responsibility for the task to the learner.

As novices increase in confidence and competence, they can be encouraged to use more advanced learning strategies, such as reflection, articulation and exploration. Reflection is a process of comparison between their competence and that of the expert. And articulation requires learners to make explicit their understandings of practice, through teaching others for example. When learners are operating with secure competence, the process of exploration can be initiated by asking learners to consider alternative approaches to the practical problems that they face.

2.1.3 Levels and Types of Learning

Another perspective on workplace learning comes from those researchers who comment on 'levels' of learning and types of learning. According to some researchers, learning can occur at three different levels: individual, team or organisation (see, for example, Kim, 1993). Many of these researchers argue that an organisation is an abstract notion, and so is its learning capacity (Tjepkema et al., 2002c). They conclude that the ability of an organisation to learn is embodied in its employees. In their view, individual employee learning thus is a necessary prerequisite for team and organisational learning, because organisations ultimately learn via their individual members (Kim, 1993).

However, employee learning is not enough to ensure learning at the team and organisational level. For example, Tjepkema et al. (2002c) argue that adequate upward communication is necessary to allow learning experiences from employees at different organisational levels to be transferred to other levels. They also contend that a certain amount of empowerment in the operational core is needed to create opportunities for employees to use their learning experiences to make improvements in the workplace.

There are several other classifications of workplace learning processes (Tjepkema et al., 2002c), practically all of which are based on the typology of Argyris and Schon (1978). This typology distinguishes between three types of learning: single-loop, double-loop, and deutero. Single-loop learning emphasises identification of problems and taking corrective action. It involves small adjustments in actions, rather than radical changes. This type of learning is commonplace in continuous improvement programmes, because employees are taught to identify problems and correct them.

On the other hand, double-loop learning emphasises the understanding of basic assumptions and core values that led to a particular problem, and a willingness to change them. It represents a radical shift in the way employees learn, because it involves changing basic assumptions and core values about how they work. Double-loop learning processes thus have much more far-reaching consequences than single-loop learning processes do.

Deutero-learning, the highest level of learning, is essentially learning to learn. That is, learning how to carry out, and how to optimise, single-loop and double-loop learning processes (Tjepkema et al., 2002c).

Ellstrom's (2001) classification of workplace learning processes, in terms of adaptive and developmental (or innovative) learning, is one example of a classification scheme that seems to be based on the typology of Argyris and Schon (1978). Adaptive and developmental (or innovative) learning processes are similar to single-loop and double-loop learning processes respectively. Adaptive learning has its role primarily in the formation of competencies for handling routine problems that are frequently occurring. In this mode of learning the learner has to evaluate the outcomes and make minor corrections in the way the methods were used to solve the problem at hand. This would, for example, apply to a work setting where the workers have a responsibility for continuous improvements of formalised work procedures.

In contrast, in developmental learning, the learner has to engage in a more active process of knowledge-based problem solving through experimentation. This mode of learning becomes necessary when we encounter novel or unfamiliar situations for which no rules or procedural knowledge (know-how) is available from previous experience. This mode of learning also occurs when individuals and groups within an organisation begin to question established definitions of problems or objectives and act to transform institutionalised ideologies, routines, structures or practices. Although both modes of learning distinguished here are deemed necessary and assumed to be complementary, according to Ellstrom (2001), individuals and organisations tend to get caught in an adaptive mode of learning.

2.1.4 Formal and Informal Learning

For the purpose of investigating learning processes in the workplace, some learning theorists believe that it is helpful to make the distinction between learning that occurs in formal contexts, as opposed to those that are informal. For example, Marsick and Watkins (1990), Watkins and Marsick (1992), and Eraut (2000) have developed theoretical

frameworks for making a distinction between formal and informal learning, and understanding the range of learning modes within the domain of informal learning.

According to Marsick and Watkins (1990), formal learning is typically institutionally sponsored, highly structured, classroom based, and may be undertaken with the aim of achieving a recognised qualification. The learning content is typically chosen by an educator or trainer and presented to the learner. Similarly, according to Eraut (2000), the following characteristics of a learning situation can be defined as falling into the category of formal learning: a prescribed learning framework; an organised learning event or package; the presence of a designated teacher or trainer; the award of a qualification or credit; and the external specification of outcomes.

On the other hand, Marsick and Watkins (1990) refer to learning that occurs outside formal contexts as informal and incidental learning. They characterise this type of learning in the following manner (Watkins & Marsick, 1992, p.287): based on learning from experience; embedded in the organisational context; oriented to a focus on action; governed by non-routine conditions; concerned with tacit dimensions that must be made explicit; delimited by the nature of the task, the way in which problems are framed, and the work capacity of the individual undertaking the task; and enhanced by pro-activity, critical reflection and creativity.

Furthermore, Marsick and Watkins (1990) make a distinction between informal and *incidental* learning. Incidental learning is considered a subset of informal learning, and is usually the by-product of some other activity, such as carrying out a task, or interactions with other people. As such it is never planned or intentional, always delimited by the nature of the task that influenced its creation, and unexamined and embedded in the individual's closely held belief system. In contrast, informal learning, although it is often accidental, can be planned or intentional, even though it is predominantly experiential, non-institutional, and controlled by the learner, rather than the trainer.

According to Marsick and Watkins (1990), both types of learning (incidental and informal) take place on a continuum of conscious awareness, and the learner may not be aware of the learning. Lack of both intention to learn, and awareness of learning, is particularly characteristic of incidental learning, because the learner's attention is focused on something else. Strategies for informal learning include self-directed learning, coaching, mentoring and networking; whereas incidental learning includes learning from mistakes and learning by doing.

In contrast, Eraut's (2000) typology of informal learning includes *three* learning modes: implicit, reactive and deliberative learning. Eraut (2000) uses the dimension *level of intention to learn* to explore this range of learning modes within the domain of informal learning. At the one extreme there is *implicit learning* that gives rise to tacit knowledge. At the other there is *deliberative learning* that is planned informal learning, for which time is set aside. Implicit learning is the acquisition of knowledge independently of conscious attempts to learn, and in the absence of explicit knowledge about what was learned. Thus, there is no intention to learn, and no awareness of learning at the time it takes place. (Marsick's and Watkins' (1990) definition of incidental learning thus includes implicit learning.) On the other hand, *reactive learning* lies between implicit learning and deliberative learning. Reactive learning is used to describe situations where learning is near spontaneous and unplanned, the learner is aware of it, but the level of intention will vary and often be debatable. Its articulation in explicit form could also be difficult, without setting aside time for more reflection, and thus becoming deliberative.

Beckett and Hager (2002) also make the distinction between learning that occurs in formal contexts, as opposed to those that are informal. They have identified six key features of informal workplace learning. First, whereas learning in formal courses usually involves disciplinary knowledge and skills, informal workplace learning typically involves a more organic/holistic kind of learning. Second, most formal learning and training is deliberately decontextualised, on the assumption that learning that is independent of context can be applied in any context. In contrast, the informal learning that occurs in workplaces is significantly contextual, and the outcomes of informal workplace learning are altered by the

details of the particular workplace context. Third, it seems characteristic of informal workplace learning that it is triggered by work activity and experience. Fourth, whereas teachers and trainers strongly shape the course of formal learning, informal learning is usually instigated, activated, or controlled by the individual learners in interaction with the problem-posing work situation they find themselves in. Fifth, learning is seldom the main aim of workplace activities. Hence workers are often unaware of the nature or extent of their learning. The learning is often implicit or tacit, in contrast to the typical explicitness of formal education and training. Finally, in contrast to the individualism that marks most education and training, informal workplace learning often arises from collaborative or collegial work in a community of practice. Also, the focus is on others as co-learners or aids to learning, rather than as teachers.

The foregoing presentation of the review of the literature suggests that there is a strong tendency in the literature to see formal and informal learning as separate, which results in polarisation between the two main positions. Based on analysis of a range of attempts to classify the differences between formal and informal learning, Malcolm, Hodkinson and Colley (2003) concluded, "it is not possible to clearly define separate ideal-types of formal and informal learning, which bear any relation to actual learning experiences" (p.314). In their view, the criteria for establishing such separate categories of learning are too numerous, contested and varied for this purpose. They argue that all (or almost all) learning situations contain attributes of formality/informality, but the nature of, and balance between them varies significantly from situation to situation. Thus, there are significant elements of formal learning in informal situations, and elements of informality in formal situations; the two are inextricably inter-related. However, they acknowledge that it is sometimes appropriate to use adjectives such as formal and informal to describe learning.

2.1.5 Significance of Informal Learning

Billett (2001a) contends that despite growth of interest in workplaces as learning environments, there persists a deeply rooted ambivalence towards learning in workplaces. He argues that on the one hand, there is a valuing of the authentic experiences that

workplaces provide for development of knowledge and skills needed for work. On the other hand, he asserts that workplaces are characterised as being 'informal' learning environments that fail to provide coherence in the structuring of learning experiences, are devoid of access to instructional episodes, and lead to piecemeal concrete and situation specific learning outcomes.

According to Billett (2001a), workplace experiences are generally viewed as a means to apply and refine what has been learnt in educational institutions, or as 'fallback' settings when these institutions lack the expertise or infrastructure to provide appropriate learning experiences. These views support the assumption that, rather than just being of a different kind, learning experiences in workplaces are inherently less valuable than those in educational establishments.

Similarly, Beckett and Hager (2002) use the concept of the 'front-end model' of occupational preparation to demonstrate the subordinate and inferior role that informal learning has played within the citadel of learning. They argue that the 'front-end model' has been dominant in vocational preparation of all kinds. 'Front-end' implies that entrants to the occupation have completed all of the learning that is needed for a lifetime of practice. This formal education and/or training usually takes place in classrooms, remote from the workplace. Beckett and Hager (2002) call this favoured form of learning the 'standard paradigm of learning'. They argue that other forms of learning have been evaluated by how well they approximate this favoured form of learning. The 'standard paradigm of learning' leads to inadequate and dismissive accounts of informal learning.

Both Billett (2001a) and Beckett and Hager (2002) strongly reject the traditional and widespread paradigm of learning that views formal learning as the only kind of worthwhile learning, thereby devaluing informal learning. Billett (2001a) insists that the contributions of the workplace to learning are rich, complex and probably difficult to avoid. Furthermore, rather than being weak, the learning occurring outside formal education and training settings is often central to sustaining the practices – and even the communities - in which the learning occurs. Similarly, Beckett and Hager (2002) emphasise the need for

learning to continue beyond formal education and training, and claim that informal workplace learning is an essential component of proficient practice in most, if not all, occupations.

Furthermore, there are a number of learning theorists who argue that formal education and training represent only a small part of all learning. For example, Coffield (2000, p.1) states that:

> If all learning were to be represented by an iceberg, then the section above the surface of the water would be sufficient to cover formal learning, but the submerged two thirds of the structure would be needed to convey the much greater importance of informal learning.

According to Coffield (2000), learning is a ubiquitous individual activity and social process that goes far beyond both education and training; education and training 'float upon the sea of learning'. Coffield (2000) further claims, "informal learning is routinely ignored by government, employers and most researchers" (p.1).

Empirical research supports these views regarding the significance of informal learning. For example, Frazis, Gittleman, Horrigan and Joyce (1998) conducted a large-scale survey of employer-provided training in the United States. Their survey gathered information on formal training and more unstructured, informal ways in which employees can learn job-related skills. Frazis et al. conclude that, although the hours employees spent in formal training are significant, the results clearly indicated that informal training is a very important way in which employees acquire job-related skills. Results from their survey show that, based on the hours employees spend in training, 70 percent of the training during the survey period was delivered through informal instruction. Likewise, Bishop (1991) found that formal training was only eight percent of the total hours of training of new hires in the first three months after joining the firm.

Eraut, Alderton, Cole and Senker (1998) provide further empirical evidence of the importance of informal learning. They conducted a detailed study of learning at work through double interviews, 6-12 months apart, with 120 people employed in organisations in the engineering, business and health care sectors. This research showed that a great deal of learning in the workplace takes place independently of the provision of formal education and training. Learning from other people and the challenge of the work itself proved to be the most important dimensions of learning for the people interviewed in this study. Likewise, survey results from over 500 people in seven organisations, coupled with data from diagnostic interviews, led Tannenbaum (1997, p.448) to conclude that:

> To foster continuous learning, it is imperative that organisations: (a) recognize that non-training options are the primary means by which their employees develop competence; and (b) dedicate at least as much effort examining, enhancing, and encouraging these options as is spent on formal training.

Case study research by Ashton (1998) further served to illustrate that learning at work has gained prominence, and that formal training has become just one component of knowledge and skill formation processes. Similarly, Boud and Middleton's (2003) study of multiple worksites suggests that informal interactions with peers are predominant ways of learning, and that the impact of formal training on workplace practice can be quite marginal.

But despite the significance and value of informal learning, information on learning whilst in employment, whether obtained through surveys of individuals or organisations, usually only provide measures of formal learning, rather than informal learning (Long, Ryan, Burke & Hopkins, 2000). Obtaining reliable measurement, particularly of the quantity of informal workplace learning is understandably difficult. Eraut (2000) points out that problems faced by researchers investigating informal learning are considerable. He asserts that implicit learning is difficult to detect without prolonged observation, and reactive and deliberative learning is unlikely to be consciously recalled unless there was an unusually dramatic outcome.

For this reason, but mainly because of convenience, the conventional approach to measuring investment in development of human resources has been to focus on formal education and training (Long et al., 2000). Years of schooling or tertiary study, qualifications, length or frequency of training, and the expenditure on education and training provide convenient measures of the investment made in skill formation, and are common proxies of knowledge and skill acquisition (Dwyer, 2000). However, according to Ashton (1998), for the purpose of analysis of knowledge and skill formation processes, these traditional measures have limited value. The following quotation supports this view and suggests why measures of formal education and training are deficient as proxies of knowledge and skill acquisition:

They don't however, enable any analysis of the quantum of 'active' human capital – that is, the use of skills within employment or other settings, addition or reinforcement of skills through informal on the job learning, nor of the ultimate level of skills, given that skills can deteriorate and become obsolete (Dwyer, 2000, p.9).

In summary, according to some commentators (e.g., Coffield, 2000; Eraut, 2000; Long et al., 2000), focusing on the role of formal education and training in the process of knowledge and skill formation has meant that the importance of less formal modes of learning has not been fully recognised. Tjepkema et al. (2002c) and others (e.g., Rowden, 1995) assert that consequently, most employees and managers hold a somewhat limited view on 'learning'. They usually (implicitly) equate it to classroom training. But as noted earlier, although training can play an important role in learning, it is not the primary means by which people learn in organisational settings (e.g., Bishop, 1991; Frazis et al., 1998; Tannenbaum, 1997). Case study and survey evidence of learning oriented organisations (see Tjepkema et al., 2002b) suggests that managers and human resource development staff in some organisations are actively trying to establish a broader view of learning.

2.1.6 Summary of Workplace Learning

Learning is thought to be increasingly important for the survival and competitive advantage of organisations (e.g., Argyris, 1993; Gilley & Maycunich, 2000a; Pedler et al., 1997; Schein, 1993; Senge, 1990a). Organisations that impede learning, or hinder the application of new knowledge and skills, risk individual and organisational stagnation (Revans, 1980). While this has always been true, it is especially obvious and important now, particularly because of rapid and unpredictable change in the external environments of organisations (Megginson, Banfield & Joy-Matthews, 1999; Pedler et al., 1997).

Also, there seems to be growing interest in highlighting the organisation as a learning environment, with learning being seen as a more integral part of organisational activity, rather than just a support function (e.g., Billett, 2000; Kim, 1993; Senge, 1990a; Watkins & Marsick, 1993). Managers have a key role in fostering both adaptive and developmental learning (Ellstrom, 2001) at the individual, team and organisational level (Kim, 1993). Additionally, managers have an important role in securing the potential of workplaces as constructivist learning environments (Billett, 2001ab). One implication of this line of thinking is that managers need to understand work-related learning processes.

For the purpose of investigating work-related learning processes, it is helpful to make the distinctions between learning that occurs in formal and informal contexts (Eraut, 2000; Marsick & Watkins, 1990). Research evidence highlights the sheer amount of learning from sources such as other people and the job itself, rather than from formal training (e.g., Boud & Middleton, 2003; Eraut et al., 1998; Tannenbaum, 1997). However, although learning is an everyday occurrence, and training an infrequent activity, it would seem that in general, the significance and value of informal learning at work is not always fully recognised (e.g., Ashton, 1998; Coffield, 2000).

Thus, overall, the review of the literature on workplace learning suggests that changes both within organisations, and in the external environments of organisations, are making the process of learning at and through work more central to successful implementation of

organisational strategies and achievement of organisational objectives. This apparent growing awareness of the importance of workplaces as learning environments has been accompanied by the coining of fashionable phrases such as 'knowledge workers' and the 'learning organisation'. Unfortunately, it seems that such fashionable phrases and high aspirations have not been transformed into practical ideas and methods that could enhance both the quantity and quality of learning at and through work. In this regard, there is a need for research that yields findings that are understandable, practical, and useful to managers.

Additionally, the review has highlighted a need to broaden the research agenda away from what appears to be a preoccupation with formal education and training. Because workplaces as sites for learning have been largely unnoticed until recent years, the empirical base has not been fully explicated, and our understanding of how learning occurs and can be fostered within the workplace needs to be deepened through further research. Furthermore, much of the empirical and conceptual literature on workplace learning originates from scholars who adopt a critical, political, or adult education perspective. Unfortunately, there seem to be relatively few contributions from scholars who adopt a managerial perspective on workplace learning.

A further aspect of the apparent growing awareness of the importance of workplace learning is a logical concern to evaluate the outcomes of learning experiences. The following section presents the review of the literature associated with the evaluation of work-related learning.

2.2   EVALUATION OF WORK-RELATED LEARNING

Literature that discusses evaluation of work-related learning, generally focuses on frameworks used to evaluate formal training experiences. Previously it was emphasised that while formal education and training play a critical role in the development of human capability, learning that occurs in other contexts also makes important contributions. The workplace, in particular, is widely recognised as a context that provides specific knowledge, skills and attitudes that are normally not obtained by classroom-based formal

education and training courses (Ashton, 1998; Billett, 2000; Eraut et al., 1998; Matthews, 1999). Workplace learning complements learning in the formal education and training system, by further preparing people for work, and enabling the knowledge and skills of the existing workforce to be updated and further developed. Thus, it could reasonably be argued that evaluation of work-related learning from all types of learning experiences, not just formal training, should be undertaken.

Of the available evaluation frameworks, Kirkpatrick's (1959a; 1959b; 1960a; 1960b) four-level evaluation framework seems to have the greatest potential as a framework for evaluating the outcomes of informal workplace learning experiences. Although originally designed to evaluate classroom-based training, the framework is also used to evaluate other types of learning activities (Broad, 1997; Kirkpatrick, 1998). For example, Naugle, Naugle and Naugle (2000) argue that the framework can be used to evaluate the performance of teachers in the traditional classroom setting. And Hamblin (1974), who proposed a modified five-level framework, contends that this modified framework can be applied to either the totality of employee development policy and practice, or to a particular and specific employee development activity. Moreover, Kirkpatrick's framework is also used to evaluate change programmes. In fact, Robbins, Millett, Cacioppe and Waters-Marsh (2001) assert, "one of the best ways to evaluate a change program is to use the four-level outcomes model recommended by Kirkpatrick" (p. 728).

Thus, in the following sub-sections, the presentation of the review of the literature on evaluation of work-related learning *focuses on Kirkpatrick's framework*. The first sub-section (2.2.1) discusses the meaning and purposes of evaluation. Thereafter, the Kirkpatrick four-level evaluation framework is explained (sub-section 2.2.2), and criticisms of the framework are examined (sub-section 2.2.3). Sub-section 2.2.4 contains a summary of the review of the literature on evaluation of work-related learning

2.2.1 Meaning and Purposes of Evaluation

Evaluation is considered a critical, but often neglected phase of the human resource development process (Alliger & Janak, 1989; Megginson et al., 1999; Watkins, Leigh, Foshay & Kaufman, 1998). Reasons for the importance of evaluation, and its neglect, are contained within some definitions of evaluation. For instance, Swanson (1996) defines evaluation as "a systematic collection of evidence to determine if desired changes are taking place" (p.26). In other words, according to this definition, the evaluation of learning activities is concerned with 'proving' behavioural change on the job, and the resultant improved business performance. However, as Megginson et al. (1999) noted, successful learning activities is only one factor among many that influence the level of individual job performance, and this in turn is only one factor affecting the overall level of business performance. Thus, providing 'evidence' that learning activities 'work' can be very problematic.

In contrast to the above outcome-oriented definition, Edwards (1999) offers a process led definition of evaluation. She uses the term 'evaluation' to refer to "the structured response and review, by designers, trainers, managers or participants of a learning event or process, and of a development or training intervention." (p.379). This definition implies that it is the learning event, process, or intervention that is under scrutiny, rather than the learners themselves. She uses the term 'assessment' to refer to activities that help decide what the individual learner has learnt. During assessment, the focus is on that individual's capacity and ability, rather than the means by which he or she achieved the learning. Edwards (1999) thus emphasises using evaluation for the purpose of improving learning processes. But she acknowledges, "different stakeholders in any evaluative exercise will be looking for a different 'spin' on the process and on the outcomes" (p.378).

For instance, according to Holton (1996), because of pressure on learning and development specialists to demonstrate 'bottom line' benefits, "evaluation of interventions is among the most critical issues faced by the field of human resource development today" (p.5). In response to this growing trend towards accountability, some commentators (e.g., Phillips,

1994; Swanson, 1998) place greater emphasis on using evaluation to demonstrate a return-on-investment in development, rather than on employing evaluation to point towards better employee development practice. Consistent with this return-on-investment approach, Stewart (1999) contends that evaluation is concerned with establishing the success, or otherwise, of development activities, and with assessing whether the associated benefits justify the investment. Stewart (1999) points out that the latter need not necessarily consist of direct expenditure incurred for employee development activities, as there may be none involved. However, some investment will have been required, if only the time and effort of developers and learners. It is therefore a purpose of evaluation to establish the value of that investment.

However, most commentators (e.g., Easterby-Smith, 1986; Kirkpatrick, 1998; Reid & Barrington, 1997) identify numerous purposes of evaluation of learning activities, including determining whether the objectives were met, proving and promoting to those responsible for resource allocation the value of investing in employee learning and development, and supporting the learning process. There is wide agreement amongst these commentators that gaining information on how to improve learning activities, and the performance of learning facilitators, is a key purpose of evaluation. Focusing on the improvement purpose implies a formative approach to evaluation, rather than an outcomes approach. The latter approach principally aims to determine if the desired changes in trainee behaviour and organisational results took place. One well-known evaluation framework that incorporates both of these approaches is discussed next.

2.2.2 Four-level Framework

The most commonly accepted approach to evaluating adult work-related learning activities is probably Kirkpatrick's (1959a; 1959b; 1960a; 1960b) four levels of reaction, learning, behaviour and results (Alliger & Janak, 1989; Broad, 1997; Naugle et al., 2000; Watkins et al., 1998). Both the value and the complexity of information increase as an evaluator progresses through the four levels of the Kirkpatrick framework (Phillips, 1996). There is also an assumption that each level affects the following level (Alliger & Janak, 1989).

The first level, *reaction*, measures the learners' satisfaction with the learning activities. Reaction measures are the most commonly used form of evaluation (Alliger & Janak, 1989; Broad, 1997; Kirkpatrick, 1998), and measures how participants feel about learning episodes. It focuses on the experiences of the learning activity from the perspective of learners, and their reactions to their experiences. When evaluating a single and discrete learning activity, this information is usually collected immediately after the learning activity is completed. (In contrast, employees' (dis)satisfaction with workplace learning experiences can be measured at any stage in a continuous learning environment.) The usual manner of gathering evaluation data at the reaction level is through a self-report form completed by learners. Reactions measures are usually recorded merely in terms of satisfaction or enjoyment, and Kirkpatrick (1998) likens evaluating reaction to measuring customer satisfaction.

A number of researchers have attempted to develop more focused reaction measures than those proposed by Kirkpatrick. For instance, Warr and Bunce (1995) divided reaction into three components (enjoyment of the learning experience, its perceived usefulness, and perceived difficulty) and demonstrated that these three forms of reaction are factorially distinct. Alliger, Tannenbaum, Bennett, Traver and Shotland (1997) also found it helpful to distinguish between affective reactions to a learning experience (enjoying it) and utility reactions (its perceived usefulness for one's job). Furthermore, they reported that perceived usefulness was more associated than enjoyment with subsequent job performance. Warr, Allan and Birdi (1999) argue that another affective state at the end of formal learning experiences deserves consideration: the extent to which individuals are motivated to transfer what they have learned into a job setting.

While many training providers gather Level 1 data on learner reactions to learning experiences, Level 2 measurements of participants' *learning* during learning experiences are more difficult, and less frequently obtained (Alliger & Janak, 1989). Generally, there are three types of learning outcomes that may result from learning experiences: (1) cognitive outcomes, (2) skill-based outcomes, and (3) modification of learners' attitudes

(Kirkpatrick, 1998; Stewart, 1999). These learning outcomes can be assessed in many ways, including performance tests, observation, written tests and self-assessment.

The *behaviour* level of evaluation examines changes in behaviours of the learners on the job. This is done most often through observation in terms of supervisors' ratings of key behaviours, before and after learning experiences (Warr & Bunce, 1995), but sometimes self-reports are obtained if information is unlikely to be available to a supervisor (Wexley & Baldwin, 1986). Holton (1996) prefers to use the term 'individual performance' instead of 'behaviour', because it is thought to be a broader construct, and a more appropriate descriptor of the broad aim of employee learning. Alliger et al. (1997) use the term 'transfer' to refer to the extent to which learners transfer their new knowledge, skills and attitudes to the job.

Broad (1997) defines transfer of learning as "the effective and continuing application by learners – to their performance of jobs or other individual, organisational, or community responsibilities – of knowledge and skills gained in learning activities" (p.2). A body of research (e.g., Baldwin & Ford, 1988; Brinkerhoff & Montesino, 1995; Newstrom, 1986) that focuses on the organisational context in which learners apply new knowledge and skills, has shown that there is a significant gap between learning, and transfer of that learning to job performance. Unfortunately, high levels of transfer appear to be very unusual (Broad, 1997).

Research suggests that managers play a key role in transfer of learning and points to a lack of demonstrated support for transfer of learning by managers in many organisations (Broad, 1982; Newstrom, 1986). For instance, Broad (1980) identified over 70 actions by managers that could support transfer of learning. These management actions occur before, during, and after the learning event. Also, Newstrom (1986) studied trainers' perceptions of the major barriers to successful transfer of learning from the 'classroom' to the workplace. The strongest barrier, as perceived by these trainers, was the manager not reinforcing the trainees' learning on the job.

The conceptual literature also emphasises the key role of the manager in transfer of learning. For instance, Baldwin and Ford's (1988) review of the transfer literature identified trainee characteristics and work environment characteristics that make effective transfer of learning more likely. The four work environment characteristics they identified are: (1) supportive organisational climate; (2) preliminary discussion with the supervisor; (3) opportunities to use new learning; and (4) goal setting and feedback following training. Clearly, managers play a key role in each of these four areas.

Similarly, Kirkpatrick (1998) describes five different types of transfer climate that refer to the learner's immediate supervisor: (1) preventing; (2) discouraging; (3) neutral; (4) encouraging; and (5) requiring. He contends that unless the climate is neutral or better, there is little or no chance that transfer of learning will occur.

Finally, Broad and Newstrom (1992) identified three key participants in the process of transferring learning from the training environment to the workplace environment: managers (at all levels), trainers and trainees. They recommend that an important target for improving transfer is the increased and visible involvement of managers, before and after learning events. Improving transfer should lead to improvements in individual and organisational performance.

How have organisational *results* (Level 4) changed as a result of the learning experiences? This is usually the most difficult learning outcome to measure. 'Results' can include almost any criteria by which organisational success is defined. Examples of results include productivity, customer satisfaction, cost reduction or containment, efficiency (e.g., scrap rates), quality, morale and profitability. These outcomes are usually measured over time (e.g., month to month), or measured before and after a learning activity. It is not always clear how long it will take for a learning activity to have an impact on organisational results. Changes could occur immediately, or appear years later.

Measuring the effectiveness of employee development at this level could be an expensive, time-consuming drain of resources. Thus, before undertaking this level of measurement, an

organisation should carefully consider whether it is cost effective and warranted. Numerous researchers have made the point that it is very difficult to evaluate learning experiences at level 4. Given the myriad set of factors influencing performance, the uncontrolled, non-laboratory setting of organisations makes it problematic to isolate the impact on performance of any one learning event (Megginson et al., 1999; Stewart, 1999).

2.2.3 Criticisms of the Four-level Framework

Despite being widely acknowledged as the standard in the field by many practitioners, Kirkpatrick's four-level evaluation framework has been the subject of much criticism by academic researchers (e.g., Alliger & Janak, 1989; Holton, 1996; Swanson, 1998). For example, Swanson (1998) advocates greater emphasis on financial analysis of the benefits associated with formal learning experiences. He claims, "even Kirkpatrick's recent best-selling book is devoid of any elementary economic or psychometric theory" (p.286). Another criticism of Kirkpatrick's model is that it is output-orientated (e.g., Brinkerhoff, 1987). Specifically, these critics argue that those factors that occur *before* the learning episode (e.g., training design) should also be evaluated, to predict whether the planned learning event is likely to be successful.

Arising from such criticisms, a number of modifications to Kirkpatrick's model have been suggested. For example, Phillips (1994, 1996) has built upon Kirkpatrick's model by adding a fifth level that focuses specifically on return-on-investment. Others have also suggested adding a fifth level. For instance, to reflect employee developments': (1) 'ultimate value' in terms of organisation success criteria, such as return on investment, customer service levels, and staff satisfaction (Hamblin, 1974); or (2) societal value (Kaufman & Keller, 1994). On the other hand, Brinkerhoff (1987) has presented a six-stage model of evaluation that, in essence, added two formative evaluation stages related to goal setting and programme design, as precursors to Kirkpatrick's four levels. But apparently these and other revisions to the initial model have not yet been widely adopted by practitioners (Watkins et al., 1998).

Holton (1996) contends that although the Kirkpatrick framework, and proposed revisions to the framework, has contributed greatly to our conceptual thinking about evaluation, these evaluation frameworks have received little empirical testing, and are seldom fully implemented in organisations. He believes that all of them are "best labelled as taxonomies, which are simply classification schemes" (p.6). According to Holton (1996), any attempt to test causal assumptions within taxonomies is futile, because, by definition, taxonomies classify rather than define causal constructs.

In his critique of Kirkpatrick's framework, Holton (1996) argues that the problem is not that it is a taxonomy, but rather that it *implies* a simple causal relationship between levels, leading to practical decisions that are outside the bounds of taxonomies. According to Holton (1996), causal conclusions, which are a necessary part of evaluation, require a more complete model. Similarly, Alliger and Janak (1989), in their comprehensive review of research on the four-level framework, note that the implied causal relationships between each level of this taxonomy have not been demonstrated by research.

2.2.4   Summary of Evaluation of Work-related Learning

The literature on evaluation offers a range of definitions, explanations of aims, and models of evaluation (Phillips & Phillips, 2001; Stewart, 1999). It is clear from an examination of these definitions that the particular interests and objectives of the author influence the emphasis and approach contained in the definition (Megginson et al., 1999). Similarly, the reasons why learning facilitators, or other stakeholders, evaluate learning experiences also vary. On the one hand it could be to prove the worth of a learning experience (e.g., Phillips, 1994, 1996), and on the other hand it may be to improve its effectiveness (e.g., Edwards, 1999). These aims are not mutually exclusive, and in practice the evaluation of learning experiences may have multiple aims (Stewart, 1999).

From the models of evaluation available for use, perhaps the most influential one is Kirkpatrick's four-level evaluation framework (Alliger & Janak, 1989; Broad, 1997). It is simple, yet comprehensive, and can be applied, either fully or partially, to a variety of

learning situations. Despite criticisms of the model (e.g., Holton, 1996) and attempts to modify it (e.g., Brinkerhoff, 1987) the literature suggests that the original model still is the standard in the field of evaluation of adult work-related learning (e.g., Alliger & Janak, 1989; Broad, 1997; Swanson, 1998).

But unfortunately, the literature that discusses evaluation of learning, focuses almost exclusively on frameworks used to evaluate outcomes of formal learning (training) experiences. Although commentators suggest that some of these evaluation frameworks can also be applied to other learning situations, no empirical studies were found during the review of the literature that specifically involved application of such an evaluation framework to informal workplace learning experiences. Thus, while there has been much research in the area of evaluating the outcomes of formal training experiences, there is a need for research related to the evaluation of outcomes of informal learning experiences. Of the available evaluation frameworks, the Kirkpatrick (1998) four-level evaluation framework seems to have the greatest potential for evaluating the outcomes of informal learning experiences.

As noted previously, in general, informal learning processes make very significant contributions to the development of employees' work-related knowledge and skills. In particular, small firms prefer informal learning processes, as opposed to formal training. It has also been well argued that small firms represent a very significant part of the workplace-learning context in New Zealand (e.g., Massey, 2004a) and other developed economies (e.g., Storey, 2004). Furthermore, it has been emphasised that the small firm should not be viewed as a 'scaled down' version of a large firm (Curran & Blackburn, 2001). But how do small firms differ from large firms? And how do distinctive characteristics of small firms influence the nature and extent of employee learning and development in the small firm sector? These questions are explored in the next section.

2.3   THE SMALL FIRM CONTEXT

According to d'Amboise and Muldowney (1988), "rigorously defining small business has always been difficult, even controversial" (p.226). This is evident in the wide variety of competing definitions used in small business literature. This section of the review of the literature begins with a discussion of varying conceptions of small business and approaches to operationalising the small business as a construct. Thereafter, the discussion focuses on employee development in small firms. Barriers to small firm participation in formal training, and the apparent shift of focus in research from 'training' to 'learning' are examined.

2.3.1   Defining the Small Firm

There is wide agreement amongst commentators (e.g., Cameron & Massey, 1999; Curran & Blackburn, 2001; Hendry, Arthur & Jones, 1995; Paolillo, 1984; Storey, 1994; Welsh & White, 1981; Wynarczyk, Watson, Storey, Short & Keasey, 1993) that small firms are fundamentally different to large firms. Penrose (1959) encapsulated this idea by offering the analogy that small and large firms are as fundamentally different from each other as caterpillars are from butterflies. Even if one metamorphoses into the other, it would not simply be a larger version of the other, and there is no certainty that metamorphosis will take place at all. Thus, any definition of the small business needs to capture the fundamental differences between small and large firms. A number of researchers have attempted to formulate qualitative definitions of the small firm that reflect the key assumption that small firms are fundamentally different to large firms.

One of the best-known qualitative definitions, intended to capture the distinctive characteristics of the small firm compared with larger enterprises, was offered by the Bolton (1971) Committee of Inquiry on Small Firms in the United Kingdom through their report, popularly known as the Bolton Report. (John Bolton was the committee's chairman.) This definition emphasises what was thought to be three essential characteristics of a small firm:

1.   The business is owner-managed in a personalised way, and not through a formal management structure.
2.   The business has a relatively small share of its market.
3.   The business is independent, in the sense that it does not form part of a larger enterprise, and that the owner-managers should be free from outside control in taking their principal decisions.

The Bolton committee's definition of the small firm has been very influential, and is evident in the work of many researchers and policy-makers. The definition cited in d'Amboise and Muldowney (1988) illustrates this point: "A small business is one which is independently owned and operated, and which is not dominant in its field of operation" (p226).

Other conceptions of the small firm reflect to a large extent a particular operational reality implied by the Bolton committee's definition, or an attempt to apply the definition to a particular context. For example, in the Wiltshire Report (1971) from Australia, the small firm is conceptualised as a business in which one or two people, with specific knowledge in only one or two functional areas of business, are required to make all the critical decisions, without the aid of internal managerial specialists in the range of functional areas of business. This definition highlights the small business paradox - the typical owner-manager possesses limited functional knowledge and skills, but business survival demands knowledge and skills in a wide range of functional areas (Cameron & Massey, 1999).

One example of an attempt to tailor the Bolton committee's definition to a particular country is the work by Cameron and Massey (1999) on the small business sector in New Zealand. Their description of the small firm suggests that the managers, suppliers of capital and the entrepreneurs are usually the same person or persons. They describe the small business as "a business that is independently managed by the owners, who own most of the shares, provide most of the finance and make most of the principal decisions" (p.5). In contrast, in larger firms the aforementioned parties are more clearly separable.

More recently, an alternative perspective on defining a small firm, to that provided by the Bolton committee, has been offered by Wynarczyk et al. (1993). These authors also attempted to isolate the basic differences between small and large firms on qualitative criteria. They argue that the three central ways in which small firms differ from large firms are related to uncertainty, innovation and evolution. Uncertainty is linked to small firms being price-takers, a vulnerability associated with having a limited customer base, lack of resources and general inability to withstand external influences on the way businesses are run. Innovation and small firms are often linked, and in this context innovation refers to the constant, active engagement in innovation processes by small firms by offering marginally differentiated or non-standardised varieties of products or services. Finally, evolution refers to the greater likelihood of small firms experiencing a wider range of changes than occurs in larger firms when – and if – they grow. But Curran and Blackburn (2001) argue that there would be considerable problems in using this approach for research purposes. They assert that although the Wynarczyk et al. (1993) construct is touching on key differences between small and large firms, the focus is not sharp enough for operational purposes.

Overall, qualitative definitions of the small firm are difficult to operationalise. d'Amboise and Muldowney (1988) noted that researchers and other parties have used four specific criteria to operationalise the small business as a construct: value added, value of assets, annual sales, and number of employees. Apparently, definitions of small businesses based on annual sales or numbers employed in the enterprise, are most often used to delimit the category (Curran & Blackburn, 2001; d'Amboise & Muldowney 1988). However, Curran

and Blackburn (2001), and Storey (1994), caution researchers to avoid rushing to adopt simple quantitative definitions, especially for cross-sector samples, and to think more carefully about how they define 'small businesses'. They argue that size as measured by employment or turnover, all too often leads to 'size reductionism'. By this is meant that the tendency is to attempt to explain every aspect of small firms by reference to whatever size criterion has been selected. According to Burrows and Curran (1989), "size, whether measured in terms of number of employees, turnover, market share or whatever, is not a sufficiently robust criterion to allow 'small firms' to be isolated and analysed as being an economic and social specificity" (p. 530).

These authors go on to argue that in practice, the emphasis on size often leads to a range of other criteria, such as the type of economic activity in which the firm is engaged and technology employed, being neglected, or being treated as secondary. Thus, defining the small firm in terms of employee numbers or turnover ignores the wide range of sector characteristics that make small businesses very different from one another. This does not imply that size has no influence, but only that it is one of a range of possible factors that can shape the firm. Curran and Blackburn (2001) state that sticking to simple, across-the-board definitions based on employment or turnover in small business research "may hamper the development of more powerful conceptualisations and worse, of more powerful theories and explanations of the operation and role of the small firm in economic activities" (p. 16).

To overcome a number of these definitional problems, the term 'small and medium enterprise' (SME) has been coined, and widely used by researchers and policy makers (Curran & Blackburn, 2001; Storey, 1994). The SME sector is disaggregated into three components: micro-enterprises; small enterprises; and medium enterprises. However, not all countries use these categories. Furthermore, the 'break points' in terms of the number of full-time equivalent staff employed in each category are not the same in different countries. Nor do all countries have a single definition that is applied consistently.

The European Union (EU), for example, has adopted the following definitions of each category (European Commission, 1996):

Micro enterprises - businesses with less than 10 people;

Small enterprises – businesses with 10-49 employees; and

Medium-sized enterprises - businesses with 50-249 employees.

The remainder, those enterprises with 250 or more employees, are considered large firms. According to Storey (1994), a strength of the EU approach is that the definitions are based exclusively upon employment, rather than a multiplicity of criteria. Furthermore, the approach also recognises that the SME group is not homogeneous in the sense that distinctions are made between the three size categories. However, Storey (1994), and Curran and Blackburn (2001) point out that the definition does not solve the sector issues discussed above, and for a number of countries (including New Zealand) the definition of an SME is too all embracing because their economies are composed almost solely of SMEs.

The foregoing analysis of the literature illustrates that there is no established, widely accepted, definition of the small firm (Cameron & Massey, 1999; Curran & Blackburn, 2001; Storey, 1994). It would thus be unrealistic to demand uniformity of approach to defining the small firm for research purposes. Instead, it is argued that researchers should offer reasoned justifications for the definitions they adopt for their particular research project (Burrows & Curran, 1989; Curran & Blackburn, 2001). Moreover, the definition will have to be usable in relation to the aims of the research, and the resources available (Curran & Blackburn, 2001).

2.3.2 Employee Development in Small Firms

Walton (1999) points out that there has been little attempt in the human resource development (HRD) literature to differentiate between larger and smaller organisations, and to address the impact that size and associated resource constraints might have upon actual and desired approaches to employee development. Most of the mainstream literature seems

to be based on the assumption that HRD activities take place in organisations where employee development issues are addressed by specialist staff, operating within a dedicated functional unit (Vickerstaff, 1990). But the majority of small firms have no such specialist function or department, and do not even have a dedicated member of staff. Yet, attention given to small firms has, on the whole, focused on the provision or absence of 'training' as the measure of 'learning'. Several commentators (e.g., Gibb, 1997; Rowden; 1995; Walton, 1999) argue that this concern with 'training' gives a narrow and distorted view of the realities of both what is being learned, and of how it is being learned. Field (1998) contends that there is a paucity of research into learning in small businesses.

In contrast, there has been considerable research into the nature and extent of training in small business organisations. The literature suggests that, in general, formal training approaches do not appeal to the small business sector in countries such as Australia (e.g., Field, 1998), England (e.g., Marlow, 1998; Sadler-Smith, Sargeant, & Dawson, 1998), Scotland (e.g., Kerr & McDougall, 1999) and the United States of America (e.g., Fernald, Solomon & Bradley, 1999). To illustrate, research by Sadler-Smith et al. (1998) found that small firms were significantly less likely to have training budgets than larger firms, the identification of training needs was practised more frequently in the larger firms, and the amount of formal training and development activity was positively related to firm size.

Similarly, based on a comprehensive review of the literature on employer-based education and training, Long et al. (2000) conclude, "there is overwhelming evidence that larger firms and workplaces provide more training than smaller firms and workplaces, and that these differences are large" (p. 43). They cite numerous studies to support their conclusion. For instance, Bishop (1991) reported on the hours of training of the most recent new hire in the first three months after joining the firm. They found that the differences in formal training between small (fewer than ten employees) and large firms (200 or more employees) were substantial. Large firms provided more hours of formal training (17 hours) than small workplaces (12 hours). However, new hires in small workplaces received more informal training. Likewise, Frazis et al. (1998) report from their employee survey the finding that larger workplaces (500 or more employees) provide more hours of formal training than

smaller workplaces (50 – 99 employees). As a final point, Hill and Stewart (2000) assert that:

> The results of our own empirical research strongly support this thesis and its sibling argument, that in many small organizations training does not take place at all. We would add that, where training and development does occur in SMEs, not only is it reactive and informal but it is also short term and exclusively directed at the solution of immediate work-related problems rather than the development of people (p. 108).

Long et al. (2000) argue that substitution of informal for formal training may explain a large part of the reported differences in the level of training between firms and workplaces of different size. They contend that informal training can be more easily substituted for formal training in small firms – and most studies only measure formal training. Furthermore, results from both Frazis et al. (1998) and Bishop (1991) suggest that informal training may be a substitute for formal training in small businesses. However, Wooden (1995) disagrees, and Long et al. (2000) acknowledge that evidence regarding the nature of the relationship between formal and informal training – whether they are complementary, substitutes or independent – is scarce and inconclusive.

Within New Zealand, where almost 99 percent of firms employ 49 or fewer full time equivalent staff (Statistics New Zealand, 2003), information on job-related education and training in organisations has been identified as a major research gap (Long et al., 2000). Dwyer (2000) points out that only a small part of the total job-related education and training picture – training undertaken within the framework of the Industry Training Act – is documented. The Tertiary Education Commission (2004) reports a trend of constant growth in trainee numbers since the Industry Training strategy was first introduced under the Industry Training Act of 1992. But apparently, this Industry Training Organisation (ITO) managed training is only a small part of the total education and training picture (Dwyer, 2000). Consequently, knowledge of training initiated or sponsored by employers outside the Industry Training framework is largely based on anecdote, limited data, and a small number of studies. Such studies are mentioned in the following paragraphs.

A survey of 467 firms undertaken by the New Zealand Employers' Federation in 1997 found a clear majority of employers (especially smaller employers) saw informal training as more important than formal training (Decision Research Limited, 1997).

An insight into employer-initiated training is also provided by the findings of an initial study, as well as the findings of subsequent iterations of the study, based on particular model of 'best practice' developed by the Australian Manufacturing Council (1994). The authors gave their report on the initial study the short title, 'Leading the Way'. And the reports on the second and third iterations of the initial study were given the short titles 'Gearing Up' and 'Firm Foundations' respectively.

Leading the Way (Australian Manufacturing Council, 1994) and *Gearing Up* (Knuckey, Leung-Wai & Meskill, 1999) studied *manufacturing* practices and performance in New Zealand. The findings of both the initial study and the first iteration of the study are suggestive that employee practices are underdeveloped, and the majority of manufacturers do not actively manage their workforce for competitive advantage. In these studies employee practices, including employee development, were identified as a key differentiator between groups of firms classified as 'leaders' and 'laggers'. The survey results show that 'leaders' demonstrate superior employee practices to 'laggers'. In both studies, 'leading' firms achieved better financial and business results than 'lagging' firms on a range of indicators, including sales growth, exports, profitability and value added.

Similarly, the authors of *Firm Foundations* (Knuckey et al., 2002), a study of New Zealand *business* practices and performance, concluded that, "a relative lack of effort on employee practices by New Zealand manufacturers is also suggested by comparison with Sweden, as Swedish manufacturers clearly outscore New Zealand manufacturers in this area of activity" (p 63). Findings of this study indicate that external training, as opposed to in-house training, is used to a lesser degree by firms in general, and tends to be applied to a lower proportion of the overall workforce.

Likewise, after investigating the human resource management practices of 80 New Zealand small businesses, Gilbert and Jones (2000) concluded, "the findings confirmed expectations that small business training would be predominantly informal and on-the-job, rather than delivered through external programmes" (p.65).

Finally, Massey's (2004a) analysis of the findings of evaluation research into government-funded training (Andrews, Heinemann, Massey, Tweed & Whyte, 2000) highlights the low uptake of government-funded training amongst small firms. Also, Massey's (2003) analysis of the findings of research into business practices and performance (Knuckey et al., 2002), that provides an insight into firm-initiated training, suggests that small firms tend to spend less on training and offer it to fewer staff than relatively larger firms do.

In sum, the evidence seems to suggest that informal approaches to employee development are preferred in smaller firms. Additionally, employee practices, including employee development, are under-developed in New Zealand manufacturing firms. Also, consistent with the results of other surveys of employer-provided training (e.g., Frazis et al., 1998), it seems that some types of New Zealand workers are more likely than others to receive formal training.

2.3.3 Barriers to Formal Training in Small Firms

From existing research it would seem that there are some critical issues that act as barriers to small firms engaging with formal training, and a number of explanatory hypotheses have been proposed. One possible explanation for the apparent lack of commitment to formal training in small business sectors is lack of evidence that training is directly linked to business performance. Apparently, this lack of hard data at the ultimate level of evaluation makes it difficult to convince owner-managers in small firms of the benefits of training (Gibb, 1997; Kerr & McDougall, 1999). From an extensive literature review of the area, Patton, Marlow and Hannon (2000) were unable to discover any methodologically well-conducted research evidence which demonstrated that the provision of training within small firms leads to, or is associated with improved business performance. These authors use a

number of illustrations from the literature to offer supporting evidence that training and performance are *probably* linked. However, Patton et al. (2000) conclude that, "from the range of evidence presented, drawn from both the positivist and interpretist traditions, it would appear that the evidence indicating a strong relationship between training and development and the performance of small firms is inconsistent" (p.13).

In fact, Hallier and Butts (1999) contend, "it is perhaps more feasible to demonstrate that organisational performance can be held back through a neglect of training activity" (p. 82), than to demonstrate that the provision of training within small firms leads to, or is associated with improved business performance. To illustrate their point, insufficient attention to skill development may hamper productivity improvement, implementing innovative systems, and using new technologies effectively.

There is a range of other, more specific, explanations of why formal training approaches do not appeal to small businesses in general. One explanation is related to the heterogeneous nature of the small business sector (Curran & Blackburn, 2001) and the need for contextualised learning (Dalley & Hamilton, 2000; Gibb, 1997). According to this view, owner-managers of small firms require training and development programmes that are tailor-made to address the problems and priorities of their specific firm. Consequently, programmes offered by education and training providers are often viewed by owner-managers as being ineffective in meeting the very specific employee development needs of small firms (Walton, 1999). These programmes are usually of a general, de-contextualised nature, and often require a substantial amount of time in the 'classroom' away from the job. The tight financial margin within which small firms operate, and the small number of employees, makes it difficult to release employees to attend off-site training and development programmes (Kerr & McDougall, 1999; Walton, 1999). From the perspective of providers of these programmes, producing customised courses for only a few employees is simply too expensive. Moreover, small firms are in different stages of development (pre-start up; start-up; growth, etc.) and accordingly require different types of developmental interventions at each stage, so adding to the expense of programme design and delivery (Walton, 1999).

Kerr and McDougall (1999) point to regular adoption of a short-term perspective in the small business sector as another possible explanation for low levels of participation in ✓ formal training. Apparently, a short-term perspective is caused by small firms facing substantial external uncertainty, originating from, among other things, lack of resources, a limited customer base, and a single or restricted range of products or services (Westhead & Storey, 1996; Wynarczyk et al., 1993). Related to the notion of a short-term perspective in the small business sector, Idson (1996) found that larger firms provide employees with greater possibilities for internal promotion, and create expectations of longer tenure. According to Idson (1996), longer tenure contributes to the higher level of training in larger firms. Moreover, the literature suggests that in general, small firms have a lower survival rate than larger firms in New Zealand (Ministry of Economic Development, 2004), the United Kingdom (e.g., Jennings & Beaver, 1997; Chaston, Badger & Sadler-Smith, 2001), and other developed economies (e.g., Storey, 2004). In contrast to an apparent short-term perspective in the small business sector, training often provides long-term, rather than short-term benefits.

Other explanations given in the literature for low levels of participation in formal training include: owner-managers determine the ethos and strategic direction of the firm, and their views about training vary (Kerr & McDougall, 1999); owner-managers value independence (Kilpatrick & Crowley, 1999); small firms lack the capacity within themselves to plan, organise and implement training (Walton, 1999); many jobs in small businesses are low skilled, and on-the-job training is most suitable for learning tasks of low complexity; there is no career development in small firms; poaching of staff is greater from small firms, partly because wage rates are lower (Walton, 1999); employees are more likely to be part-time, to have low levels of education, and less likely to be professional or managerial (Long et al., 2000).

In contrast to these specific explanations, Storey and Westhead (1997) offer two general explanations of why small firms are less likely to provide formal training than larger ones: the 'ignorance' and 'market' explanations. According to advocates of the 'ignorance' explanation, owner-managers of small firms tend to underestimate the benefits to the

business of providing training for employees, or undertaking training him/herself. Thus, governments need to persuade these owner-managers that some or more training would improve firm performance. On the other hand, advocates of the 'market' explanation argue that informed owner-managers of small firms face higher costs of training provision and lower benefits than their counterparts in larger firms. It is these differing costs and benefits that explain why small firms provide less training. Storey (2004) supports the 'market' over the 'ignorance' explanation. He argues that seeking to increase small firm provision of formal training by raising awareness of owner-managers to the benefits of training is misguided, because the relatively low take up of formal training is an informed decision on the part of the small firm owner-manager.

2.3.4   Shift of Focus from 'Training' to 'Learning'

During the last decade there appears to be a growing body of work that adopts a perspective that is broader than formal training in examining employee learning and development in small firms. For example, the findings of case study research conducted by Rowden (1995) in three manufacturing organisations challenges the notion that little is done in the way of human resource development (HRD) in successful small and medium-size enterprises (SMEs). This field-based investigation revealed that each organisation studied did a considerable amount of HRD. However, people in the three organisations investigated felt that HRD activities were not being undertaken. Rowden (1995) contends that interview participants had a narrow concept of HRD, and did not view all the coaching, mentoring, on-the-job training and other forms of informal learning that had been observed during the field based investigation as forms of HRD.

Kerr and McDougall (1999) also adopted an HRD perspective in their study. They assert that, in general, HRD is equated with 'training' by those examining learning in the SME context. They suggest that a broader HRD perspective would help to create greater understanding of learning processes in SMEs. These two researchers conducted semi-structured interviews with owner-managers of seven SMEs identified (from their responses in a different research project) as having an HRD approach. Their findings show that even

amongst these organisations, a very small minority adopted an HRD approach that locates training and development strategically in the plans of the firm. Furthermore, the majority of these SMEs did not identify training needs from the business plan before providing training, and few evaluated training effectiveness.

Their findings support those of Sadler-Smith et al. (1998), which suggest that training provided on an *ad hoc,* reactive basis, is a feature of the SME sector. Similarly, case study research (see Hill & Stewart, 2000) into human resource development within three small firms (10-49 employees) confirmed that their 'HRD' activities were essentially informal, reactive and short-term in outlook. Hill (2004) argues that conventional conceptions of HRD, founded and conceptualised in conventional 'large-organisation logic' and models, may not be appropriate for small organisations. According to Hill, learning should be the focus of HRD.

Case study research by Field (1998) also illustrated the range of learning activities that can be overlooked if one adopts a narrow, training perspective. This study showed that limited reliance on structured training does not necessarily mean that learning is also limited. Drawing on a series of eight case studies of training and learning within small business, Field concluded that, consistent with previous findings, the small businesses studied tended to make limited use of structured training. However, Field (1998) points out, "when we look at the same case study sites through a learning lens, the picture is much richer and more complex" (p.64).

Gibb (1997) also looks beyond formal training in examining learning processes in small firms. He conceptualises the small and medium size enterprise as an active learning organisation within a stakeholder environment. Gibb argues that the predominant contextual learning mode in this environment is that of: dealing with a wide (holistic) task structure; learning from peers; learning by doing; learning by feedback from customers and suppliers; learning by copying; learning by experiment; learning by problem solving and opportunity taking; and learning from making mistakes. This learning environment is continually creating 'subjective' contextual knowledge through the process of the business

striving to adapt, survive, and grow. According to Gibb, this contrasts sharply with the 'objective' largely de-contextualised (from the specific problems/priorities of the firm) learning environment frequently provided by formal training.

2.3.5 Summary of the Small Firm Context

Definitions of what constitutes a small firm vary within the literature. But there is wide agreement that small firms are fundamentally different to large firms (e.g., Curran & Blackburn, 2001; Storey, 1994; Vickerstaff, 1990; Westhead & Storey, 1996). These commentators (and others) point out the inappropriateness of applying 'large-firm logic' to small organisations. Therefore, theories relating to small firms must consider the distinctive characteristics of small firms.

Small firms constitute the majority of enterprises and account for a significant proportion of total employment within New Zealand (Statistics New Zealand, 2003) and many other developed countries (Curran & Blackburn, 2001). Thus, upgrading the knowledge and skill base vested in small firms is important for the well-being of individuals, organisations and national economies. However, there is widespread agreement among small business researchers that formal training is generally not suited to small business organisations for a variety of reasons (see, for example, Gibb, 1997; Kerr & McDougall, 1999). Informal approaches to employee development are preferred. Such approaches produce contextualised learning experiences, and learning outcomes that are closely aligned to the priorities and problems of the firm (Dalley & Hamilton, 2000; Gibb, 1997).

The importance of learning in a competitive environment, and the strong research evidence that small firms prefer informal learning processes, suggests that managers can play an important role as facilitators of learning in the small business context. But how can managers foster the learning of staff? This question will be explored in the following section.

2.4 THE MANAGER AS LEARNING FACILITATOR

This section examines conceptual and empirical literature related to the manager's role as facilitator of employees' learning. Numerous commentators have suggested that developmental interventions by the manager and work environment contextual factors interact to affect employee learning (e.g., Eraut et al., 1999; Knowles, 1990; Knowles, Holton & Swanson, 1998; Tannenbaum, 1997; Tracey, Tannenbaum, & Kavanagh, 1995). Thus, the presentation of the review of the literature includes both employee development interventions by the manager, and the effects of the manager on conditions in the work environment that either foster or constrain learning.

Organisation of the discussion proceeds from a general discussion of the manager's responsibility for employee development, towards a more specific examination of five types of developmental interventions commonly used by managers. These developmental interventions are: on-the-job training, coaching, mentoring, delegation, and performance appraisal. Next, the effects of the manager on conditions in the work environment, assumed to be critical for facilitating or constraining an integration of learning and work, are reviewed. A three-level analytical framework (organisational, social, physical) is used to structure the discussion of the work environment conditions. Thereafter, aspects of management in small firms, relevant to the topic of the current study, are discussed. The section ends with a summary of the analysis and review of the literature related to the manager as a learning facilitator.

2.4.1 Manager's Responsibility for Employee Development

Effective and efficient use of an organisation's resources is largely a manager's responsibility, and this includes making the most of the organisation's human resources (Ulrich, 1998). Within the domain of managing human resources, managers thus have a fundamental responsibility to ensure that their employees are enabled to perform their jobs effectively and efficiently. Studies of what managers actually do (e.g., Kraut, Pedigo,

McKenna & Dunnette, 1989; Luthans, 1988; Mintzberg, 1973) confirm that fostering employee learning and development is indeed an important part of managerial work.

Many commentators seem to believe that the manager's employee development role goes well beyond merely enabling staff to perform their jobs effectively and efficiently. For instance, Harrison (1992) contends that staff should be able to enjoy continuous learning opportunities through which their abilities and potential can be developed. Similarly, Davenport (1999) views employees as investors of their own human capital. He argues that managers must ensure that employees get a return on their investment through provision of opportunities to gain skills and knowledge. Davenport (1999) considers knowledge transfer a critical manager competency, and believes that "managers must be able to teach directly through contact with employees and indirectly by creating formal and informal learning opportunities" (1999, p.42). Additionally, the literature that focuses on workplace learning, the 'learning organisation' and organisational learning contains numerous descriptive accounts of increasing involvement of managers in orchestrating learning in organisations (e.g., Baldwin & Danielson, 2000; DiBella & Nevis, 1998; Filipczak, 1996; Marsick & Watkins, 1999).

A dominant theme in this literature is that because of rapid changes in external environments, organisations should concern themselves with learning as a fundamental priority, and that in order to support this reorientation, managers should act as facilitators of the learning of staff (Hughes, 2002). The suggestion that managers should help their staff with their learning implies abandonment of the traditional hierarchical 'command and control' style of management, and adoption of more people-centred management practices within organisations. For instance, Gilley and Maycunich (2000a) argue that today's organisation requires a new type of leader – one who realises that employees are the organisation's most important assets, and therefore encourages employees to continually grow and develop. They refer to this type of a person as a developmental leader. Similarly, Ghoshal, Bartlett and Moran (1999), in outlining their new manifesto for management, exhort managers to "transform into the developers of people, helping each individual in the company become the best he or she can be" (p.14).

Thus, in recent times, the literature suggests that managers should take on even greater responsibility for supporting the learning of their staff. To illustrate, Pedler et al. (1997) hold the view that "learning as a top priority for managers is a relatively recent development" (p.160). They contend that although the manager's traditional tasks remain important, "people who are better trained and educated are more autonomous and self-supervising, freeing the manager for what is increasingly the more vital work of facilitating learning in individuals and in the company as a whole" (p. 160). Apparently, this suggestion that managers should take on even greater responsibility for the learning of their staff is because of a more general acceptance of the frequently voiced proposition that people are the only sustainable source of competitive advantage for today's organisations (e.g., Drucker; 1992; Gilley & Maycunich, 2000ab; Pfeffer & Veiga, 1999; Ulrich, 1998). Also, some commentators believe that in the current era, organisations need to be considered as learning entities because of the need to cope with rapid change (e.g., Nevis et al., 1995; Marsick & Watkins, 1999; Senge, 1990a).

This apparent increasing involvement of managers in facilitating learning has been accompanied by changes in the role of specialist training and development staff in some organisations (Russ-Eft, Preskill & Sleezer, 1995). Traditionally, managers saw management of the learning process as the responsibility of a centralised training function that delivers a series of programmes from which managers and employees can choose to participate (Megginson et al., 1999). According to this view, learning takes place, usually under the guidance of a specialist trainer or instructor, often in the classroom or workshop, or sometimes through a computer based training programme, designed by a specialist trainer. The individual employee has access to these programmes at a time determined by the central training function, and then has to apply the new knowledge and skills in the workplace. Apparently in some organisations, as structuring of the learning process has moved away from the 'training department' and become focused on the workplace, the role of the trainer has been transformed into 'learning and performance consultant' to managers (Russ-Eft et al., 1995). A function of these 'learning and performance consultants' is to advise managers in the delivery of learning at work.

While managers are being urged to play a key role in facilitating employee learning and development, a number of scholars (e.g., Ashton, 1998; Ellinger, Watkins, & Bostrom, 1999; Eraut et al., 1999, 2004; Mumford & Gold, 2004) suggest that, in general, managers do not have the ability to support the learning of their employees. Apart from *ability* to perform, Blumberg and Pringle (1982) contend that *willingness* to perform is also an important antecedent of performance. In this regard, Hall, Posner and Harder (1989) and Orth, Wildinson and Benfari (1987) have suggested that managers may be unwilling to develop their subordinates because organisations fail to reinforce employee development as a managerial responsibility. They recommend that managers should be explicitly rewarded for developing their subordinates.

Furthermore, Blumberg and Pringle (1982) stress the part that *opportunity* plays in managerial performance. Managers work at an unrelenting pace, and managerial work is characterised by brevity, variety and fragmentation (Mintzberg, 1973). Balancing and mastering multiple roles reduces time available for developing employees, and as a consequence, short-term imperatives may jeopardize long-term objectives related to employee development. Thus, lack of ability to effectively facilitate employees' learning, and other factors, such as lack of incentives and time, may cause managers to neglect their people development role, and instead place greater emphasis on other managerial roles.

Managerial roles, and how these roles are changing, has been an important strand of the literature on management. Ellinger (1997) conducted a research study that included a review of the literature on managerial roles in relation to employees. This review identified 'instructing subordinates' (Kraut et al., 1989), 'training' (Borman & Brush, 1993), 'training-coaching' (Yukl, 1981), 'providing growth and development' (Morse & Wagner, 1978), 'mentoring and development' (Yukl, 1989) as components of managerial roles, or as a subset of the leader role (Mintzberg, 1973, 1994). Ellinger (1997) points out that some of the other behavioural categories, clusters, factors, and dimensions reported in these taxonomies could be readily applied to the concept of facilitating learning, depending upon the ways in which managers enact these behaviours.

2.4.2   Types of Developmental Interventions

Ellinger's (1997) review of the literature revealed that managers help employees learn through three common types of development interventions - coaching, mentoring and training. In addition to these three development interventions, delegation (e.g., Bass, 1990; Leana, 1986, 1987; Schriesheim, Neider & Scandura, 1998) and performance appraisal (e.g., Hall et al., 1989; Sashkin, 1981) are also widely promulgated by management theorists as means of fostering workplace learning. However, coaching, mentoring and training are used for the sole purpose of facilitating employee learning, whereas delegation and performance appraisal can be used to facilitate employee learning, and for other purposes as well, unrelated to facilitating employee learning. Nevertheless, it seems reasonable to argue that delegation and performance appraisal can also be viewed as types of development interventions (Waddell, Cummings & Worley, 2000). These five types of employee development interventions are examined in greater detail below.

Coaching

Recently, the concept of managers being coaches has become fashionable (Bivens, 1996; Ellinger, 1997; Whitmore, 2002). The literature suggests that coaching entered the business arena many years ago, and since then the role of the coach has changed. According to Eggers and Clark (2000), coaching in the context of management first appeared in the literature in 1958. In addition, they state that by the mid-1970s, authors started to introduce sports coaching techniques in the management literature, and it was not until the 1980s that coaching began to be seen primarily as a developmental activity, not linked with sports. In sports-oriented business literature, the coach is always the expert, the one with the answers, and in this paradigm the relationship between coach and player is one of 'command and control'.

Apparently, since the 1990s, the role of the coach has been redefined and a new paradigm has emerged (Eggers & Clark, 2000; Richardson, 1998; Whitmore, 2002). In this new paradigm, the coach is not the expert, but instead a committed 'thought partner' (Eggers & Clark, 2000). He or she is not the leader with all the answers, but instead, the coach's

expertise may be confined to the coaching process, and facilitative questioning is the predominant behaviour of good coaches (Whitmore, 2002; Whitworth, Kimsey-House & Sandahl, 1998). Thus, coaching interventions involve asking effective questions that prompts team members to discover the answers themselves, rather than a 'telling' style of communication (Bivens, 1996).

Although coaching employees has been considered an important responsibility of managers for a long time (Mumford, 1971), it would seem that the exercise of this responsibility has varied from organisation to organisation, and from manager to manager, and has been dependent on factors such as the prevailing learning climate and their perceptions of their role. Some commentators believe that coaching is neglected in many organisations, and Orth et al. (1987) have suggested that this is so, in part, because many organisational climates are not conducive to coaching, managers are not rewarded for coaching, there is a lack of role models, and the time, training, and changes in attitude required to adopt the coaching role inhibit this practice. Also, according to Mobley (1999), managers find it difficult to reconcile their coaching and managing duties, because coaching is often an unnatural act for managers who have been trained to have the answers, point out weaknesses, and solve problems. Furthermore, few organisations provide skill building in coaching, most managers continue to be validated and rewarded for their success in task-related activities, not for their coaching activities, and it is virtually unheard of for managers to be relieved of other tasks while adding the coaching imperative.

The term coach and the coaching process is thought to represent a departure from the traditional 'command and control' management function, because coaching is viewed as a more collaborative and empowering process, based on deeper relationships of support and trust (Bivens, 1996; Malone, 2001; Mobley, 1999). A number of definitions and descriptions of coaching have been proposed. For example, Malone (2001) defines coaching as "a relationship that focuses on improving both skills and behaviour in pursuit of better individual and organisational performance" (p.30). Similarly, Birch (2001) views coaching as "a systematic approach to improvement through questioning and guidance that focuses on incremental changes in current performance to reach a target level" (p.4).

Richardson (1998) contends that developmental and evaluative feedback are major elements of coaching. These, and other definitions and descriptions of coaching, suggest that coaching is a term that has a wide meaning and includes facilitative questioning, feedback, empowerment, personal communication, support, trust, and performance improvement. However, since no generally agreed-on single definition exists, it is still unclear just what coaching is, or is not, in an organisational context.

While managers have only recently been cast in the role of coach, coaching appears to be widely recognised amongst sales management practitioners as an activity that enhances salesperson performance. After an extensive review of sales literature, Rich (1998) concluded that "for a long time, sales practitioners have believed that coaching is a management activity that is critical in enabling salespeople to reach their full potential" (p.61). To support this conclusion, Rich points out that his database search found a total of 137 articles with an abstract making reference to the sales manager as a coach. One of the earlier articles was a study by Dubinsky and Barry (1982) that surveyed a large number of organisations, the vast majority of which identified 'sales manager coaching' as a key, effective method for supervision. More recently, a study by Corcoran, Peterson, Baitch and Barrett (1995), which involved interviews with hundreds of salespeople, sales managers and sales executives, among whom there was an "... astounding degree of consensus......" that "... sales coaching is one of the most significant opportunities available to an organisation to influence the performance of salespeople" (p.115).

Rich (1998) noted that the vast majority of the coaching articles has been in the popular business press publications, while sales management academic research, on the other hand, has largely ignored the term coaching. He contends that academic research has not focused on coaching per se because it is a broad, multifaceted term that cannot be measured in a single dimension, and thus does not easily lend itself to empirical examination. According to Rich, academic research has examined only specific supervisory behaviours and characteristics, such as supervisory feedback, that are included in the domain of coaching. Based on the review of sales practitioner literature, Rich concluded that feedback is not the

only part of sales coaching, and he identified (1) supervisory feedback, (2) role modelling, and (3) trust, as three distinct constructs that are part of the broad domain of coaching.

Sales managers' beliefs about the importance of coaching seem to be shared by managers in organisations that are striving to be learning organisations. During in-depth interviews with 12 mid-level and senior managers, Ellinger (1997) found that coaching was a term that most often was used synonymously with facilitating learning. She completed a study that focused on managers who model and support learning in companies that had been identified as learning organisations. According to Ellinger, these managers saw coaching as separate and distinct from managing, but many managers recognised that there were certain circumstances in which they had to flex between these roles. Ellinger contends that this awareness – that there are role distinctions between being a manager and being a coach – appears to be an initial step in the movement of managers' mental models towards the concept of the learning organisation. The next movement along this continuum was role transition, in which managers still experienced role switching, but became increasingly comfortable in coaching roles. At this point managers expressed that their preference was to be in a coaching role, as opposed to a managing role. The final movement along the continuum appears to be role adoption, in which the manager now fully identifies with the role of coach, and this results in a new managerial identity in which the term manager now wholly connotes being a coach.

Mentoring

According to Higgins and Kram (2001), "adult development and career theorists have long espoused the benefits of having a mentoring relationship for an individual's personal and professional development" (p.265). Traditionally, mentoring has been conceptualised as the provision of developmental assistance through an intense relationship of relatively long duration, between a senior experienced colleague (mentor) and a less experienced junior colleague (protégé), in which the mentor provides support, direction, and feedback, regarding career plans and personal development (Higgins & Kram, 2001; Russel & Adams, 1997). Some scholars assert that mentoring is widely accepted as a resource for developing managerial talent (e.g., McCauley & Douglas, 2004; Mumford & Gold, 2004;

Whetten & Cameron, 1998), and also as a tool for educating new employees, or socialising them regarding the organisation's values (e.g., Schermerhorn, 1996; Robbins et al., 2001).

But it seems that mentoring scholars have yet to agree on whether a mentor can be one's immediate supervisor. To illustrate, Chao (1998) describes mentoring as "an intense, professional relationship that is mainly devoted to developing the protégé's career" (p.333). Chao (1998) argues that such relationships are distinguished from less powerful relationships involving sponsors, buddies and guides, or from typical supervisory relationships. In contrast, Minter and Thomas (2000) believe that mentoring *is* an approach that supervisors should use to advance the development of their employees.

Kram (1983) used data from interviews with managers to identify two primary functions that mentors serve, namely career and psychosocial functions. The career function serves to facilitate and enhance the career advancement of the protégé, and typically the mentor provides the protégé with sponsorship, exposure and visibility, protection and challenging assignments. On the other hand, the psychosocial function serves to enhance the protégé's sense of competence, identity and work-role effectiveness. Role modelling, acceptance and confirmation, counselling, and friendship, are forms of support that the mentor provides for this function.

Traditional forms of mentoring typically have been classified as formal and informal mentorships (Russell & Adams, 1997). Informal mentorships are understood to be spontaneous relationships that are not managed, formally structured, or formally recognised by the organisation, while formal mentorships are managed and sanctioned by the organisation. Also, in a traditional perspective on mentoring, mentors are frequently characterised as individuals within the protégé's organisation. However, Higgins and Kram (2001) adopt a wider, developmental network perspective, and argue that in the new career context, mentoring should not be restricted to a single relationship within the protégé's organisation, as has often been the case with mentoring research in the past.

According to Mullen (1998), some organisations are attempting to systematise mentoring, because mentoring is deemed to have positive outcomes for the protégé and the organisation. Studies have shown that traditional mentoring relationships can indeed be expected to result in rewards for both the protégé and organisation. Purported rewards for the protégé include: enhanced career development (Kram, 1985; Phillips-Jones, 1982), career progress (Zey, 1984), higher rates of promotion and total compensation (Whitely, Dougherty & Dreher, 1991), career satisfaction (Roche, 1979), and clarity of professional identity and sense of competence (Kram, 1985). From an organisational perspective, research has supported links between mentoring relationships and increased employee productivity, enhanced organisational commitment and lower levels of turnover (Russel & Adams, 1997). Yet, some commentators suggest that formally established mentoring relationships are less powerful than informally developed relationships (Noe, 1988).

Training

Although multiple ways of fostering workplace learning have come into existence, training remains a well-recognised and widely-used practice, of which structured on-the-job training (OJT) is a frequently utilised approach (Mumford, 1971; Poell et al., 2000). OJT occurs at the location in which the work is done, or at least as near to the work as possible, and it is often thought of as involving both learning and doing at the same time. In the literature, structured OJT is usually described as the planned process of developing task level expertise by having an experienced employee, often the supervisor or lead person of a work area, train a novice employee, at or near the actual work setting (Jacobs & Jones, 1995; Mumford, 1971). Where managers rely on experienced employees in the group to conduct training, they should select trainers, train trainers, and manage trainer performance (Jacobs & Jones, 1995). OJT is widely used because organisations find it less costly to have employees trained while remaining part of the production or service delivery process, safety and quality considerations permitting (Poell et al., 2000). In addition, OJT is thought to be an effective and efficient training approach to developing employee expertise (Poell et al., 2000).

Jacobs and Jones (1995) contend that the effectiveness and efficiency of OJT originates from the short amount of time that elapses between training events, and the close match between training setting and job setting. The time between training events can be thought of as the sum of the time between: (1) the presentation of training content; (2) the trainee's opportunity to actively respond to the content; and (3) feedback from the trainer about the adequacy of the trainee's response. In general, a trainee learns training content more efficiently and effectively when the training events occur close together, than when they are relatively spread apart in time. These benefits that accrue from the reduced time between training events, are enhanced by the potential of structured OJT to provide learning experiences that closely match, or even duplicate, the behaviours that are required in the job setting. In structured OJT, there is usually a close match between the training setting and the job setting, because the job setting is used as the training location. It is widely recognised that transfer of training increases as the match between the training setting and the job setting increases (e.g., Broad, 1997; Jacobs & Jones, 1995; Mumford, 1971). Transfer of training is the process of using what one has learned in one situation in other situations, which can differ in some respects from the situation in which the learning took place (Baldwin & Ford, 1988; Broad & Newstrom, 1992). Consequently, because structured OJT occurs at or near the actual work setting, the potential for transfer of training is increased.

It is also argued that OJT facilitates integration of newcomers into the socio-technical system of the organisation. To illustrate, Analoui (1993) distinguishes between technical and social learning. Technical learning processes are those that tend to evolve around acquisition of role-related knowledge and skills, which are necessary to perform a task satisfactorily. On the other hand, social learning processes are those concerned with understanding the constituent elements of the social structure of the workplace. For example, how to maintain group membership, how to meet expectations of others, and more importantly, how to perform a task according to the established patterns of rules and regulations, as well as the prevailing norms and beliefs of the workplace. In this way the behaviour of individuals in the workplace is viewed as consisting of socio-technical properties. In on-the-job training situations these two sets of learning processes, the task

and social-related components, tend to overlap considerably. In an on-the-job training situation, the process of integrating an individual into the reality of the workplace is thus facilitated, because the trainee is learning to do a job in the job-related social community of the workplace.

Apart from supporting the development of their staff through managing OJT, or direct involvement in the delivery of OJT, managers are also known to engage in classroom instruction. For example, Filipczak (1996) provides a descriptive account of senior managers that take an active role in training delivery. From these accounts, it would seem that managers take a direct hand in employee training to achieve different aims, including, to share their experiences with other managers, to acquaint new employees with the corporate culture, to facilitate transfer of training, and to demonstrate commitment to continuous learning.

Another descriptive account of managers as trainers involved a level-to-level training scheme. Watkins, Ellinger and Valentine (1999) studied the implementation of this training scheme at a Fortune 10 automotive manufacturer. The scheme involved using technical managers as instructors in a top-down cascaded training process. In this organisation, the process of using senior and mid-level managers as formal classroom instructors for their respective subordinates was referred to as the Manager-as-Instructor approach. The process required that managers serve as instructors following a sequence in which they would learn the subject themselves, use the skills in their work, teach it to others, and inspect the others' use of the new skills. An important finding was the support of managers, albeit moderate (overall mean of 4.1 on a 6-point scale), for the idea that it is appropriate for them to serve as trainers, especially when the training is related to an organisational change. The willingness and support of these managers suggests that they are not averse to adopting new roles they are being called to perform. Based on their findings, Watkins, Ellinger and Valentine contend that future endeavours (such as the Manager-as-Instructor approach) which involve potential redefinition of the managerial roles and relationships between managers and their subordinates should be accompanied by appropriate readjustments in the demands on the manager's time.

Delegation

Delegation is inherently associated with all managerial positions, and it involves the assignment of work activities to subordinates. Participation in everyday work activities makes effective contributions to learning in the workplace (Billett, 1995; Watkins & Marsick, 1992). The more non-routine the activity, the more likely it will lead to new learning, while more routine activities will provide learning through reinforcement that strengthens the organisation of existing knowledge (Billett, 2000). Ohlott (2004) believes that it is work assignments that challenge, stretch and force employees to develop new abilities that are developmental. This assertion is supported by Eraut et al. (1999) who found that the challenge of the work itself was one of the most important dimensions of learning for the people interviewed in their study of learning at work.

It follows that the manager can use delegation to develop learning in the workplace. George (1999) believes that delegation creates opportunities for managers to provide structured learning for their staff. Similarly, Whetten and Cameron (1998) argue that enhancing the abilities and interests of subordinates should be a central motive in delegating tasks. However, Bass (1990) noted that delegation could occur in conjunction with virtually any leadership style.

An autocrat may delegate because of a lack of time to handle the problem directly. A transactional leader may delegate in exchange for subordinate support. A transformational leader will use delegation to develop his or her subordinates. A consultative leader may delegate as a result of being convinced of the subordinate's competence and motivations to handle the problem. Delegation may be the choice of participant consensus. A laissez-faire leader may delegate to avoid blame for possible failure (p. 910).

After reviewing the research that explored factors associated with the presence or absence of managerial delegation, Schriesheim et al., (1998) concluded that the findings suggest delegation is more likely to occur when managers: (1) see subordinates as competent relative to task demands, and as sufficiently trustworthy to allow the manager to be

confident undertaking the risks associated with the delegation; (2) are experienced as a manager, and are willing to allow subordinates access to information; and (3) need or want increased assistance from subordinates, and have better or less stressful relationships with them.

In particular, Leana's work (1986, 1987) in examining the consequences of delegation in organisations, clearly suggests that managers are more likely to invest the trust, informational resources, training and preparation, and authority, that are prerequisites of delegation, in those subordinates with whom managers have high-quality relationships. Schriesheim et al. (1998) assert that subordinates who enjoy a high-quality relationship with their manager are more likely to be delegated meaningful and developmental, as opposed to unimportant or less desirable tasks. Furthermore, these more meaningful tasks should generally be associated with increased task related satisfaction (Hackman & Oldham, 1980; Herzberg, 1987) and thus motivation to learn.

Performance appraisal

Many organisations have a formal performance appraisal system that obligates managers to schedule employee performance appraisal meetings periodically. Management theorists (e.g., Hall et al., 1989; Sashkin, 1981) identify several objectives of such performance appraisal systems. These include reviewing and documenting past performance, improving performance, goal setting, employee development, relationship building, and the like. Some scholars (e.g., Delahaye, 2000; McGregor, 1957) have suggested two broad uses of performance appraisal in organisations. First, it serves administrative purposes in areas such as reward allocation (salary increases, bonuses) and assignment decisions (promotions, transfers, demotions). Second, it contributes to employee development in a variety of ways, including provision of feedback on their performance, identification of their strengths and weaknesses, and facilitation of exchanges with their supervisor.

Sashkin's (1981) review of the performance appraisal literature identified 'support for employee development' as one of the key features of an effective performance appraisal system. In addition, empirical research by Hall et al. (1989) found that from a list of

possible performance appraisal objectives, reviewing past performance, rewarding past performance, goal setting, and employee development, were the objectives of performance appraisal systems that obtained the strongest ranking from the respondents in their study. Furthermore, in 42 percent of the organisations they studied, the appraisal form explicitly identified employee development as a managerial responsibility, while in another 16 percent of cases, respondents revealed that subordinates' development, while not explicitly included on the performance appraisal form, was normally evaluated as a major area of responsibility for the manager. Some organisations insist on a written employee development plan that includes an examination of employee strengths and areas requiring improvement, and formulation of long-term developmental strategies that are mutually designed by managers and employees. Such agreed development plans could serve as a means of holding employees accountable for learning (Tannenbaum, 1997).

Feedback is a key element of the performance appraisal process (London, Larsen & Thisted, 1999). Kluger and DeNisi (1996) define feedback as "action taken by (an) external agents(s) to provide information regarding some aspect(s) of one's task performance" (p.235). The general value and importance of receiving feedback as a means of directing and reinforcing behaviour is well-known (Larson, 1984, 1986). Feedback should aid self-management, because feedback keeps employees' work-related activities directed toward desired personal and organisational goals (Locke & Latham, 1990). It is also thought to enhance the individual's self-awareness (Herold & Greller, 1977), and help a person adjust self-perceptions, self-ratings, and behaviours (Atwater & Yammarino, 1997).

According to Richardson (1998), feedback on task performance has evaluative, reward and developmental components. In the context of performance appraisal, evaluative feedback examines and rates past performance in relation to performance standards or own past performance, is often related to compensation, occurs annually, semi-annually or quarterly, and is paper-based and more formal. Feedback may also reward and strengthen desired behaviour, and focus on directions for performance improvement by indicating knowledge

and skills that need to be acquired. Richardson (1998) believes that developmental feedback may improve a person's evaluative score in the future.

However, not all feedback has positive outcomes. The manager's ability to provide effective performance feedback is obviously crucial to the success of the employee performance appraisal process. For instance, Kluger and DeNisi's (1996) review of the literature on the effectiveness of feedback interventions, and a meta-analysis that they conducted of the data found that, although feedback interventions were usually effective, in more than one-third of the cases feedback actually lowered subsequent performance.

2.4.3 Distinguishing Among the Developmental Interventions

In the preceding sub-sections, five common developmental interventions used by managers were examined: coaching, mentoring, training, delegation and performance appraisal. Distinguishing among these developmental interventions can be difficult in practice, because they are often used in combination. As noted previously, managers sometimes take on the role of trainer through direct involvement in delivery of on-the-job training (OJT). Structured OJT requires the trainee to observe a demonstration by the trainer of how the task is performed, and then the trainee is given an opportunity to practise the steps in the task, under the guidance of the trainer. The learner is on the job, often doing the job, receiving immediate feedback from the job itself and the trainer. However, structured OJT can help an employee achieve only a certain level of mastery (Megginson & Pedler, 1991). Employees must make an effort over time to develop expertise. To support the employee in developing expertise, the manager must take on the role of coach. Thus, while OJT tends to be short-term and task-oriented, coaching is an on-going process, aimed at developing employees' competence and improving their performance (Jacobs & Jones, 1995). It is a managerial role that focuses on facilitating continuous learning amongst employees.

In contrast to the continuous performance improvement orientation of coaching, mentoring is a developmental relationship that has a broader aim of developing the protégé's career (Higgins & Kram, 2001). Megginson and Clutterbuck (1995) argue that mentors focus on the individual learner developing through his or her career or life, while coaching is a process in which the manager, through direct discussion and guided activity, helps the employee to solve a problem or to do a task better than would otherwise have been the case (Megginson & Pedler, 1991; Walton, 1999). In the literature, the words 'mentoring' and 'coaching' are often used interchangeably, and to describe a variety of types of relationships. Some commentators argue that mentoring is the dominant role with coaching being a subset (e.g., Chao, 1998; Higgins & Kram, 2001; Mullen, 1998), while others (e.g., Cook, 1999; McLennan, 1995) see mentoring as a subset of coaching. Table 2.1 summarises some key differences between training, coaching and mentoring.

Table 2.1

Differences between training, coaching and mentoring

Dimension	Training	Coaching	Mentoring
Focus of help.	Task.	Results of job.	Development of whole person in relation to career.
Time span.	A day or two.	A month to a year.	Career or lifetime.
Approach to helping.	'Show and tell' – give supervised practice.	Explore problem together and set up opportunities to try out new skills.	Act as friend willing to play 'devil's advocate', listen and question to increase self-awareness.
Associated activities.	Analysing task; clear instruction; supervised practice; give feedback on results at once.	Jointly identify the problem; create development opportunity and review.	Link work with other parts of life; clarify broad and long-term aims and purpose in life.
Attitude to ambiguity.	Eliminate.	Use it as a challenge – as a puzzle to be solved.	Accept as being part of the exciting world.
Benefits to the organisation.	Standard, accurate performance.	Goal-directed performance oriented to improving and being creative.	Conscious questioning approach to the mission of the organisation.

Source: Adapted from Megginson and Pedler (1991).

Whereas training, coaching and mentoring involve *developmental relationships*, planned delegation involves the provision of *developmental assignments* to employees (McCauley & Van Velsor, 2004). Although the challenge of the assignment itself is the main source of learning in delegation, preparation of the employee through training, and provision of support through coaching, are important steps managers can take to increase the likelihood that the desired learning will occur.

Formal evaluation of a subordinate's past performance, and planning for the subordinate's learning and development, are some features of performance appraisal that distinguish it from the other types of developmental interventions discussed here. During the performance appraisal meeting, the manager and subordinate should jointly evaluate the subordinate's past performance and learning, identify further learning needs, and formulate development goals and plans. The meeting also provides an opportunity for the manager to reinforce desired behaviours in a formal manner. Evaluation of learning (Kirkpatrick, 1998), goal setting (Latham & Yukl, 1975), and reinforcement (Skinner, 1971) are thought to be important elements of an effective development process. Some key differences between performance appraisal and delegation are summarised in Table 2.2.

Table 2.2

Differences between delegation and performance appraisal

Dimension	Delegation	Performance appraisal
Developmental purpose.	Provide a 'stretch' assignment.	Evaluate past performance, reinforce desired behaviours, and set performance and development goals.
Approximate duration of the learning event.	Varies with each assignment.	Duration of appraisal meetings.
Main source of learning.	Task.	Manager.
Key elements of process of learning.	Challenge, feedback and reflection.	Feedback and reflection.
How misused by some managers.	'Dumping' unimportant or less desirable tasks.	Conducted reluctantly, merely to comply with organisational policies and controls.

2.4.4 Effects of Managers on Work Environments

In addition to facilitating employee learning through developmental interventions, managers also play a key role in creating conditions in the work environment favourable to learning. Managers are chiefly instrumental in shaping the organisation's work environment (Bovee et al., 1993; Daft, 2000; Kaufman, 1990; Schermerhorn, 1996), and it is widely recognised that the organisation's work environment has a powerful affect on both the acquisition and application of new knowledge and skills (e.g., Noe & Wilk, 1993; Tannenbaum, 1997; Tracey, Hinkin, Tannenbaum & Mathieu, 2001). To illustrate, theoretical and empirical work by Dubin (1990), Farr and Middlebrooks (1990), Kaufman (1990) and Kozlowski and Farr (1988), emphasised that employee motivation and work

environment characteristics are key determinants of employee interest and rate of participation in training and development activities. Also, empirical research by Rouiller and Goldstein (1993), Xiao (1996), and others, has demonstrated that the work environment is also a critical factor in the transfer and application of new knowledge and skills, acquired through formal training, to the job.

In fact, Knowles (1990) believes that the work environment is probably the most crucial element in the whole process of employee learning and development. He argues that:

> If the climate is not really conducive to learning, if it doesn't convey that an organisation values human beings as its most valuable asset and their development its most productive investment, then all the other elements in the process are jeopardized (Knowles, 1990, p.124).

This belief (that the organisation must provide an environment conducive to learning) is supported by a number of theorists, including Noe and Wilk (1993), Tannenbaum (1997), and Knowles et al. (1998). On the basis of previous empirical and theoretical work, Noe and Wilk (1993) proposed a conceptual model of development activity that included work environment characteristics as an *antecedent* of employee participation in development activities. Similarly, Tannebaum (1997) describes, both conceptually and empirically, how salient aspects of an organisation's work environment can influence whether continuous learning will occur. Knowles et al. (1998) argue that the organisation tends to serve as a role model for those it influences. So, if its purpose is to encourage its employees to engage in a process of continuous change and growth, it is likely to succeed to the extent that it models the role of organisational change and growth.

Knowles (1990) contends that for the purpose of examining its effects on individual employee learning, the work environment can be classified into the (1) physical, (2) social, and (3) organisational environments. In the following sub-sections, this three-level analytical framework is used to summarise the review of the literature related to conditions

in the work environment that are thought to either foster or constrain learning at and through work.

It is widely recognised that the *physical environment* can either help or hinder learning (e.g., Billett, 2001a; Ellstrom, 2001). For instance, training professionals understand the importance of attending to factors such as temperature, ventilation, easy access to refreshments and rest rooms, comfortable chairs, adequate lighting, good acoustics and so forth to avoid blocks to learning (Buckley & Caple, 1995). The size, layout, and other features of physical space, are known to also affect learning quality (Knowles, 1990).

For many professionals, the typical office is too hectic and noisy for learning requiring a high degree of concentration (Lang & Wittig-Berman, 2000). Consequently, some managers have introduced flexible working arrangements and reorganised workplaces to improve the quality of environments for learning. With flexible hours (Friedman, Hatch & Walker, 1998) employees can start or end work earlier or later than normal business hours. Time in the office before or after the normal workday can provide opportunities for learning, such as reading journals or solving complex problems. In addition, flexible hours can make it easier for employees to schedule tertiary courses, or other formal development activities. Under so-called 'flexible place' or 'telecommuting' arrangements, employees can work from home or other off-site locations during some of their normal hours, typically one or two days a week as needed. This can provide undisturbed time for employees to concentrate. In other types of workplaces, so-called learning islands have been developed as physical places for employees to be engaged in group learning (Poell et al., 2000).

Finally, another aspect of the physical environment, which theorists agree is crucial to effective learning, is the richness and accessibility of learning resources (Knowles, 1990; Pedlar, Burgoyne & Boydell, 1997). Especially in large organisations, self-paced training courses in so-called open learning centres have come to replace or supplement trainer directed arrangements, using various multi-media technologies as didactic tools (Poell et al., 2000). In other large organisations the notion of a corporate university is becoming increasingly fashionable (Meister, 1998; Walton, 1999). Small firms, on the other hand,

generally have limited resources (Storey, 1994), and are thus unlikely to be in a position to offer their employees access to similar learning resources.

The *social environment* is another element of the work environment that is crucial to learning (e.g., Billett, 2001a; Ellstrom, 2001; Knowles, 1990). Research suggests that social support from the supervisor and co-workers has a strong influence on an employee's learning. Empirical investigations by Tannenbaum (1997) and Eraut et al. (1998) serve to illustrate.

In Tannenbaum's study, survey respondents tended to attribute more of their learning to informal sources, such as their current supervisors and co-workers, and through trial and error and observation, than to more formal methods of learning, such as formal training. This study also highlighted "the critical role of supervisors in the development of job-related knowledge and skill" (Tannenbaum, 1997, p.445). Individuals who attributed a greater percentage of their learning to supervisors reported stronger self-competence, greater satisfaction with development, and believed that training is viewed more positively in their organisation. Furthermore, individuals who attributed a greater percentage of their learning to supervisors and peers in their current company, reported a greater awareness of the 'big picture' of their organisation.

Similarly, the study of learning at work by Eraut et al. (1999) also highlighted the importance of the social environment as a factor that either constrains or fosters learning. Their findings have clear significance for the role of the manager as a facilitator of informal learning, as illustrated by their conclusion that, "the key person is the local manager whose management of people and role in establishing a climate favourable to learning, in which people seek advice and help each other learn quite naturally, is critical for those who are managed" (Eraut et al., 1999, p.20).

Peer communication and interaction within the organisation is thus considered an important influence on learning (Boud & Middleton, 2003; Dubin, 1990). Therefore, improving communication is frequently employed as a strategy to foster learning at work (Sambrook

& Stewart, 2000). Communication processes should be easier to manage in small firms, where typically the owner-manager is closer to employees, both literally and metaphorically (Hill & Stewart, 2000).

Conditions in the *organisational environment* also have the potential to have effects on workplace learning. The notion of an organisational environment involves numerous sets of ideas. *Assumptions about human nature* by managers, and their *managerial style,* are thought to be key factors in effective facilitation of employees' learning (Knowles, 1990; Knowles et al., 1998; Marsick & Watkins, 1999; Senge, 1990b). The suggestion that managers should help their staff with their learning implies an abandonment of the traditional hierarchical 'command and control' style of management, and adoption of more people-centred management practices (Hughes, 2002, 2004). Managers who are exemplary facilitators of learning can be expected to make a different set of assumptions (essentially positive) about human nature, from the assumptions (essentially negative) made by 'command and control' managers.

Douglas McGregor (1960), a behavioural management theorist, has made a clear presentation of these contrasting assumptions in Theory X and Y. Briefly, Theory X is based on the assumptions that employees have little ambition, dislike work, want to avoid responsibility, and must be closely directed to work effectively. Whereas, Theory Y is based on the assumptions that employees are willing to accept responsibility, able to be creative in their approaches to work, and interested in meaningful work. In McGregor's (1960) view, Theory Y assumptions best captured the true nature of employees and should guide management practice. As a result, he argued that managers should free up their employees and help them to realise their full potential.

It would seem that there are close similarities between McGregor's Theory Y manager, and Senge's (1990b) notion of the servant leader – a leader who works to fulfil subordinates' needs and goals, as well as to achieve the organisation's mission. Servant leadership is thought to be particularly useful in the learning organisation, because it unleashes followers' creativity, full commitment, and natural impulse to learn.

Several commentators (e.g., Knowles et al., 1998; Senge, 1990a) believe that the *structure* of the organisation is an element of the organisational environment that can also be influential in workplace learning. Generally they agree that in hierarchical organisations, there is less motivation for self-improvement, and more blocks to learning than in flatter organisations with more fluid structures, such as organisations that use teams, or temporary task forces. Firm size has significant effects on organisation structure (Bovee et al., 1993; Daft, 2000; Schermerhorn, 1996). Large organisations tend to be more bureaucratic and rely on formalisation of behaviour to achieve coordination. Small firms, on the other hand, are more likely to be organic and have less standardisation and looser and more informal working relationships (Ghobadian & Gallear, 1997). Such organic structures are thought to be more conducive to an integration of learning and work, than structures that are mechanistic (Senge, 1990b).

The dominant structural approach is reflected in the organisation of work (Daft, 2000). For example, when the structure is mechanistic, tasks are usually broken into routine jobs and are rigidly defined. On the other hand, in firms with organic structures, tasks are frequently redefined to fit employee and environmental needs. Such organisations may not have job descriptions or even an organisation chart. As noted previously, small firms are likely to have organic structures, and managers and employees are often multi-skilled, because small firms rely on fewer personnel resources for multiple activities (Ghobadian & Gallear, 1997).

The *reward system* is another element of the organisational environment that is considered crucial to fostering learning. Those behaviours, including engaging in learning, that are rewarded are likely to be maintained (Skinner, 1971). Traditionally, reward programmes have been based on performance, with little consideration given to rewarding employees for enhancing their skills. However, in some organisations, managers have shifted reward programmes to rewarding employee learning. According to Baron and Kreps (1999), "firms increasingly are paying explicitly for bundles of skills or knowledge that employees acquire during their employment" (p. 290). A study by Murray and Gerhart (1998) showed that the adoption of a skills-based pay system in a large manufacturing company led to

higher productivity, lower labour costs, and superior quality outcomes. In such organisations, the environment should be more conducive to learning, than in organisations in which the attitude is that learning should be its own reward.

The organisation's staff development *policy,* which determines the principles that govern decisions and actions in relation to employee development activities and processes, should also have significant effects on employee development (Stewart, 1999; Walton, 1999). In some organisations, employee development is relegated to peripheral status in the policy framework, and therefore there is not much reinforcement of motivation to engage in development (Knowles, 1990). But contemporary organisation theorists assign it a more central role in achievement of organisational goals, and this appears to be a trend among at least the larger organisations (Baldwin & Danielson, 2000). In contrast, small firms are much less likely to have formal employee development policies linked to delivery of business goals and initiatives (Hill & Stewart, 2000; Kerr & McDougall, 1999; Marlow, 2000).

Organisational policy should influence resource allocation through the budget, and in common with other functions, employee development will require a share of the organisation's scarce resources in order to operate effectively. At the most primary level, the amount of financial resources made available to employee development in the budget influences attitudes toward employee development (Knowles, 1990). When employees see that their organisation values employee development highly enough to support it liberally through the provision of resources, they are likely to value it – and vice versa. But, if in times of austerity, it is the first budget to be reduced, it will come to be seen as a peripheral activity (Knowles, 1990; Stewart, 1999). As noted previously, research by Sadler-Smith et al. (1998) and others found that smaller firms were significantly less likely to have training budgets than larger firms.

2.4.5   Management in Small Firms

Managerial effectiveness influences every aspect of a business (Bovee et al., 1993; Daft, 2000; Schermerhorn, 1996), and is thought to be the most important factor contributing to small business success and failure. Several studies (e.g., Hofer & Sanberg, 1987; Ibrahim & Goodwin, 1986; Montago, Kuratko & Scarcella, 1986; Storey, 2004) determine and discuss managerial skill development in relation to a firm's success. For instance, Haswell and Holmes' (1989) summary of much of the research on small business failures refers to several studies which show that managerial inadequacy is the primary cause of small business failures. Consistent with these findings, poor management skills surfaced as a failure factor in a more recent study by Gaskill, Van Auken and Manning (1993) that examined perceived causes of small business failure in the apparel and accessory retailing industry.

Yet, according to Woodall and Winstanley (1998), most discussion of managerial activity in the management literature tacitly assumes that managers are employed in large, or at very least medium-size organisations. Also, despite recognition of the differences between small and large firms, there is a scarcity of research on management practices in small firms (Curran & Blackburn, 2001). Consequently, management literature continues to rely on observations of what occurs within large firms (Hill, 2004; Knuckey et al., 2002). But little is known about how managing large businesses differs from managing small businesses (Welsh & White, 1981).

Moates and Kulonda's (1990) review of the literature revealed little research that compares management in small businesses to management in large businesses. However, the small number of studies that Moates and Kulonda uncovered did identify significant differences. To illustrate, Paolillo (1984) assessed ten roles deemed essential to managers in both small and large companies, and concluded that seven of those roles were influenced by company size. Churchill and Lewis (1983) also emphasised the distinctive nature of management in small businesses. They contend that different management skills are required at five stages of growth of small firms.

After reviewing the literature, Moates and Kulonda's (1990) researched differences between supervisors in small and large organisations. Their study examined data collected on 1,206 supervisors who worked for organisations employing 50 or fewer persons (small organisations), and 6,519 supervisors who worked for organisations employing more than 50 persons (large organisations). Differences between the small and large organisations appeared in a number of areas.

For instance, in small organisations the supervisor was more likely to be personally involved in the training. In addition, data indicated significant differences in beliefs about employees, with supervisors in small organisations displaying a stronger concern for people on some issues. To illustrate, larger proportions of supervisors in small organisations felt that they exerted strong efforts towards employee satisfaction, and that employees willingly accepted responsibility for their work. Also, supervisors in small organisations were more inclined to involve employees in solving problems, establishing work goals and methods, and making decisions affecting their work. They also placed more confidence in employee suggestion systems as a source of good ideas. Finally, relatively more supervisors in small organisations felt that their employees were able to perform a complete job and use a variety of skills.

As noted previously, despite wide recognition of important differences between management in small and large firms, there is a scarcity of research on management practices in small firms. Specifically, most research conducted in the human resource management field has tended to focus on larger firms that employ full-time human resource management specialists (Hornsby & Kuratko, 1990). Yet, Hess (1987) found that small business owners consider personnel management to be the second most important activity next to general management. Furthermore, studies of future issues important to small businesses and problems faced by small businesses have highlighted the employee development concerns of managers of small businesses (e.g. Hornsby & Kuratko, 1990; Huang & Brown, 1999).

For example, Hornsby and Kuratko (1990) examined the future trends in personnel practices as perceived by owners of three sizes of small business: 1-50 employees, 51-100 employees, and 101-150 employees. For organisations from 1-50 employees, the five most frequently cited issues deemed to be important by small business operators were wage rates, availability of quality workers, benefits, government regulation, and *training*.

A study by Huang and Brown (1999) also highlighted the training concerns of managers of small businesses. Their study provided empirical insight into the problems faced by a reasonably diverse sample of what could be regarded as typical small business (even in the New Zealand context) by examining the owner-managers' perceptions of these issues. Most of the firms in their study were small, with the number of employees being 1-19 people. These researchers investigated the problems faced by 973 small businesses through analysing 1,227 contact records that were gathered over a period of 28 months by the manager of a regional small business growth programme in Australia. After studying the contact records, the researchers concluded that the areas which small businesses are most likely to have problems with are marketing, *human resources,* and general management.

By far the most significant human resource issue facing the small business operators was *training and development*. Huang and Brown (1999) believe that the high proportion of problems categorised as human resource management and general management is not surprising, given the varied background of small business proprietors and the relative ease of entry into small business. They argue that the lack of managerial experience typifies small business; given that many start-ups are driven by people enthused about a business opportunity that they identify, yet they often lack any managerial or business experience.

2.4.6 Summary of the Manager as Learning Facilitator

Although fostering employee learning and development has been considered an important responsibility of managers for a long time (e.g., Mintzberg, 1975; Mumford, 1971), the literature suggests that in recent times, managers have taken on even greater responsibility for supporting the learning of their staff (e.g., Ghoshal et al., 1999; Gilley & Maycunich,

2000ab; Marsick & Watkins, 1999). Managers can support their employees' learning through three types of development interventions: coaching, mentoring and training (Ellinger, 1997, Megginson & Pedler, 1991). In addition, delegation (e.g., Leana, 1986, 1987) and performance appraisal (e.g., Sashkin, 1981) can also be used to develop staff. Furthermore, conditions in the work environment are known to either foster or impede employee learning (e.g., Eraut et al., 1999; Ellstrom, 2001; Noe & Wilk, 1993; Tannebaum, 1997), and managers have an important influence on the work environment conditions (Knowles, 1990; Tannebaum, 1997). In the foregoing presentation of the review of the literature, the effects of work environment conditions on employee learning were analysed using a three-level framework: physical, social and organisational elements of the work environment.

In regard to management in the small firm context, the review of the literature revealed that most management research has focused on larger organisations, and little is known about how managing small businesses differs from managing large businesses (Moates & Kulonda, 1990; Welsh & White, 1981). The small number of studies that have investigated this area has identified significant differences (e.g., Moates & Kulonda, 1990; Paolillo, 1984). Despite recognition of the differences between small and large firms, there is a scarcity of research on management practices in small firms. Specifically, there is a need for more extensive study in the area of human resource management practices in small firms (Marlow & Patton, 2002). Several studies have highlighted the employee development concerns of managers of small businesses (e.g., Hornsby & Kuratko, 1990; Huang & Brown, 1999).

In conclusion, Table 2.3 depicts how traditional management functions may typically be enacted in small firms, and the potential facilitating or constraining effects on workplace learning. The table summarises factors typically cited in the literature. The summary is an amalgam of views from the authors referenced previously, and especially an examination of the works of Hill and Stewart (2000), and Ghobadian and Gallear (1997).

Table 2.3

Traditional management functions in the small firm context: Potential effects on workplace learning

Facilitating effects	**Constraining effects**
Planning, evaluation and control.	
• Easier to communicate a vision to the whole organisation, and to show employees how their jobs contribute to overall organisational goals.	• Short- rather than long-range management perspective dominates; short-term imperatives may jeopardise long-term objectives related to employee development. • Employee development not seen as core business process; no apparent link to organisational plans and goals. • No formal training needs analysis and specified training budget. • No evaluation of employee development activities carried out. • Lack of awareness by owner-managers of costs and benefits of employee development.
Organising: Structure and human resource management.	
• Organic structures have fewer blocks to learning than mechanistic structures. • Low level of specialisation; flexible work roles suggest managers and employees are multi-skilled.	• Work tends to be low skilled. • There is a lack of internal human resource development expertise. • Difficult to employ and retain high calibre staff. • Formal training and development is likely to be limited, *ad hoc,* and reactive.
Leadership and motivation.	
• Owner-managers are highly visible and can provide learning leadership. • Owner-managers can build strong personal relationships with employees. • Employees have better access to top management. • Upward communication facilitates participation in decision-making and organisational learning. • Simpler communication processes exist. • Employees can more readily see their efforts translated into tangible results.	• Owner-managers have little formal management training. • In general, management skills are poor. • Managers are busy managing day-to-day activities; they have little time for activities perceived as adjunct (e.g., employee development). • There are limited opportunities for career development in small firms.

2.5   RATIONALE FOR THE INVESTIGATION

Based on the preceding review of the literature, there are several reasons why it is appropriate to investigate the effects of managers on employees' learning in small firms.

First, there is a growing body of literature that suggests learning is increasingly important for an organisation's survival, particularly because of the need to cope with rapid and unpredictable change (Dixon, 1993; Pedler et al., 1997) and apparently because of a more general acceptance of the proposition that people are the only sustainable source of competitive advantage for today's organisations (e.g., Billett, 2000; Ellinger et al., 1999; Poell et al., 2000; Schein, 1993; Senge, 1990a). In this regard, the manager can assume a critical role as a facilitator of learning through employee development interventions, and as a creator of conditions in the work environment that are favourable to learning (Argyris, 1994; Ellinger et al., 1999; Eraut et al., 1999; Kaufman, 1990; Knowles, 1990; Senge, 1990b; Tannenbaum, 1997). But unfortunately, little is known about how conditions in the work environment and developmental interventions by the manager interact to affect employee learning, especially in the small firm context.

Second, while managers are being urged to play a key role in fostering employee learning (e.g., Argyris, 1994; Ghoshal et al., 1999; Gilley & Maycunich, 2000ab; Pedler et al., 1997; Senge, 1990b), a number of scholars (e.g., Ashton, 1998; Ellinger et al., 1999; Eraut, 2004; Eraut et al., 1999; Mumford & Gold, 2004) have suggested that in general, managers lack understanding of how to effectively support the learning of their staff. Furthermore, Hughes (1999, 2002) has suggested that staff can have difficulties in trusting supervisors to facilitate their learning, because of supervisors' formal role in surveillance of staff. These concerns need to be investigated to further understand learning processes in small firms, and to suggest practice that might, if addressed, improve managerial performance and both the quantity and quality of employee learning.

Third, several commentators (e.g., Cameron & Massey, 1999; Curran & Blackburn 2001; Storey, 1994) have highlighted the importance of small firm sectors to national economies.

Managerial skill is thought to be a key factor in small business survival (e.g., Gaskill et al., 1993; Haswell & Holmes, 1989; Hofer & Sanberg, 1987; Ibrahim & Goodwin, 1986; Montago et al., 1986). Furthermore, studies of problems faced by small businesses and future issues important to small businesses have highlighted the employee development concerns of managers of small businesses (e.g., Hornsby & Kuratko, 1990; Huang & Brown, 1999). Similarly, in New Zealand, the results of a large-scale study of business practices and performance (Knuckey et al., 2002) suggest that, on the whole, employee practices (including employee development) are underdeveloped. Research on informal learning processes in New Zealand small firms will increase the sparse body of empirical information available to improve practice and support policy on learning whilst in employment.

Fourth, there is considerable evidence that formal training approaches do not appeal to small firms (Gibb, 1997; Fernald et al., 1999; Field, 1998; Kerr & McDougall, 1999; Marlow, 1998). Small firms are much less likely than large firms to provide their employees with formal training (Storey, 2004). The focus, in much of the small business literature, on formal training has diverted attention away from other forms of learning that can be effective in meeting the needs of small firms. Small business researchers and other commentators with an interest in employee development have called for a shift of emphasis from formal training to learning, and highlighted an important need to investigate learning processes in small firms (e.g., Chaston, Badger & Sadler-Smith, 2001; Dalley & Hamilton, 2000; Field, 1998; Gibb, 1997; Kerr & McDougall, 1999; Kilpatrick & Crowley, 1999; Penn, Ang'wa, Forster, Heydon & Richardson, 1998; Rowden; 1995; Walton, 1999). Moreover, in general, informal workplace learning is poorly understood and under-researched (Eraut, 2004; Evans & Rainbird, 2002).

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

Chapter One laid the foundations for the thesis. It introduced the research problem and justified the importance of the problem. Then the boundaries of the problem area were clarified through a general research question, research objectives, and a research conceptual framework. Finally, the structure of the thesis was outlined.

Chapter Two reviewed empirical and conceptual literature relevant to studying the effects of managers on employees' informal workplace learning in small firms. This included the literature related to workplace learning, the evaluation of work-related learning, employee development in the small firm context, and the manager's employee development task. The chapter closed with a summary of the rationale for the investigation, based on the literature review.

This chapter describes the research design and methods of inquiry employed for the current study. It begins by identifying the major limitations in research designs of prior research into employee development in small firms. Then the research design for the current study is explained and justified, and each of the two phases in which the research was undertaken is described in detail. Phase one was a descriptive qualitative study involving semi-structured interviews with owner-managers, managers, and non-managers. Sections are included which describe the rationale for the choice of methods, sampling method, interview procedures, and analysis of the interview data. In phase two, a mail survey instrument was developed and administered. This quantitative phase of the investigation is described in terms of rationale for the choice of methods, questionnaire design, theoretical and empirical justification for the questionnaire items, questionnaire pre-testing, sampling, survey implementation, and data analysis. The chapter includes a discussion of strategies to address ethical concerns in conducting the research. Finally, a summary of the key achievements of Chapter Three is presented.

3.1 RESEARCHING EMPLOYEE DEVELOPMENT IN SMALL FIRMS: PREVIOUS APPROACHES

The discussion that follows provides an overview of previous approaches to studying employee development in small firms. The discussion highlights two major limitations that characterised this research prior to the 1990s. These limitations are: (1) a narrow conception of learning that emphasised its formal attributes; and (2) the use of research strategies based predominantly on mail questionnaires to collect data about employee development. In contrast, examples of studies conducted during the 1990s are presented. These studies have examined employee development in small firms through a learning 'lens', and involved going into organisations and obtaining information on the basis of observation and direct questioning, rather than relying on postal questionnaires only. These more recent studies challenge the notion that little is done in the way of employee development in small firms. However, a common weakness in the research designs of these more recent studies is identified.

The literature review (in Chapter Two) emphasised that attention given to employee development in small firms has, on the whole, focused on the provision or absence of 'training' as the measure of 'learning' (Field, 1998; Rowden, 1995). Most studies used mail questionnaires to collect training-related data such as the number of employees who participated in training during a specific period, the type of training undertaken, and the expenditure on training. In general, these researchers, who seem to be applying 'large-organisation logic' (Hill, 2004) to employee development in small firms, conclude that little or no training – as they define it – takes place in small to mid-sized organisations (Rowden, 1995), and that formal training is generally not suited to small firms for a variety of reasons (Gibb, 1997).

In recent times, small business commentators (e.g., Field, 1998; Gibb, 1997; Rowden, 1995) have questioned the traditional view that only formal training is 'real' training. In fact, Curran (2000) asserts that small firm research, theorising, and practice recommendations regarding employee development, may be more fruitful if based on

different assumptions. These commentators have emphasised the need for a wider definition of training than is afforded by its formal elements. They prefer to consider training within small firms as entailing any process, formal or informal, by which employees acquire knowledge and skills relevant to their performance at work. Recent thinking on training in small firms thus suggests that 'natural' learning processes, and informal, in-house training, fits well with the constraints under which small enterprises operate, and may be effective in improving business performance (Curran, 2000).

In addition to these limitations in the conception of training, and the mistaken application of 'large-organisation logic' to small firms that has characterised small firm research prior to the 1990s, the predominant research method employed by researchers during this era was also a limiting factor. According to Hendry, Arthur and Jones (1995), "the dominant methodology of inquiry with small firms has been the survey method" (p.22). It is doubtful whether such a research strategy, based solely on a mail questionnaire, is appropriate as a strategy for investigating complex learning processes in the small firm context. The practice of using mail survey research as the primary research method has the potential for limited depth.

In contrast, during the 1990s, studies of employee development in small firms by Hendry et al. (1995), Rowden (1995), and Field (1998), emphasise the significance of going into organisations and obtaining information on the basis of observation and direct questioning, rather than relying on postal questionnaires only as a data gathering instrument. In the early 1990s, Hendry et al. (1995) embarked on a broad-based study of strategic change and human resource development in twenty United Kingdom-based small-medium firms in the 25-500 employees size category. Based on their research findings, the researchers concluded, "most individual learning seems to occur in normal job situations" (p.168). Furthermore, they contend that "to measure the opportunity for learning by the existence and size of training budgets is highly misleading" (p.168).

The findings of case study research conducted by Rowden (1995) in three manufacturing organisations in the United States of America challenges the notion that little is done in the

way of human resource development (HRD) in successful small and medium-sized enterprises (SMEs). This field-based investigation revealed that each organisation studied did a considerable amount of HRD. According to Rowden (1995):

> Given that most scholars and researchers in HRD assume that little or no training – as they define it – takes place in small to mid-sized companies, one might speculate that this investigation was able to turn up incidents of HRD in large part because of the methodology employed, primarily because case study research is able to account for context (p.371).

Similarly, case study research by Field (1998) illustrated the range of learning activities that can be overlooked if one adopts a narrow, training perspective, and the information gathered is shaped by mail survey questions and format. This study showed that limited reliance on structured training does not necessarily mean that learning is also limited. Drawing on a series of eight case studies of training and learning within small business, Field (1998) concluded that, consistent with previous findings, the small businesses studied tended to make limited use of structured training. However, Field (1998) points out, "when we look at the same case study sites through a learning lens, the picture is much richer and more complex" (p.64).

The discussion thus far has highlighted major limitations in earlier research into employee development in small firms. These limitations are: (1) prior to the 1990s most researchers adopted a conception of learning that emphasised its formal attributes, and they relied heavily on mail questionnaires to collect data about employee development; and (2) during the 1990s the prevalence of qualitative research designs used to investigate learning in small firms calls into question the representativeness of these research findings.

Apart from these two main limitations in earlier research into employee development in small firms, some small business researchers have highlighted an important limitation of small firm studies in general. Curran and Blackburn (2001) contend that small firm employees are "a somewhat neglected group in small business research" (p.71). Hendry et

al. (1995) echo their views and state, "in the fascination with lone entrepreneurs, the workforce in smaller firms has been comparatively neglected" (p. 18). Also, Devins Johnson and Sutherland (2004) assert that, "one factor that links the vast majority of studies of training in small firms is that they tend to focus primarily or exclusively on the perspective of the owner-manager and/or other managers of the business" (p.449). Similarly, the focus, in much of the literature, on learning in small firms links learning to individual entrepreneurs (Taylor & Thorpe, 2004). (In this context, the term 'entrepreneur' is taken as a synonym for the owner-manager.) Thus, very few studies take into account the employee perspective (Marlow & Patton, 2002); the focus is on the owner-manager in much of the small business research literature.

These limitations in prior research helped shape the design of the current study. In the following section, the research design employed for the current study of the effects of managers on employees' informal workplace learning is described and justified.

3.2   DESCRIPTION AND JUSTIFICATION OF THE RESEARCH DESIGN

The current study makes a contribution to redressing the main shortcomings of earlier research by: (1) adopting a conception of learning that is broader than formal training; (2) including the small firm employee as a unit of analysis; and (3) employing a research design that incorporates *both* depth and breadth by combining qualitative and quantitative methods of inquiry. In the following sub-sections, the research design employed to answer the general and specific research questions is further justified and elaborated. (The general and specific research questions are in sub-section 3.2.3 below.)

3.2.1   Basic Types of Research Designs

Research designs can be classified into some basic types. According to Cooper and Emory (1995), research designs can be classified by the communication method used to gather primary data, and in their view there are primarily two alternatives. We can *observe* conditions, events, people or processes, or we can *question or survey* people about various

topics. Another classification is in terms of the fundamental purpose of the research: exploratory, descriptive or explanatory/causal (see, for example, Babbie, 2001; Cooper & Emory, 1995; Neuman, 1994; Yin, 1994). These distinctions are not absolute; any given study may have multiple purposes, but one purpose is usually dominant (Churchill & Iacobuci, 2002; Neuman, 1994).

Descriptive research deals largely with questions of *what* things are like, not *why* they are that way, and can be very concrete or more abstract (de Vaus, 1996). More specifically, the major purpose of descriptive research is to make descriptive assertions about some population (Babbie, 2001). Such descriptive research may also aim, at least in part, at making explanatory assertions about the population. Unlike exploratory research, descriptive studies are based on some general understanding of the phenomenon studied (Zikmund, 2000). Churchill and Iacobucci (2002) assert that a descriptive study design is very different from an exploratory study design. Whereas an exploratory study is characterised by its flexibility, descriptive studies can be considered rigid.

The value of descriptive research is widely recognised in the literatures on research processes. To illustrate, de Vaus (1996) argues that unless we have described something accurately and thoughtfully, attempts to explain it will be misplaced. Also, descriptions can highlight puzzles that need to be resolved, and as such provide the basis of theory construction. Furthermore, according to Cooper and Emory (1995), a descriptive study may have the potential for drawing powerful inferences, and can be just as demanding of research skills as the causal study.

Research designs can thus be classified in many different ways; one classification is in terms of the fundamental purpose of the research: to explore, describe or explain. Each fundamental purpose has different implications for the other elements of the research design.

3.2.2 Elements of Research Designs

According to Denzin and Lincoln (1998), "a research design describes a flexible set of guidelines that connects theoretical paradigms to strategies of inquiry and methods for collecting empirical material" (p. 28). It follows that putting considerable effort into answering the following four questions can help to ensure the soundness of our research design (see Crotty, 1998, p.2): "What *methods* do we propose to use? What *methodology* governs our choice and use of methods? What *theoretical perspective* lies behind the methodology in question? What *epistemology* informs this theoretical perspective?" Table 3.1 provides the meaning Crotty assigns to each of the concepts.

Table 3.1

Definitions of research design concepts

Concepts	Definitions
Methods	The techniques or procedures used to gather and analyse data related to some research question or hypothesis.
Methodology	The strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcome.
Theoretical perspective	The philosophical stance informing the methodology and thus providing a context for the process and grounding its logic and criteria.
Epistemology	The theory of knowledge embedded in the theoretical perspective and thereby in the methodology.

This relationship among the above four elements of the research process, as articulated by Crotty (1998), has been used to structure most of the remaining discussion in this chapter. The discussion will thus proceed from a general discussion of epistemological positions towards a more specific and detailed description of the research methods employed for the

current study. (It should be noted that there is considerable inconsistency in terminology used in research literatures to refer to the basic set of beliefs that guide the researcher's choice of strategy of inquiry and methods for collecting empirical material.)

There is a long-standing and wide-ranging *epistemological* debate in the literature between proponents of objectivism and subjectivism (Crotty, 1998; Gill & Johnson, 1997; Morgan & Smircich, 1980; Szubka, 2000). Briefly, objectivism is the belief that truth and meaning reside in their objects independently of consciousness. That is, there is a real social and natural world existing independently of our cognitions that we can neutrally apprehend. There is objective truth, and appropriate methods of inquiry can bring us accurate and certain knowledge of that truth. In contrast, subjectivists would claim that while reality does exist independently of our efforts to understand it, it is not accessible in a neutral manner. According to this view, the world and 'reality' are not objective and exterior, but socially constructed and given meaning by people (Easterby-Smith, Thorpe & Lowe, 1997; Morgan & Smircich, 1980).

Similarly, in the social sciences the debate about the most appropriate *theoretical perspective* from which research methods should be derived, and how best to conduct research, is pursued today as vigorously as ever (Crotty, 1998; Easterby-Smith et al., 1997; Gill & Johnson; 1997; Miles & Huberman, 1994). This debate has centred on the relative value of two fundamentally different and competing inquiry paradigms. These are (1) positivism, which uses quantitative and experimental methods to test hypothetical-deductive generalisations, and (2) constructivism, which uses qualitative and naturalistic approaches to inductively and holistically understand human experience in context-specific settings (Crotty, 1998; Gill & Johnson; 1997; Miles & Huberman, 1994; Patton, 1990).

Patton (1990) contends that in designing research studies it is important to know about the paradigms debate in order to "free researchers from the bonds of allegiance to a single paradigm" (p.38). He argues that paradigmatic 'blinders', originating from a variety of influences, such as disciplinary prescriptions, training and academic socialisation, methodological habits, and comfort with what researchers know best, constrain

methodological flexibility and creativity. These influences lock researchers into unconscious patterns of perception and behaviour that create methodological prejudices, and disguise the biased predetermined nature of their methods 'decisions'.

Crotty (1998) asserts that the distinction between these two fundamentally different and competing inquiry paradigms occur at the level of epistemology or theoretical perspective, whereas the distinction between qualitative research and quantitative research occurs at the level of methodology and methods. Some argue that although the distinction between the two competing inquiry paradigms may be very clear at the philosophical level, the distinction breaks down at the level of methodology and methods (see, for example, Easterby-Smith et al., 1997). As Morgan and Smircich (1980) put it:

> A preoccupation with methods on their own account obscures the link between the assumptions that the researcher holds and the overall research effort, giving the illusion that it is the methods themselves, rather than the orientations of the human researcher, that generate particular forms of knowledge (p.499).

Yet, as Crotty (1998) points out "in most research textbooks, it is qualitative research and quantitative research that are set against each other as polar opposites" (p.15). He goes on to argue that:

> We should accept that, whatever research we engage in, it is possible for either qualitative methods or quantitative methods, or both, to serve our purposes. Our research can be qualitative or quantitative, or both qualitative and quantitative, without this being in any way problematic (p.15).

Likewise, Guba and Lincoln (1998) state "both qualitative and quantitative methods may be used appropriately with any research design" (p. 195). The argument that Crotty, and Guba and Lincoln are making is that *appropriateness* is the key criterion.

Numerous other commentators (e.g., Easterby-Smith et al., 1997; Gill & Johnson; 1997; Miles & Huberman, 1994; Morgan & Smircich, 1980; Patton; 1990) also argue that methodological appropriateness should be the primary criterion for judging methodological quality. According to Patton (1990) "the issue then becomes not whether one has uniformly adhered to prescribed canons of either logical-positivism or phenomenology but whether one has made sensible methods decisions given the purpose of the inquiry, the questions being investigated, and the resources available"(p.39). Thus, in essence these commentators support the notion of situational responsiveness. In other words, designing a study that is appropriate for a specific inquiry situation, because different methods are appropriate for different situations.

In practice, this argument has created a situation where many researchers, especially in the management field, adopt a pragmatic view by deliberately combining methods drawn from both research paradigms (Easterby-Smith et al., 1997; Gill & Johnson; 1997). It would seem that these researchers support the view held by Miles and Huberman (1994) that "we have to face the fact that numbers and words are both needed if we are to understand the world" (p.40). These authors argue that the question, then, is not whether the two sorts of data and associated methods can be linked during study design, but, how it will be done, and for what purposes. Miles and Huberman (1994) and numerous other commentators (e.g., Easterby-Smith et al., 1997; Gill & Johnson; 1997; Patton; 1990) offer reasons to combine methods, and provide examples of such research.

3.2.3 Design of the Current Study

As noted previously in this chapter, Cooper and Emory (1995) argue that research designs can be classified by the communication method used to gather primary data. We can *observe* conditions, events, people or processes, or we can *question* or *survey* people about various topics. Another classification, also mentioned previously, is in terms of the fundamental purpose of the research: exploratory, descriptive or explanatory/causal (see, for example, Babbie, 2001). These distinctions are not absolute; a study can have more than one of these purposes, but one purpose is usually dominant. Likewise, the purposes of

the current study are to explore, describe and explain, but description is dominant. In regard to the communication method used to gather primary data, the current study uses face-to-face interviews and mail questionnaires. The design of the current study was thus a descriptive survey approach.

The choice of a descriptive survey approach was strongly influenced by the nature of the general research question that helped guide the study. As initially stated in Chapter One, overall, this study seeks to answer the question: In selected small manufacturing firms, what effects, if any, do managers have on employees' workplace learning? As Yin (1994) argues, in general, "what" questions are likely to favour the use of survey research.

As mentioned previously, because there is no established, widely accepted definition of the small firm, researchers are encouraged to offer reasoned justifications for the definitions they adopt (Curran & Blackburn, 2001). For the purpose of this research, a small business is defined as a firm with 10-49 full time equivalent (FTE) employees. Curran and Blackburn point out that definitions of the small firm based solely on 'numbers employed' are not ideal, because, for example, such definitions show little sensitivity to sector differences and ignore other measures of size, such as turnover. Nevertheless, defining a manufacturing firm as small if it has 10-49 full time equivalent (FTE) employees has several practical benefits as a 'working definition' for the current study.

Firstly, firms with these numbers of employees are likely to have a recognisable management structure, and therefore demonstrate the phenomenon of interest to the researcher. Secondly, this size category matches the Cameron and Massey (1999) and European Union (European Commission, 1996) definition of the small firm (10-49 FTE employees). This should promote comparability with other studies. Thirdly, owner-managers should be able to provide accurate information on employment, but may not have such precise data on other indicators of firm size, such as their annual turnover. Additionally, although definitions based on numbers employed are criticised because they are semi-arbitrary and employment has sector characteristics (Curran & Blackburn, 2001),

such a criticism would be less pertinent to the definition adopted for the current study, because it is a single-sector study.

Following Cooper and Emory (1995), the general research question was broken into questions that are more specific. Table 3.2 shows how the specific research questions and research objectives (as initially stated in Chapter One) are related.

Table 3.2

Relationship between research objectives and specific research questions

Research Objectives	Specific Research Questions
Objective 1: To establish if managers in selected small manufacturing firms affect employees' workplace learning.	1. To what sources and methods of learning do employees attribute development of their work-related knowledge and skills?
Objective 2: To determine in what ways managers foster employees' workplace learning.	1. Are managers perceived as creating conditions in the work environment that are favourable to employee learning? 2. What kinds of developmental interventions are managers using to foster employee learning? 3. Do workplace supervisors enact behaviours, in one-on-one settings, likely to foster employee learning?
Objective 3: To explore outcomes of learning experiences for individuals and the organisation.	1. What are outcomes of employee learning experiences for the individual? 2. What are outcomes of employee learning experiences for the organisation?

In addition to the above research questions and research objectives, a conceptual framework also guided the investigation. An adaptation of Lewin's (1951) B-P-E model served as the initial descriptive conceptual framework for the study. The B-P-E model (as detailed below) postulates a relationship among three major components of learning/facilitating interactions. This relationship has been reiterated and extended by several authors (e.g., Bandura, 1977; Hunt & Sullivan, 1974; Kidd, 1973; Knowles, 1990; MacKeracher, 1996). Furthermore, according to Davis and Luthans (1980), the B-P-E model has been widely adopted by the organisational behaviour field as a theoretical framework to explain behaviour. The B-P-E model postulates that:

Behaviour is a function of the interaction between Person and Environment:

$B = f(P, E)$.

When we apply the B-P-E model to the learning/facilitating context, the "P" stands for Person (the learner), and can include any characteristic of a learner (for example, motivation, expectancies and attitudes) that affects learning. The "B" stands for Behaviour, and can include any outcome (for example, the knowledge, skills and attitudes that are learned, and how the learner responds to the learning process) that occurs during, or after the learning/facilitating interaction. The "E" stands for Environment, and can include any factor within the learning situation or context which might effect or affect learning, including, for example, learning interventions, quality of the physical environment, social support, and learning potential of the work system. The facilitator can be thought of as a very influential component of the learning environment, through the provision of guidance, information, feedback, reinforcement, and support (MacKeracher, 1996).

Figure 3.1 presents the research conceptual framework (adapted from the B-P-E model) that guided this study by focussing the researcher and providing boundaries for the study. The effects of managers on employees' informal workplace learning were studied within the boundaries furnished by this conceptual framework. Specifically, this included an investigation of:

- conditions in the work environments;
- employee development interventions used by managers;
- sources and methods of employees' learning; and
- outcomes associated with employees' learning experiences.

Antecedent Conditions in the Work Environment

Developmental Interventions (By Managers)

Employee Learning Experiences

Learning Outcomes (Individuals and Organisation)

Other Sources and Methods of Learning
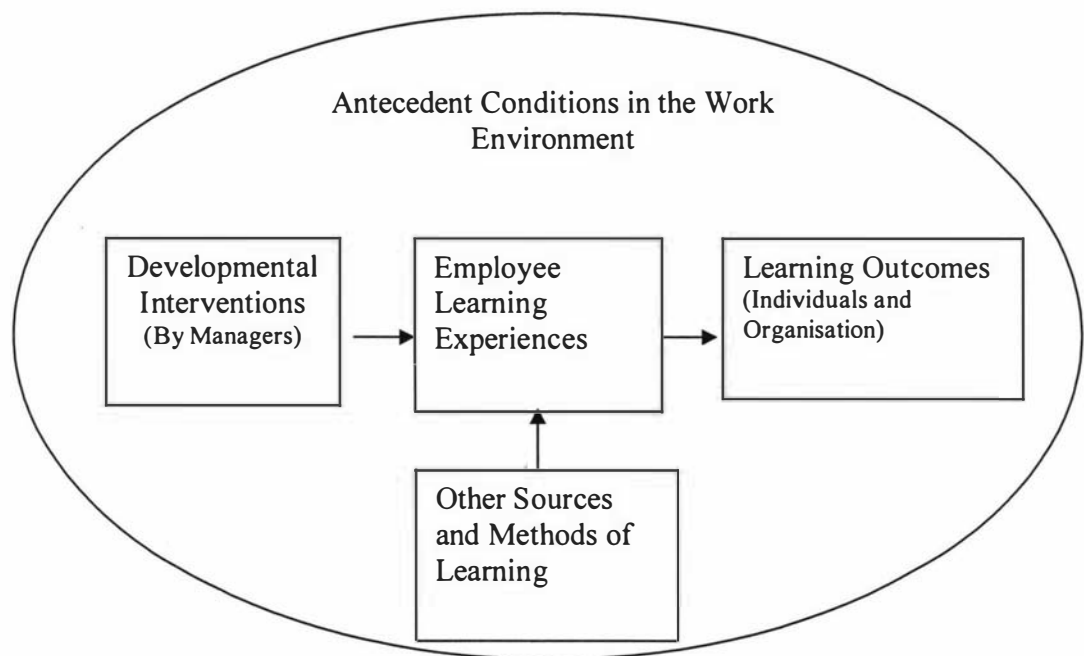
Figure 3.1.

Research conceptual framework

As indicated by the conceptual framework, managers are thought to play a key role in establishing *conditions in the work environment* favourable for an integration of learning and work (e.g., Eraut et al., 1999; Knowles, 1990; Knowles, Holton & Swanson, 1998; Noe & Wilk, 1993; Tannenbaum, 1997; Tracey, Hinkin, Tannenbaum & Mathieu, 2001; Senge, 1990a). The manager is also considered to be a very influential component of the learning environment through employee *development interventions* that include the provision of feedback and coaching, delegating challenging work assignments, reinforcement of learning, and supporting transfer of trainees' learning from the training environment to the workplace (e.g., Argyris, 1994; Ellinger et al., 1999; Eraut et al., 1999; Minter & Thomas, 2000; Tannenbaum, 1997). Apart from *learning experiences* through developmental interventions by managers, employees are known to also learn from a variety of *other sources and methods* (e.g., Ashton, 1998; Billett, 2001a; Eraut, Alderton, Cole & Senker, 1998; Gibb, 1997; Tannenbaum, 1997). In this study it was expected that employees' perceptions of the relative contribution of each learning source and method of learning to development of their work-related knowledge and skills would provide insight into the effects of managers on employees' learning. Finally, it was also anticipated that learning experiences would lead to *outcomes* for individuals, and the organisation (Kirkpatrick, 1998).

The specific research questions (shown in Table 3.2) are also linked to the elements of the conceptual framework (Figure 3.1) as follows:

Antecedent Conditions in the Work Environment
1.   Are managers perceived as creating conditions in the work environment that are favourable to employee learning?

Developmental Interventions
2.   What kinds of developmental interventions are managers using to foster employee learning?
3.   Do workplace supervisors enact behaviours, in one-on-one settings, likely to foster employee learning?

Learning Experiences

4.   To what sources and methods of learning do employees attribute development of their work-related knowledge and skills?

Learning Outcomes

5.   What are outcomes of employee learning experiences for the individual?

6.   What are outcomes of employee learning experiences for the organisation?

As noted previously, the nature of the general research question asked in the current study had an important influence on the choice of the descriptive survey research methodology. Likewise, the choice of a descriptive survey methodology had an important influence on the mix of research methods. According to Hair, Babin, Money and Samouel (2003), methods of collecting survey data fall into two broad categories: interviewer-administered (e.g. face-to-face interviews) and self-completion (e.g. mail surveys). Phase one of the current study involved semi-structured face-to-face interviews with owner-managers, managers, and non-managers. The interview transcripts were analysed using content analytic procedures. In phase two, data was collected through mail survey questionnaires, and analysed using a range of statistical methods. (The justification for the choice of these methods, and the details of their implementation, are described in sections 3.3 and 3.4 that follow.)

In this study, linking qualitative and quantitative data (and the associated methods) was beneficial to research design, data collection and data analysis. In regard to research design, qualitative data collection through semi-structured interviews during phase one helped sequentially by informing instrumentation in phase two. On the other hand, phase two extended the scope of the study, and helped to avoid 'elite' bias through achieving deeper penetration into the organisation. In phase one, the lessons learnt about accessing small firms, as well as the contacts established, facilitated data collection in the subsequent phase. Finally, in regard to data analysis, quantitative data collection in phase two aided analysis by casting new light on the qualitative findings of phase one and showed generality of specific observations. Also, obtaining first-hand, 'real world' experience with the issue studied through conducting the semi-structured interviews in phase one, and through on-site

administration of the survey questionnaires in phase two, enhanced the research design and interpretation of the findings. Thus, the two phases of the study were not separate but interactive, and should be viewed as having equal status.

In the literature on social research methodology, triangulation is frequently cited as a useful technique for strengthening research rigour through the combining of multiple methods, data sources, data types, researchers, theories and perspectives (Miles & Huberman, 1994; Patton, 1990). Perlesz and Lindsay (2003) note that triangulation can be used for a variety of purposes, including, to reduce bias and limitations of a particular method by compensating with the strengths of another method; to confirm and disconfirm hypothesis; and to enhance the trustworthiness of the analysis through building up a more rounded, credible, and coherent narrative. The natures of the various rationales that accompany the use of triangulation are suggestive that the position one takes on triangulation is of necessity related to one's research paradigm (Perlesz & Lindsay, 2003).

As explained in the next section, this study sits squarely in the constructivist camp. Triangulation did feature in the current study, not in a positivist sense of using triangulation to confirm or corroborate the findings, but rather in a constructivist sense of providing an opportunity to add richness and new perspectives to the data collection and analysis. Specifically, in this study, there was triangulation by method (semi-structured interviews, self-administered questionnaires); by data source (non-managers, managers, owner-managers); by data type (qualitative, quantitative) and by theoretical perspectives (the data set was examined from different theoretical perspectives, including social learning theory, situated learning, and experiential learning).

3.2.4 Classification of the Current Study

Returning to Crotty's (1998) framework of connecting epistemology to theoretical perspective to methodology to methods (see Table 3.1), it is now possible to attempt to place the current study in this schema. As noted earlier, a descriptive survey research methodology, and a combination of research methods were used for the current study. Gill

and Johnson (1997) distinguish between analytic (or explanatory) surveys and descriptive surveys. According to Gill and Johnson (1997), analytic surveys attempt to test a theory deductively by identifying the independent, dependent, and extraneous variables, and elucidating cause and effect relationships between independent and dependent variables. In contrast, a descriptive survey is concerned primarily with addressing the particular characteristics of a specific population of subjects, either at a fixed point in time, or at varying times for comparative purposes.

Gill and Johnson (1997) argue that surveys, if analytic, have a positivist theoretical perspective embedded within the research design methodology. On the other hand, constructivism is the philosophical stance that lies behind descriptive survey research methodology. In the constructivist paradigm, as opposed to the positivist paradigm, there is a philosophical assumption that there is not one measurable, observable reality, but multiple realities, since individuals construct their realities in interaction with their social world (Ellinger, 1997).

Following Gill and Johnson's (1997) viewpoint, Table 3.3 shows how the current study fits into Crotty's (1998) schema.

Table 3.3

Classification of the current study

Epistemology	Theoretical Perspective	Methodology	Methods
Subjectivism	Constructivism	Descriptive Survey Research	Semi-structured interviews Content analysis Mail questionnaire Statistical analysis

3.3   METHODS USED IN THE QUALITATIVE STUDY

Keeping to Crotty's (1998) definition of research methods contained in Table 3.1, semi-structured interviews and content analysis of verbatim expressions of the interview participants were the two research methods used in the initial descriptive qualitative study. The following sub-sections provide the rationale for the choice of these methods and detail the procedures that were used to conduct the semi-structured interviews and analyse the interview data.

3.3.1   Rationale for the Choice of Methods

The research objective guiding the initial qualitative phase of the study was: to determine in what ways managers foster employees' work-related learning. In Chapter Two (Review of the Literature) it was emphasised that little is known about how managers in small firms foster employees' learning. Thus, the topic of the current study is relatively new. Although the review of the literature had helped the researcher to develop an understanding of the topic, this understanding was largely detached and theoretical. Face-to-face interviews would be an effective method to further familiarise the researcher with the topic, and to develop a more practical sense of the domain and context within which the phenomenon of employee learning processes is situated. Also, it was thought that engagement with owner-managers, managers, and non-managers in the 'real world' through face-to-face interviews would enable the researcher to make meaningful revisions to aspects of the initial research design. The interviews would be loosely structured and open to what the interviewees would feel is relevant and important to talk about, given the focus of the research.

Content analysis was chosen as the method of analysing the interview transcripts. Babbie (2001) contends that content analysis is particularly well suited to the study of recorded human communications. According to Patton (1990), content analysis is "the process of identifying, coding, and categorising the primary patterns in data" (p.381). Weber (1985), on the other hand, defines content analysis as "a research methodology that utilizes a set of procedures to make valid inferences from text" (p.9). He states that content analyses can be

used for many purposes; including coding open-ended questions in surveys. Content analytic procedures thus operate directly upon transcripts of human communications.

According to Babbie (2001), content analysis is essentially a coding operation. Babbie argues that the concreteness of materials studied in content analysis strengthens the likelihood of reliability. This means that you can code, recode, and recode again if you want, to make certain that the coding is consistent. Weber (1985) distinguishes between stability and reproducibility in assessing reliability of coding. Stability measures consistency of private understandings, and can be ascertained when the same content is coded more than once by the same coder. On the other hand, reproducibility (or inter-coder reliability) measures the consistency of shared understandings or meanings, and can be ascertained when more than one coder codes the same text.

3.3.2 Sampling Method and Pre-Interview Procedures

The initial descriptive qualitative study used purposeful (judgmental) sampling (Miles & Huberman, 1994; Neuman, 1994; Patton, 1990). In this context, purposeful sampling involved choosing the settings where the processes being studied were most likely to occur (Silverman, 2000). Most of the firms that participated in this study were small batch production firms that produced products designed to customer specifications, such as special-order machine tools, custom clothing and printing. It could reasonably be assumed that workplace learning would be particularly important in such firms. Small batch manufacturing is close to traditional skilled-craft work, because people are a large part of the production process (Daft, 2000). Furthermore, employees are likely to often encounter novel work problems when products are made to customer specifications. Circumstances that prompted learning in these firms included the arrival of newcomers and their needs to be socialised and trained, the need to comply with health and safety requirements, novel work problems, and continuous improvement efforts.

In addition to the type of economic activity (small batch manufacturing), the firm size was also considered an important factor in sample selection. For the current study, a

manufacturing firm was defined as small if it had 10-49 full time equivalent (FTE) employees. Firms with these numbers of employees are likely to have a recognisable management structure, and therefore demonstrate the phenomenon of interest to the researcher.

According to Miles and Huberman (1994), in qualitative research, sampling involves decisions about a range of parameters. Using their framework, Table 3.4 shows the sampling parameters used, and summarises choices made in the current in study.

Table 3.4

Sampling parameters and choices

Sampling Parameters	Choices
Setting:	Learning environments of small manufacturing firms located in greater Wellington region.
Actors:	Owner-managers, managers, and non-managers.
Processes:	Learning processes; the effects of managers on employees' informal workplace learning.
Events:	Developmental interventions by the manager and other employee learning experiences.
Outcomes:	Learning outcomes for individuals and the organisation.

After the sampling parameters had been considered and choices made, the contact details of manufacturing firms located in the Wellington region that match the specified size category were purchased from a commercial database supplier. A letter (see Appendix A) inviting the owner-manager and at least one of his/her employees to participate in the qualitative study was sent by mail to organisations in the sample frame. Copies of an Information Sheet (see Appendix B) that describes the study and sample interview questions (see Appendix B) were enclosed with the letter. In the letter, the owner-manager was asked to seek a volunteer research participant from his or her workgroup. Follow-up telephone calls

to discuss participation in the study were made a few days after letters were mailed. If agreement to participate in the study was obtained, a personal interview appointment with the owner-manager and his/her employee, in a location of their choice, was scheduled by telephone, and subsequently confirmed in writing.

3.3.3   Interview Procedures

Before the interview started, the interviewee was thanked for agreeing to participate in the study. The Information Sheet (see Appendix B) was then discussed, and the interviewee was given an opportunity to raise any issues that needed clarification. Permission to tape record the interview and take notes during the interview was confirmed, and the interviewee was asked to sign a Consent Form (see Appendix D). Each interview began with a brief explanation of the nature and purpose of the qualitative study, and some 'warm-up' questions were then asked to get the interviewee into an 'interview mode.'

Two sets of open-ended interview questions were then used to gather the qualitative data (see Appendix C). One set was developed for interviews with managers, and a different set for interviews with non-managers. Probes were used primarily as aids to help the interviewer 'flesh out' the questions, and as prompts for items the informant may have overlooked. Question wording and sequencing in the interview guide were reassessed once fieldwork begun and the researcher had developed a heightened sense of the context, 'actors', and how learning processes seemed to be operating locally.

Sampling was terminated when no new information seemed to be forthcoming from the sample units (Patton, 1990). The consequence of this approach was that a small 'sample' of respondents (N = 17) comprised of owner-managers, managers, and non-managers was interviewed in depth. (Chapter Four provides basic details about the organisations and individual interview participants.)

3.3.4 Analysis of the Interview Data

All interviews were tape recorded (with the permission of the participants) and transcribed verbatim. The transcription process yielded a source of rich descriptions and explanations of informal learning processes in the context of small manufacturing firms. As soon as the transcript of an interview was available for review, it was checked for accuracy and carefully examined repeatedly by the researcher. Reflective remarks were recorded in the margins (Miles & Huberman, 1994; Patton 1990).

The process of review of the interview transcript was followed by sorting the data using a broad organising framework. While acknowledging the value of an inductive approach, given the amount of data, and availability of a clear research conceptual framework that had been operationalised through specific research questions, a decision was made to begin sorting the data using a framework consisting of eight broad categories. As Miles and Huberman (1994) put it:

> We should not forget why we are out in the field in the first place: to describe and analyse a pattern of relationships. That task requires a set of analytic categories. Starting with them (deductively) or getting gradually to them (inductively) are both possible (p.17).

Accordingly, category definitions were prepared for three levels of analysis of the work environment, and five common types of developmental interventions managers use. (The three-level analytical framework and the types of developmental interventions were initially introduced in Chapter Two.) This organising framework and the category definitions are shown in Table 3.5. The framework, and the category definitions, were repeatedly assessed against the empirical material in this study and modified where appropriate. For instance, because clearly distinguishing between on-the-job training and coaching can be difficult in practice, since they are often used in combination, it was decided to combine them for the purpose of analysis.

Table 3.5

Organising framework categories and definitions

Learning environment: Salient aspects of the workplace environment that have the greatest influence on whether learning occurs (Tannenbaum, 1997).	
Organisational environment	Salient aspects of the organization as a whole (e.g. structure, policies, work assignments) that have the greatest influence on whether learning occurs.
Social environment	Salient aspects of the social work group (e.g. supervisor and peer support, communication) that have the greatest influence on whether learning occurs.
Physical environment	Salient physical aspects of the workplace environment (e.g. factory layout, learning resources) that have the greatest influence on whether learning occurs.
Developmental interventions: Deliberate, purposive, and active interventions in the natural process of learning to achieve specific learning outcomes (Walton, 1999).	
On-the-job training	Developing task level expertise by having an experienced member of a workgroup train a novice employee at or near the actual work setting (Jacobs & Jones, 1995).
Coaching	Process in which a an experienced member of a workgroup, through direct discussion and guided activity, helps a colleague to solve a problem or make incremental improvements in current performance to reach a target level (Megginson & Clutterbuck, 1995).
Mentoring	An intense relationship of relatively long duration, between a senior experienced colleague (mentor) and a less experienced junior colleague in which the mentor provides support, direction, and feedback, regarding career plans and personal development (Russell & Adams, 1997).
Delegation	The manager empowering a subordinate to take responsibility for certain work activities that are developmental (Bass, 1990; Schriesheim, Neider & Scandura, 1998).
Performance appraisal	Observing and evaluating an employee's performance, recording the assessment, and providing feedback to the employee (Daft, 2000).

Content analysis was used to aid in classification of the textual interview data into the broad categories. In this study, all phrases, sentences and paragraphs were rigorously reviewed in relation to the framework category definitions (as shown in Table 3.5). The contents of the data were classified in the category in which it most clearly belonged by writing codes directly on the relevant data passages, and then colour coding the data strips using colour pens. Codes had been developed for the common types of developmental interventions managers use, and for the three levels of analysis of the organisation's work (learning) environment. As noted earlier, because clearly distinguishing between on-the-job training and coaching can be difficult in practice, since they are often used in combination, it was decided to collapse separate codes for each of these interventions into a more general one.

In the current study, the researcher, through coding and then later re-coding the same text, assessed reliability of text classification. Any ambiguities in the text and category definitions were resolved through this process. After the first transcript had been coded and later recoded by the researcher, the chief research supervisor checked accuracy of the researchers' coding. This check showed high reproducibility.

According to Patton (1990), the purpose for classifying qualitative data is to facilitate the search for themes, within a particular setting, or across cases. In this study, to facilitate cross-interview analysis, data was displayed through building matrices with a descriptive intent (Miles & Huberman, 1994). Rows were devoted to the numbers assigned to interview participants (1-17), and columns to either types of developmental interventions, or levels of analysis of the organisation's learning environment. At this point a decision was made to enter only relatively 'thick' descriptions (Miles & Hubermann, 1994; Neuman, 1994; Patton, 1990) that render the context well into the matrix cells, rather than to summarise or paraphrase. Thus cell entries in the matrices consisted of direct quotes taken from coded data segments located in the interview transcripts.

Teasing out themes, or looking for 'recurring regularities' (Patton, 1990) in the data, was the main tactic for drawing meaning from data related to the physical, social and

organisational aspects of the environment. This involved looking for both recurring phrases in the verbatim expressions of informants, and threads that tied together data. Using this tactic, a total of nine themes, which can be qualified by reference to the individual transcripts, emerged from the data. Data in the matrix display that met the definitional requirements of the types of developmental interventions managers use were also handled interpretively. These data were thoughtfully reviewed in relation to variables such as the participants, relationships, processes, acts, activities and events. Findings of the content analysis of the verbatim expressions of the seventeen participants in the semi-structured interviews are discussed in Chapter Four.

3.4   METHODS USED IN THE QUANTITATIVE STUDY

Keeping to the definition of research methods contained in Table 3.1, a mail survey and statistical analysis of the survey data were the two research methods used in the descriptive quantitative study. The following sub-sections present the rationale for the choice of these methods, and detail the procedures for development and administration of the survey instrument and analysis of the quantitative data.

3.4.1   Rationale for the Choice of Methods

As noted previously in this chapter, the current study included the small firm employee as a unit of analysis, and employed a research design that incorporates *both* depth and breadth by combining qualitative and quantitative methods of inquiry. It was thought that the use of traditional self-completion mail questionnaires would be the most effective method of gathering data from large numbers of employees in small firms. Although internet-based surveys seem to be gaining in popularity (Hair et al., 2003), this method of data collection would not have been appropriate, given the characteristics of the target population. For example, it is likely that a substantial number of employees in small manufacturing firms would not have access to a computer. A telephone survey would also not have been practical, given that most employees in small manufacturing firms would not work at a desk.

The survey data were analysed using a range of statistical methods suitable for answering the research questions. Descriptive (statistics) analysis and multiple regression analysis were the two main methods of data analysis. Other statistical methods were used, for the most part, in a complementary role to multiple regression analysis. In this study, descriptive statistics played an important role in the analysis of the employee survey data. For example, descriptive statistics was employed to analyse data related to employee perceptions of a range of work environment characteristics that either foster or constrain workplace learning. Multiple regression analysis, on the other hand, helped to determine if there was a consistent and systematic relationship between two or more variables, such as employee perceptions of work environment characteristics and employee satisfaction with learning. (Details of the statistical methods employed to analyse the mail survey data are contained in Chapter Five.)

3.4.2 Questionnaire Design

The questionnaire used for the current study (see Appendix G) was comprised of six sections (A-F). Section F collected general information about the respondent in seven areas: gender, ethnicity, employment status, tenure, nature of work, education level, and age. The other five sections (A-E) used positively (and a few negatively) stated propositions and traditional seven-point Likert-type scales to gather information used to answer the research questions. This basic approach (a positively or negatively stated proposition followed by a graduated response key using adverbs and verbs) is commonly understood as the distinguishing characteristic of Likert scales. Although the *agree-disagree* format is perhaps the most common form of Likert scale, other types of response keys also are widely used, such as the, *not at all useful-extremely useful*, format used in section E of the questionnaire (Hair et al., 2003).

The response keys in sections A to C of the questionnaire used a mid-point neutral response category (*neither agree nor disagree*), placed between the disagree and agree responses. In these three sections of the questionnaire, a midpoint response is theorised to indicate a level of the underlying attribute that is somewhere between the levels signified by disagreement

and agreement in a categorical continuum, that is, a mid-level intensity response. Thus, midpoint responses were coded to indicate a value higher than the disagree options and lower than the agree options. In essence, the middle response option signified the midpoint on the intensity dimension, and was coded as such. It was anticipated that most respondents would grade their intensity on a continuum from strongly disagree through neutral to strongly agree at the other end of the continuum. However, it was recognised that some respondents may understand the midpoint option in a manner analogous to a 'don't know' or 'not applicable' response category.

The response keys in sections D and E, on the other hand, provided a 'not sure' response option. It was anticipated that respondents in some firms would lack information about the performance of their work group (section D). In addition, some respondents would have difficulty retrieving from memory information about their sources and methods of informal learning (section E).

Likert scales commonly use negatively worded statements to circumvent the problems of response set bias (Hodge & Gillespie, 2003). This is the tendency of respondents to agree with a set of positively worded items. To counter this tendency, a few negatively worded statements (see A6, A11, C3 and D3) were interspersed with positively worded statements and then reverse coded. The use of negatively worded statements, however, may increase the level of cognitive complexity of such statements.

Requiring respondents to think across at least two dimensions – content and intensity – is a common criticism of Likert scales (see, for example, Hodge & Gillespie, 2003). When the agree-disagree format is used, respondents must evaluate the content of each stated proposition and decide whether they agree or disagree with the content of the stated proposition. In addition, respondents must assess their level of intensity regarding the stated proposition. Thus, Likert scales confound cognitive (content) and affective (intensity) dimensions by incorporating both dimensions into the response key. This may increase measurement error, because of cognitive complexity.

In the current study, this potential weakness of Likert scales was addressed by rigorously adhering to one of the principle tenets in constructing instruments. Great care was taken to ensure that each item was unidimensional, as clear and concise as possible, and the language and choice of words appropriate for the assumed education level and frame of reference of the respondents. The theoretical and empirical rationale for the items included in the questionnaire is discussed next.

3.4.3   Theoretical and Empirical Rationale for the Items

In this study, one research question asked: Are managers perceived as creating conditions in the work environment that are favourable to employee learning? To help answer this question, section A of the questionnaire measured the respondents' perceptions of conditions in the work environment, using a collection of thirteen items that broadly represents 'facilitating conditions'. In this study, facilitating conditions were defined as those conditions in the work environment thought to be favourable for an integration of learning and work (Ellstrom, 2001). Section A of the questionnaire was titled 'Learning Opportunities and Support for Learning'. (This title was considered to be more appropriate than 'Facilitating Conditions' for the frame of reference of the respondents.) Of the thirteen items included in section A, items A1-A4 were deemed to represent *learning opportunities,* and items A5-A13 were considered to be indicators of *support for learning.* Empirical support for this typology, using results of the current study, will be presented in Chapter Five.

Items A1 (opportunities to learn different tasks), A2 (opportunities to take on challenging tasks), and A3 (opportunities to choose own methods of working) measured perceptions related to task variety, task complexity and employee scope for action respectively. These three job characteristics are important determinants of the learning potential of a task (Ellstrom, 2001). Opportunities to practise and reinforce are necessary parts of learning any work task (Billett, 2001a; Noe 2005). By implication, to prevent skill atrophy, people need opportunities to use their skills and abilities (item A4).

Items A5 and A6 relate to access to direct guidance from workplace models who act as a learning resource and facilitator of learning. Numerous learning theorists (e.g., Billett, 2001a; Lave & Wenger, 1991) emphasise the role and importance of workplace models in relation to the quality and quantity of learning.

Item A7 measured perceptions of the extent to which mistakes are tolerated during learning. Making mistakes is generally believed to be part of learning. In fact, trial and error is widely considered an important method of learning (e.g., Billett, 2001a; Tannebaum, 1997). Item A8 measured perceptions of availability of time for reflection on the outcomes of work actions. Time for learning (Ellstrom, 2001; Tannebaum, 1997; Tjepkema, 2002a), through exchanging ideas with others for example, and reflection on action (Kolb, 1984) are factors that are assumed critical for facilitating an integration of learning and work.

Items A9 and A10 are indicators of conditions necessary for more developmental (innovative) forms of learning (see Ellstrom, 2001). Items A9 and A10 speak of feeling 'encouraged to experiment' and management welcoming 'ideas for change' respectively. Learning theorists such as Kolb (1984) and others have argued that such active experimentation is important for learning to occur. It has also been argued that errors, disturbances, and problems related to work processes offer important opportunities for learning and improvement in work processes and methods (see, for example, Ellstrom, 2001). By implication, it may be assumed that learning is facilitated if employees have wide scope for action, and the opportunity to participate in problem handling through providing ideas for change.

Reinforcement theory (Skinner, 1971) suggests that behaviour that leads to positive consequences is likely to be repeated. In this regard, item A11 pertains to feeling encouraged to learn new skills, while item A 12 relates to perceptions of rewards for learning in the workplace. Finally, managers who wish to encourage learning at and through work should serve as role models (Tannebaum, 1997). Accordingly, item A13 measured respondents' perceptions of the extent to which managers were providing learning leadership (modeling influences) in the workplace.

Section B (Supervisors' Support for Learning) gauged respondents' perceptions about workplace supervisor developmental interventions. In this study, developmental interventions were defined as deliberate, purposive and active interventions in the natural process of learning to achieve specific learning outcomes (Walton, 1999). The current study used a collection of questionnaire items that focus on behaviours workplace supervisors enact in one-on-one settings that are likely to foster employee learning.

Items B1, B2 and B3 are related to performance appraisal; a type of developmental intervention that is widely promulgated by management theorists as a means to achieve performance improvement and foster learning at work (e.g., Hall, Posner & Harder, 1989; Sashkin, 1981). Generally, the performance appraisal meeting provides an opportunity for the manager and subordinate to review the subordinate's past performance (item B1), and to identify the subordinate's learning needs (item B2). The manager should also provide feedback on the subordinate's performance (item B3). Feedback – information on the results of actions – is generally considered necessary for learning to occur (Ellstrom, 2001; Kluger & DeNisi, 1996).

Some learning theorists assert that learning is through problem solving. For example, Argyris (1991) defines learning as error detection and correction. Items B4 and B5 focus on the immediate supervisor's availability to 'talk about problems', and the supervisor *working with* employees to solve problems. Billett (2001a) points out that workplace studies suggest that workplace learning guides should have expertise in the work area, and thus be a rich source of knowledge to be shared with learners. However, beyond having expertise in the work area, another important role of the guides is to assist learning through joint problem solving with learners.

Item B6 relates to supervisors providing on-the-job training. Studies of management roles and activities (e.g., Kraut, Pedigo, McKenna & Dunnette, 1989; Moates & Kulonda, 1990) suggest that training, coaching and instructing employees how to do their jobs is a major management task, especially for first-level managers. Alternatively, as Billett (2001a)

suggests, workplace supervisors can facilitate the learners' access to direct guidance from more skilled others (item B7).

Evaluation is an important part of the process of learning (Knowles, 1990; Stewart, 1999). It is essentially concerned with assessing attainment of learning goals, as well as the process of achieving these goals. As noted in Chapter Two, the most commonly accepted approach to evaluating adult work-related learning activities is probably Kirkpatrick's (1998) four levels of reaction, learning, behaviour and results. Sections C and D of the questionnaire were based on Kirkpatrick's framework, and the items in these sections gauged the respondents' perceptions of the process and outcomes of their workplace learning experiences.

Section C of the questionnaire was titled '(Dis)Satisfaction with On-the-Job Learning / Job Competency'. '(Dis)Satisfaction with On-the-Job Learning' corresponds with Kirkpatrick's 'reaction' level of evaluation (Level 1). To produce this four-item measure, two items were added to Tannenbaum's (1997) two-item 'Satisfaction with Development' index measure. 'Job Competency' corresponds with Kirkpatrick's 'learning' level of evaluation (Level 2). To produce this four-item measure, Tannenbaum's (1997) three-item 'Self-Rated Competency' index measure was adapted. A word (proficient) in one of the three items was replaced with a synonym (capable), and one item was added.

Section D of the questionnaire was titled 'Work Group's Performance' and corresponds with Kirkpatrick's 'results' level of evaluation (Level 4). Items in this section gauged the respondents' perceptions of work group performance in terms of typical measures: quality, complaints from internal or external customers, quantity, and costs. Development of these items drew on team performance scales used in Edmondson's (1999) study of psychological safety and learning behaviour in work teams. Kirkpatrick's 'behaviour' level of evaluation (Level 3) was not included in the current study. In Kirkpatrick's framework, 'behaviour' usually refers to the extent to which learners transfer to their jobs their new knowledge, skills and attitudes learnt during formal, off-the-job training. Formal, off-the-job training is outside the boundaries of the current study.

Section E of the questionnaire was titled 'Aids to Learning'. Items in this section measured the respondents' perceptions of the utility of both sources of learning (items E1-E4), and methods of learning (E5-E7). Development of the items drew on results of empirical work by Billett (2001a) and Tannenbaum (1997). In these studies, workplace supervisors, other managers, and co-workers, were supported as being important sources of work-related learning. These studies also highlighted the importance of direct instruction, observation and listening, and learning through direct experiences, of both the challenge of everyday work activities and trial and error, as methods of learning in the workplace.

Section F (General Information) collected information about the respondent in seven areas believed to be relevant to studying informal workplace learning processes: gender, ethnicity, employment status, tenure, nature of work, education level, and age.

3.4.4 Pre-testing the Questionnaire

Questionnaire pre-testing, for the most part, followed the protocols recommended by Dillman (2000). The process started with knowledgeable colleagues, with diverse expertise, reviewing the draft questionnaire. Their feedback led to significant improvements in questionnaire content and layout. In particular, considerable time was spent revising and refining the wording of the questionnaire to ensure that questions were unbiased, easily understood and not subject to misinterpretation, and did not include workplace learning jargon.

This stage of pre-testing was followed by interviews, using the retrospective technique (Dillman, 2000), with nine respondents from two manufacturing firms of different employee size to evaluate cognitive and motivational qualities of the questionnaire. At the time of the pre-tests, six respondents were employed by the larger firm (near the 49 employees threshold) and three respondents were employed by the smaller firm (near the 10 employees threshold). Under the retrospective technique, the interviewer watches while respondents fill out the questionnaire, noting any behaviour that would seem to indicate a problem with understanding. After the questionnaire is completed, the interviewer asks

questions about each of these potential problems. Additionally, the interviewer asks questions that are intended to obtain feedback about the motivational features of the questionnaire, such as: Was it interesting? Would you have filled out this questionnaire if it had come to you at work?

Specific objectives of the pre-test were to: (1) evaluate how respondents interpreted the meaning of questionnaire items; (2) check whether the range of response alternatives were sufficient; (3) determine if the layout of the questionnaire was clear for respondents; and (4) assess motivational features of the questionnaire. Overall, feedback from the respondents indicated that questionnaire items were clearly worded and easily understood. Their comments on the questionnaire led to significant improvements in the layout of Section F (General Information). The layout of Section F is significantly different to the basic approach (a positively or negatively stated proposition followed by a graduated response key using adverbs and verbs) used in sections A-E.

During pre-testing, most respondents were able to complete the questionnaire within ten to fifteen minutes and their comments suggested that they found the questionnaire interesting. Respondents who participated in the pre-test were quizzed intensively about what they had in mind when they chose the midpoint of the scale (neither agree nor disagree) in sections A-C. Their responses strongly suggested that there were unavailable answers they would have preferred to give. Based on this feedback, a decision was made to increase the number of response categories from five to seven by including "somewhat agree" and "somewhat disagree" as response alternatives.

3.4.5 Sampling Procedure and Securing Participation

Lists containing contact (and other) details of a sample of 400 small manufacturing firms (with 10-49 full time equivalent employees) located in the central to lower North Island, were purchased from a reputable commercial database supplier (UBD). It was recognised that, like any small business database, UBD's would be incomplete and inaccurate, since the accuracy of contact information is likely to deteriorate rapidly in a highly fluid

economic environment (Tweed & Massey, 2001). Therefore, before drawing a sample from the sampling frame lists, the lists were carefully examined to identify and remove elements that clearly did not belong to the target population. Using these 'clean' lists as the sampling frame, a systematic sampling procedure that involved selecting every third firm on the lists (Zikmund, 2000) was employed to randomly select firms that would be invited to participate in the study. One hundred and twenty (120) firms were selected from the sample frame. During recruitment of firms to participate in the study, inevitably, some firms (from the 120 selected) were unsuitable as they fell outside the specified size category. This was because they had changed size since the database was last updated. In such cases, other firms on the database were substituted. Securing firm-level participation in the survey involved two steps. A brief description of each step is provided below.

First contact: Pre-notice letter

The survey sequence was started with a pre-notice letter (see Appendix E). The pre-notice letter provided a brief, personalised, positively worded notice that the recipient would be receiving a telephone call to request help with an important study. The aims of the pre-notice letter were to: (1) introduce the study; (2) minimise perceived costs and maximise perceived rewards of participating in the survey; (3) establish trust; and (4) build anticipation, rather than provide details for participating in the survey.

The pre-notification letter contained a brief statement of the purpose of the survey. Additionally, a questionnaire and an information sheet (see Appendix F), both marked 'copy for your information', were enclosed with the pre-notification letter. The questionnaires were formatted as attractive booklets. A3 sheets were folded in half resulting in a four-page questionnaire. The cover letter, questionnaire and information sheet were carefully folded and placed for mailing into a regular envelope. Mailing labels were used for the respondent's name and address.

Methods of attempting to minimise perceptions of costs of participating in the survey included trying to reduce the manager's expectations of the amounts of effort and time involved, and eliminating direct monetary costs of mail questionnaires by offering to

provide self-addressed, postage-paid return envelopes. The pre-notice letter pointed out that the straightforward survey questions would take only about ten minutes to complete, and that the questionnaire could be completed outside work time. Furthermore, the pre-notification letter suggested that the owner-manager had to just distribute the questionnaires and self-addressed, postage-paid return envelopes to staff.

The approaches that were adopted to increase the owner-manager's sense of reward included personalising the correspondence, offering to send survey results for the owner-manager's firm, and explaining how the study could benefit the owner-manager and firm. Specifically, these potential benefits were the owner-manager developing a better understanding of how people learn at work, which could help managers in small firms become more effective staff developers. In addition, providing the survey results for the owner-manager's firm could help the owner-manager identify areas for improvement in employee development.

It was anticipated that including the names, official titles and contact details of the researcher and both research supervisors in the pre-notification letter, and reproducing this letter on Massey University stationary, would contribute toward establishing a trust relationship. The recipient's name and address, the exact date the letter was mailed, and the researcher's individually applied signature was also included.

Second contact: Follow-up telephone call
Addressees were contacted by telephone within a week of mailing each batch of 20-25 cover letters, questionnaires and information sheets. The primary aim of the follow-up telephone call was to determine if the owner-manager had received the letter, questionnaire and information sheet, and had read these documents. When it was established that the owner-manager had received the documents, and had read them, the aim was to recap the benefits for the firm of participating in the study, and to respond to objections that the owner-manager raised. The most common reason given by owner-managers for refusing to participate in the survey was, 'staff are too busy'. Other reasons included: staff have poor English language skills and will have difficulties completing the questionnaire; no interest;

and participating in the survey will not benefit the firm. If the owner-manager agreed to allow staff to participate in the survey, the three survey implementation options (see below) were briefly explained to the owner-manager

3.4.6 Survey Implementation Processes

Three methods of survey implementation were used: (1) group administration; (2) in-person drop-off-and-collect method; and (3) the postal system. Each method is described below.

Giving the questionnaires to an assembled group of staff to complete was the most efficient method of survey implementation in the current study. Following Dillman, (2000), a protocol for group administration of the questionnaires was developed to keep the questionnaire completion environment the same for all groups and individuals. A nearly identical introduction was provided to all groups by the researcher, consisting of these elements: (1) an expression of appreciation for their willingness to participate in the survey; (2) a brief description of what the survey was about in a limited way (similar to what is explained in the cover letter); and (3) a brief description of the task. In essence, this involved completing the questionnaire, putting the questionnaire in an envelope, and then dropping the envelope through the slot in a box that was provided. Questions were discouraged, in a subtle manner, prior to and during administration to avoid giving additional information that other respondents might not receive. During the introduction, comments were made aimed at amending possible misperceptions of a test environment (for example, 'there are no right and wrong answers'). After the brief introduction, each respondent was given a questionnaire, information sheet, envelope and pen. Appreciation was expressed once again to respondents as they deposited completed questionnaires in the box.

The in-person drop-and-collect method of survey administration involved visiting owner-managers at their firms to drop-off questionnaires and to agree on suitable times to collect completed questionnaires. Each owner-manager was given sufficient numbers of questionnaires, information sheets, envelopes, pens and a sealed box with a slot. Where

appropriate, a sheet of flip-chart paper containing written instructions to respondents was also provided. Making personal contact with owner-managers afforded opportunities to discuss appropriate arrangements for administering the survey in their firms, and to reinforce and strengthen their commitment to participation in the survey.

Some owner-managers preferred to have the questionnaires delivered and returned by mail. This approach to survey implementation was also used for other reasons, mostly related to firm location and resource constraints. The mail out package consisted of a covering letter to the owner-manager, and sufficient numbers of questionnaires, information sheets and postage-paid pre-addressed envelopes for respondents.

Using the three survey implementation processes described above, questionnaires were completed by employees in 31 firms. All employees in the operating cores of these firms, such as machine operators, maintenance staff, supervisors, foremen, production managers and production planners were invited to complete the questionnaire. The table in Appendix H contains details about firms that participated in the study in regard to types of manufacturing, numbers of employees in the operating cores, numbers of useable responses and response rates within firms. A total of 464 useable questionnaires were received from employees in these firms.

3.4.7 Analysis of the Survey Data

Using the Statistical Package for Social Sciences (SPSS), a range of statistical methods was employed to analyse the mail survey data. In the current study, univariate, bivariate and multivariate analysis was conducted. Descriptive statistics helped explore, understand and describe the characteristics of individual variables through measures of central tendency and spread. Correlation analysis was employed to analyse relationships between two variables, and to summarise the degree to which values in two variables correspond with each other. Finally, in the analysis of the data, multiple linear regression analysis was used for testing the association of multiple independent variables with a dependent variable. Details of the statistical analysis of the mail survey data are described in Chapter Five.

3.5   STRATEGIES FOR DEALING WITH ETHICAL ISSUES

All procedures for the collection of data that involves human subjects were carefully adhered to and overseen by the university's human ethics committee. Ethical issues and strategies employed for dealing with these issues are discussed below.

3.5.1   Access to Participants and Informed Consent

Lists containing the contact details of the firms that were invited to participate in the study were purchased from a commercial database supplier. From these lists, research participants were recruited through letters sent to owner-managers of firms (see Appendix A and E) and through follow-up telephone calls. To recruit participants for the initial qualitative study, each owner-manager was asked to take part voluntarily in an interview, and to also seek a volunteer employee within the firm to participate in an interview. To recruit participants for the mail survey research, a letter was sent to each owner-manager that requested the owner-manager (a) to volunteer to the firm's participation in the survey; or (b) merely allow the researcher access to employees in the owner-manager's firm with the view to recruiting voluntary participants. Participation by the firm (option a) is similar to option (b), but (a) suggests a higher level of owner-manager 'buy-in' to the survey. The most appropriate method of contacting employees about the survey were discussed with those owner-managers who agreed to either firm level participation in the survey, or who merely allowed access to employees.

In regard to informed consent, before commencing each interview with the volunteers, an Information Sheet (see Appendix B) was given to the participant and its content explained. The participant then signed the Informed Consent Form (see Appendix D). With the permission of the volunteer owner-manager, and that of the volunteer employee, separate tape-recorded interviews were conducted. An Information Sheet (see Appendix F) was enclosed with each mail survey questionnaire and contained a statement that, 'completion and return of this anonymous survey implies consent'.

3.5.2 Confidentiality and Anonymity

Promises of confidentiality and anonymity were rigorously adhered to. In regard to the initial qualitative study, all paper copies of raw data and audiotapes are stored in locked cabinets in the researcher's office at Massey University. Data in electronic format is stored on the Massey University server and is accessible only by the researcher using a secure password. The person who transcribed the audiotapes signed a confidentiality agreement. Reported results are summarised in a manner that will preserve the anonymity of the respondents. In regard to the anonymous mail survey, answers to questionnaire items are strictly confidential and will be released only as summaries in which no individual's answers can be identified. Organisation specific summary statistics were provided to only those firms with a response rate of 50% or greater. Thus, it was not possible to identify an individual employee respondent with his or her responses.

3.5.3 Promises and Reciprocity

Each owner-manager and employee who participated in the initial qualitative study was provided with a summary of the findings of this phase of the study. The owner-managers of firms that participated in the mail survey were also provided with the results for their firms. Some employees in these firms requested a copy of the mail survey results, and these requests were met.

3.6 SUMMARY

This chapter described the research design, and qualitative and quantitative methods of inquiry employed for the current study. It began by identifying limitations of prior research in the area. Then the research design for the current study was explained and justified. Procedures for conducting both the initial qualitative descriptive study and the quantitative descriptive study were described in detail. The chapter included a discussion of strategies to address ethical concerns in carrying out the study.

CHAPTER FOUR

HOW MANAGERS FOSTER EMPLOYEES' LEARNING

As described in more detail in Chapter Three, the exploratory descriptive part of the current study involved semi-structured interviews with owner-managers, managers, and non-managers in small manufacturing firms (10-49 employees) located in the Wellington region. Verbatim expressions of the interview participants were analysed using content analytic procedures. This chapter presents findings of the content analysis of verbatim expressions of the seventeen participants and discusses the relationships between the findings and the literature. The research questions (initially introduced in Chapter Three) guiding this part of the analysis were:

1. Are managers perceived as creating conditions in the work environment that are favourable to employee learning?
2. What kinds of developmental interventions are managers using to foster employee learning?

The organising framework that was used to begin sorting the interview data consisted of the three levels of analysis of the work (learning) environment, and five common types of developmental interventions managers use (see Table 3.5). Figure 4.1 presents these eight organising framework categories and serves as an organiser for the analysis that follows.

Levels of analysis of the work environment	Developmental interventions
Organisational	On-the-job training
Social	Coaching
Physical	Mentoring
	Delegation
	Performance appraisal

Figure 4.1.

Framework guiding presentation of the findings

Discussion of the findings of this part of the current study thus addresses (1) the effects of managers on salient elements of work environments that influence informal workplace learning and (2) the types of employee development interventions used by managers in the small manufacturing firms studied. The dominant themes of the respondents are illustrated by quotations. In the discussion that follows, insights from this part of the current study are linked to existing theory, and where appropriate, links between the context of the current study and other contexts are also established.

Table 4.1 provides basic details about the organisations and interview participants. To protect his or her identity, each participant (P) has been assigned a number from 1-17, and actual names used in the illustrative quotations have been changed.

Table 4.1

Organisations and interview participants

Type of manufacturing	Number of employees	Job title of interviewee
Architectural aluminium products	10	Company manager (P1)
Cake and pastry	13	Owner-manager (P2)
Cake and pastry	16	Owner-manager (P3) Apprentice (P4)
Commercial art and display services	42	Owner-manager (P5) Administration director (P6)
Commercial furniture	25	Marketing manager (P7) Leading hand (P8)
Commercial printing	25	Production team leader (P9) Production worker (P10)
Ice cream	30	Owner-manager (P11)
Industrial machinery and equipment	23	Owner-manager (P12) Foreman (P13)
Sheet metal products	20	Owner-manager (P14) Supervisor (P15)
Transport equipment	18	Owner-manager (P16) Production-co-ordinator (P17)

4.1 WORK ENVIRONMENT CONDITIONS

As previously described in Chapter Two (Review of the Literature), managers play a key role in creating conditions in the work environment favourable to learning (e.g., Dubin, 1990; Tannebaum, 1997). Knowles (1990) contends that for the purpose of examining its effects on learning, the work environment can be classified into the (1) organisational, (2) social, and (3) physical environments. In the following sub-sections, this three-level analytical framework is used to discuss findings of the content analysis of the verbatim expressions of the interview participants regarding the effects of managers on salient elements of work environments that influence informal workplace learning.

4.1.1 Organisational Environment

While the notion of an organisational environment involves numerous sets of ideas, five themes at the organisational level emerged from the interview data that have important implications for employee learning.

Several comments made by numerous participants revealed the theme of managers *providing access to a range of work activities* (Theme 1):

> *If we'd train a fitter and turner, we'd train him in every aspect. They do a stint on the automatics, they do a stint on the capstans, they also get involved on the presses. Then they get into the drafting side, learning the shrinkages on dies and this sort of thing, and they spend time in the tool room. So when they leave here they can do a variety of jobs, including welding or, you know they are taught the whole lot right through. (P13, Foreman)*

> *Most of the processing would just take a basic operation for a start...our engineering area...they may start simply by cutting lengths of steel to the appropriate lengths, they may or may not set up the saw to do that. The next thing they may be working on a drilling machine, lathe, or eventually they may show some aptitude to move through to welding. (P5, Owner-manager)*

> *There is an element of multi-skilling that goes on. So when there is pressure in one department some of them may work in our wire area, and become an acrylic worker, or an acrylic worker may become a sheet-metal worker. And they may suddenly find that they weren't coping at all as acrylic workers but*

they get into sheet-metal and for some reason they have an affinity for that department and they tend to stay there then. (P5,Owner-manager)

We're not cruel, we don't get someone to just do the same thing over and over. But if they've got the attitude to learn more and more, there's the room here to pick up basically the trade. (P14, Owner-manager)

Although work assignments presented opportunities for growth and learning in these small businesses, this was by no means always the case. As the quotations below illustrate, other businesses seemed to be characterised by low skilled work, with low learning potential. Two such businesses used job rotation to reduce boredom, rather than as a learning mechanism, as suggested by Ortega (2001) and others.

There is some job rotation that occurs within a particular workstation. But because we're not that large a company, just for the sake of making sure that they are able to do all jobs where you do your filling and your packing, and it's a fairly mundane job, they simply rotate every hour round in a circle in a group of five people. (P11, Owner-manager)

If you sat on the machines all day you would get bored. So yeah, I try to rotate them around, so they get 4 hours on this machine and 4 hours on that so they are not doing the same thing. So I do rotate them to try and keep the morale up a bit. (P8, Leading hand)

This is interesting because there is a consistent view in the literature that job assignments, the kinds of work activities that individuals engage in, can be a primary source of learning for employees in the wide variety of workplace contexts (e.g., Billett, 2001a; Campion, Cheraskin & Stevens, 1994, Ortega, 2001). For example, according to Billett (2002, p.4), "engagement in work activities incites change in individuals' capacities: learning." And job characteristics, such as task complexity, task variety and scope for action are important determinants of the learning potential of a work system (Ellstrom, 2001). Managers who provide access to a range of vocational activities within the organisation may therefore intentionally, or unintentionally, make effective contributions to employee learning, through learning that is necessarily embedded in the goal-directed activities of work.

In New Zealand, increased demand for skill development has been accompanied by renewed interest in apprenticeships that have both formal learning (in a polytechnic or private training establishment), and structured informal learning (in the workplace) components. Related to this, *support for apprentice learning* emerged from the data set as a theme (Theme 2). Managers in four firms demonstrated tacit support for the Modern Apprentice scheme by employing apprentices. The remarks by a supervisor and owner-manager suggest that in their organisation a considerable level of support is available for apprentice learning. When asked about his role in facilitating apprentice learning, the supervisor said:

> *Everybody contributes, the other tradesman here, we all sort of play a part here, which is what I think should be done in training apprentices, everybody has an input. (P15, Supervisor)*

Billett (1994) supports this view. He contends that when planning learning arrangements for apprentices, it is desirable to facilitate access to more than one expert or experienced co-worker in order to provide a range of models, coaches and support.

As well as the supervisor's remarks, the owner-manager's comments also suggest, that in his business, apprentices are singled out for special attention in the provision of learning support:

> *We have two apprentices, which I'd say is about as formal as one can get for New Zealand training. We also take on the attitude that the sooner the person can learn the trade, the sooner he's worth a lot more value, no matter what his wage is, if he knows comprehensively the trade. It's worth taking the attitude that with apprentices, you give them as much concentrated learning in the beginning, particularly in the first year so that they are of more value. But on the other side, we don't sign off their paper work until they've had the experience. So they could do their apprenticeship training in one year, do a year of getting work, getting experience, and in the third year they could sign off their apprenticeship. (P14, Owner-manager)*

However, these comments by P14 may also reflect the tension between learning and production that is thought to characterise the manufacturing sector (Brooker & Butler, 1997). In other words, if apprentices can acquire competence quickly, then their ability to

contribute to productivity is accelerated. But once an apprentice becomes productive, the emphasis on learning may be diminished. Brooker and Butler (1997) caution that "if the balance is weighted in favour of production then the apprentices' perspective can be tarnished as they come to believe that being a tradesperson is not about being a learner" (p. 503). This is consistent with the view of Boud and Middleton (2003), that informal learning is often not acknowledged as learning *within* organisations. Rather, in their view, it is typically regarded as merely being 'part of the job' or a mechanism for 'doing the job properly' and is thus rendered 'invisible' as learning.

In contrast, two research participants in one firm did not support the Modern Apprentice scheme. The owner-manager of this firm said:

> *I wasn't altogether happy with it, but I suffered under it until I realised just what they were at, it's only what I've thought out later on. I believe it's good in this way, if you haven't got enough items in your factory to give to people to give them proper training, it's good that you can go to another factory to get further training to fulfil what you want to do. But I think it also interrupts a man's progress, and he learns too many different ways of doing it. I find that the way that some people do it in other factories, I just don't like it at all. (P12, Owner-manager)*

This comment also illustrates the highly contextualised learning environments of small firms (Gibb, 1997). In firms that were investigated in this part of the study, learning was tailored precisely to individual and small firm needs, and the workplace's norms and practices structured the learners' activities and shaped their learning (Lave & Wenger, 1991). However, this owner-manager acknowledged that his employees might be disadvantaged by not having their work-based learning recognised through the Modern Apprentice scheme:

> *There is only one trouble with it under this present system; they never get the full qualifications as a tradesman because there is nobody here to assess them. That is the one problem with it. All we can say is when they leave here if they want a reference we'll give it to them, and we do so. (P12, Owner-manager)*

In the same firm, the foreman complained about resource requirements of the Modern Apprentice scheme:

Too paper intensive it is, and you have to have someone to assess them, and you've got to have someone in-house to assess them. And that creates another problem. In a small company you haven't got the staff, you're not carrying the staff, you know, you've got to carry someone specifically for that work. (P13, Foreman)

Similar concerns about the Modern Apprentice scheme, and reluctance on the part of employers to take on apprentices, have also been highlighted in other New Zealand research (Massey et al., 2004b). But even within those New Zealand firms that have taken on apprentices, some research is suggestive that there may be reason to doubt the effectiveness of support in the workplace for apprentice learners. For instance, in a study by Brook and Butler (1997) in Australia, workplaces were characterised by numerous barriers to learning, including a tension between production and learning for apprentices and other employees, unstructured training, and an expectation that the initiative to learn would come from the apprentice.

The notion of family was a very important within the data set, and related to this, managers *encouraging recruitment from the employees' familial and social milieu* emerged as a theme (Theme 3). As seems to be the case with most small businesses (Gilbert & Jones, 2000; Marlow, 2000), 'word-of-mouth' was the preferred method of recruitment for firms that participated in the qualitative part of the current study. Managers seemed to allow employees substantial autonomy in attracting new workers, and were thus ceding considerable discretion over the recruitment decision. According to an owner-manager:

I haven't advertised for any production staff for six years, and when somebody leaves the production staff find their own replacements. (P11, Owner-manager)

Generally the recruitment process involved managers encouraging their workers to ask friends and relatives to come to work for them. This made it more likely that new recruits would be from the workers' familial and social milieu:

A lot of the actual production line work, that's pretty well all ladies, and with quite a strong Island...there's a good mixture out there of different Island groups and Maori. But they just seem to find their own replacements. I think probably a lot of the Island ones come from within a church group, and there's about three members of one family out there. (P11, Owner-manager)

According to Ram and Holliday (1993) and Marlow (2000), this practice of giving jobs to workers by virtue of their 'family' status, is inextricably linked with an important quality that an individual can bring to the job, which is to be able to 'fit in' with the existing workforce and organisational culture. Workers hired probably share the characteristics of those who recommend them. Those workers who help recruit a new employee from their familial or social milieu are likely to take the initiative in socialisation of the newcomer, and subject the new recruit to informal surveillance (Perry, 1999). As an owner-manager put it:

We've tended to hire family members in many cases. So, probably in a company of 20, 4 families. There is obviously a bit of pre-employment training that goes on within the family, so that has its challenges, but probably makes things a bit easier as well. (P16, Owner-manager)

This comment by P16 suggests that some newcomers may already have started the process of being acculturated into the organisation, and developing an understanding of requirements of the owner-manager, before commencing employment.

Such informality in recruitment may also be viewed as a means of furthering management's indirect control over the workforce (Holliday, 1995) and shifting management's overall responsibility for the initial training and job performance of newcomers to workers.

The good thing about it is that if somebody is not doing the job properly you really don't have to do much. They sort it out themselves. Very much so. And I stay out of it. I just speak to Mareikura who is the Union delegate and she's on that main packing production area and we just don't have to worry about whether anyone's up to the job because the rest of them keep them up to the job. Or you'll find that one will just suddenly stop turning up and I'll say, 'She's not turning up', and they say, 'No, she's left, but I've got another girl lined up'. (P11, Owner-manager)

The next excerpt also seems consistent with Ram and Holliday's (1993) view that "small firms are saturated with the ideology of the family" (p.629).

> *I came home from work one night and he said 'I'm leaving school'. And I said 'No you're not!' He said, 'Yeah, I'm leaving school'. He said, 'I've got an apprenticeship.' So I thought, oh, okay, 'Where have you got this apprenticeship?' He said, 'Where you work'. So the system had been shortcut, I didn't get spoken to about it at all. But he served his time and he's doing really... in Hamilton... he's doing really well up there now. And I probably was harder on him than anybody. (P13, Foreman)*

These comments suggest the foreman gave his son extraordinary attention as a learner. They also provide further evidence that the extensive familial involvement, which is encouraged in some of the small firms studied, could have important implications for employee learning.

Employee selection methods used by some managers also seem to have important implications for employee learning. Data captured during fieldwork suggests that in small manufacturing firms it may be common to *use employee selection methods that also help diagnose the learner's current skill level* (Theme 4). These methods include assessing potential new employees on the job using work sample tests, and employing staff on a 'trial' basis:

> *But they basically go out there and they sit on a sewing machine and the operators out there tell us whether they can sew or not, what they can do, and what they think. That's way better than me saying, I like this person. Because if they can't sew, they can't sew. (P16, Owner-manager)*

> *Our main recruitment area is when we have major peaks of work we tend to bring on casual contract labour to help us through that peak. And we often pick the eyes out of those people that come in. They might be here for two to three months, and that's long enough to assess those sorts of people and their value to what we do. (P5, Owner-manager)*

> *My interview with a lot of people that I employed would be no more than two minutes. 'Don't tell me how good you are, you've got one week to show me. Don't tell me you're the best thing in the world, show me.' (P14, Owner-manager)*

In addition to providing managers with information to select an employee, such employee selection methods could also help diagnose the person's current skill level, and provide managers and other staff with information about the learning needs of the new recruit.

Usually we throw them in the deep end and see how they sort of swim. And we did that with Marcel and he did very well. He did some very difficult tasks that will require quite a bit of training, and he was doing them on his first day and in his first week. So he was very skilled in picking up skills, and doing it quickly. And then you just gradually learn what his weaknesses and his strengths are. And you apply what would help his strengths and what would help his weaknesses. (P15, Supervisor)

The interview excerpts used here to illustrate the theme *use employee selection methods that also help diagnose the learner's current skill level,* as well as other comments by respondents, suggest that it may be inaccurate to characterise learning arrangements in small firms as 'unstructured' and 'ad hoc'. In contrast, it could be argued that the interview excerpts highlight strengths of informal, well-established learning practices in the small firms studied. Although formal identification of training needs is practised more frequently in larger firms (e.g., Sadler-Smith, Sargeant & Dawson, 1998; Vikerstaff, 1992), it could reasonably be argued that employee selection methods used by some firms that participated in the current study may, inadvertently, also serve as a mechanism to identify the learning needs of new recruits. Supervisors and more experienced co-workers can then identify and select tasks appropriate to the learner's level of readiness, and establish pathways of learning activities that provide engagement in tasks of increasing accountability and complexity (Billett, 2001a; Lave & Wenger, 1991).

Lastly, managers *sponsoring programmes that facilitate organisational socialisation* emerged as a theme (Theme 5). Respondents in six different firms made specific reference to the induction programme in their respective firms in the context of fostering employee learning. The owner-manager of a firm, which has only 13 employees (close to the 10 employee threshold), described the typical approach to facilitating socialisation of a newcomer in his firm:

If someone new starts we don't really have a formal induction. We would probably show him around the first day and explain a few things about hazards, safety hazards, and wash your hands, and about uniform and bits and pieces. And then really it's just working alongside someone is how you learn what to do. (P2, Owner-manager)

In contrast, in larger organisations, the programmes aimed at facilitating organisational socialisation are often characterised by processes that are formal and collective (Griffin, Colella, & Goparaju, 2000). Similarly, in this study, firms with larger numbers of employees (closer to the 49 employee threshold) provided induction programmes that seemed more formal than the previous example:

There is an induction programme, then there is departmental training. So induction covers the more general aspects, company rules and how we work as a company. And then the next step is training them in the department. (P5, Owner-manager)

When they start the person who controls those programmes takes them around the whole factory and plant and shows them all of the things pertaining to health and safety, and food safety. It probably only takes about an hour or an hour and a half. And there's no way they're going to retain all of that, but at least they see that there is a system in place affecting all areas of their work. Because particularly with the food safety issues they have to know there are areas that you don't go or if you do go into these areas then when you come back you must wash your hands, you must always go through the water baths, things like no jewellery and all those sort of things. And they've got to realise that they are very, very important in this workplace. If they haven't worked in food before there's quite a learning curve. (P11, Owner-manager)

It should be noted that it would be simplistic to equate the complex, prolonged process of socialisation, with a brief induction phase as described by these respondents. Such induction should facilitate socialisation, but does not take its place. Socialisation is largely carried out 'naturally' and in an informal manner, though sometimes unconsciously (Analoui, 1993). Nevertheless, a properly planned and executed induction programme can help socialisation processes along.

Findings of this component of the study thus suggest that managers view organisational socialisation as an important learning process, by which newcomers develop attitudes,

behaviour, and knowledge needed to function as fully-fledged members of the organisation (Ardts, Jansen & van der Velde, 2001). The more effective and efficient the socialisation, the sooner a newcomer can be productive for the organisation. Successful socialisation processes are likely to speed up task-related learning (Analoui, 1993). Managers in small firms who sponsor programmes aimed at facilitating organisational socialisation thus make an important contribution toward establishing a supportive framework for their employees' initial work-related learning.

4.1.2   Social Environment

Three themes related to the social environment emerged from the interview data. These themes were the need to: (1) promote communication in the workplace; (2) facilitate access to direct guidance from models; and (3) designate learning facilitators. Each theme has important implications for employee learning.

In this component of the current study, the close relationship between the quantity and quality of communication in the workplace on the one hand, and the quantity and quality of employee learning on the other, was a recurring theme. Participants in several firms provided numerous examples of how communication in their workplace either facilitated or constrained learning. In this regard, managers were perceived as having an important responsibility to *promote communication in the workplace* (Theme 1).

We did have one particular person who was in charge of production and he was a very negative person, he had alcohol problems and real serious health problems, and he was just like a barrier. Very, very good at what he did, but his relationship with his staff was bad and he was very bad at getting anything out of them. Over the last 6 months we've had quite a significant change, we've got a new production manager in, who is much, much better in terms of the whole area of communication with staff. Although he struggles with English, he is actually an Israeli, he's far more open about what he's doing, he explains what he's doing and he includes the people around him in the process of trying to solve a problem. With the two people that did finish the Dale Carnegie course and with him coming in there's a far more relaxed and free flow of communication right through from sales and marketing and administration into production. And that I think has seen people taking more responsibility for the things that they're involved in doing. (P11, Owner-manager)

Accessibility of managers was often cited or implied by respondents when describing factors influencing communication and learning in their workplaces.

I operate a totally open door policy, apart from when there is too much noise. Very rarely does my door ever get shut, and staff know that they can come in here at any time and they do, frequently. And that's all staff, they don't have to go to a supervisor first. Because they might be wanting to complain about a supervisor or something, and they know that. But apart from that I make a deliberate effort to have at least lunch or morning tea with the staff. And that ensures that I'm accessible. And we're only a small organisation, and so that part of it works very well. (P11, Owner-manager)

Out here it's open plan, and I'm a great believer that a lot of learning goes on in the open plan. (P16, Owner-manager)

Novice employees were expected to take responsibility for their own learning, and engage in learning behaviours, including seeking feedback and asking for help. Supervisory staff emphasised that they encourage learners to engage in such learning behaviours:

They are shown by two or three different people, and are quite able to go and ask. Most of them here are able to go and ask what's the problem. (P12, Owner-manager)

And I said, 'Look Anthony, if you're not clear ask. I don't care if you ask me a hundred times. I'd sooner tell you a hundred times and you get it right than get frustrated with it.' (P13, Foreman)

In two organisations it was reported that some production workers had low levels of English proficiency. This was considered a major barrier to workplace learning.

We've got quite a few different languages out there. There's Greek, and Samoan, and Maori and Indian as well, so there's quite a mix of different ethnic backgrounds, which can make communication a little bit hard at times. Yeah, it can be a problem, especially in perhaps a staff meeting where not everybody understands what is being said and it can lead to confusion and mis-communication and even an instruction to do something can occasionally lead down the wrong path. (P17, Production Co-ordinator)

An owner-manager explained how she tried to limit negative effects on the learning of employees' who lack proficiency in English:

I'm just lucky in that I've got a really good team that are all really keen to learn. But then I've also got three Indians. And so communications are sometimes not perfect because of the language barrier and that. But I mean, they are just as keen to learn as my two young guys. So one of the guys is pretty good at English, and we get him to transfer everything into Indian for them. So that just helps them along so that they get a better understanding of where we are all going. (P3, Owner-manager)

It seems lack of English proficiency, particularly among the production workers, may be a factor that constrains communication, and thus learning. Nevertheless, the comments of some managers (such as P3) who participated in the current study suggest they are committed to encouraging a free flow of communication in the workplace.

Discussion of the findings thus far highlights the critical importance of communication in relation to facilitating workplace learning, and the manager's task of promoting communication in the workplace. Other research (see, for example, Sambrook & Stewart, 2000) has also identified improving communication as a key strategy to foster workplace learning. Communication is considered an integral part of an organisational learning cycle (Dixon, 1994; Nonaka, 1991), in which new knowledge is created, captured, shared and implemented (Sambrook & Stewart, 2000). Tjepkema, ter Horst and Mulder (2002c) argue that adequate upward communication is important in this respect, to allow learning experiences from employees at different organisational levels to be transferred to other levels. There is thus a consistent view within management theory that managers can play a key role in facilitating learning by creating an open communication climate, and encouraging dialogue in the workplace (Senge, 1990a). Peer communication and interaction within the organisation is considered an important influence on learning (Kaufman, 1990). Managers can facilitate peer communication by encouraging employees to use each other as information and learning resources (Lang & Wittig-Berman, 2000).

Related to this, numerous respondents stressed the importance of learners' interaction with more experienced co-workers who are able to guide novices through the complexities of practice (Lave & Wenger, 1991). In this study it was evident that managers play an important role in *facilitating the learners' access to direct guidance from models* (Theme 2).

If I was to give an employee a job that he hadn't done before, or a new employee work, the best option is to put him with somebody who has done the job before. In that way they can communicate with that person as to why they do these things, and the process in which they do them. And that may happen a couple of times and then that employee who is new would be put on that job by himself and then he would learn that way by doing it himself and also pick up the individual skills to do it, and come up with different ideas as to how it can be done better and more efficient as well. So that's generally how, if it's a difficult task. We usually employ somebody who has got the practical skills to do some very basic task anyway, so we can give them some basic jobs straight away just to see how they go with those sorts of thing. And that's sort of a process of learning a skill. So that's generally how it operates here. (P15, Supervisor)

The following excerpt further illustrates how a manager contributes to an employee's learning through facilitating access to close guidance from a co-worker who can reveal 'tricks of the trade'(Billett, 2001a) that novices are unlikely to discover on their own.

What we tend to do is try and pair guys up. So there is one guy, for argument sake, has been here for about five years, and he works virtually exclusively on the roller doors. So what we will do is, one of the guys will say, 'I'm not doing enough roller doors'. So we can afford to send him out for half a day, so we will send him out with Peter for half a day. So he's working with Peter who knows all about the roller doors. And there are little tricks here and there that they pick up, a lot of it is really little tricks that you pick up here and there. (P1, Company Manager)

Although access to direct guidance from models was seen by participants as crucial to development of vocational knowledge and skill, indirect guidance, such as learners listening to and observing other workers, was also considered important:

But as far as training goes, it's watching others, it's watching Adam and other people. There's not anything formal about training or skill development. (P15, Supervisor)

These interview excerpts illustrate the vital importance of direct guidance from models (Billett, 2001a) and more distal support through observing and listening to other workers (Bandura, 1977) in the process of learning at work. However, some experts and experienced workers may be reluctant to share their knowledge. They may fear

displacement, or challenges to their status, by those whom they are assisting to learn (Billett, 1995; Lave & Wenger, 1991). What's more, providing learning support may reduce their productivity, and their contributions to the learning of others' may not be rewarded, or at least recognised (Billett, 1995). This highlights the need for managers in organisations to create a social environment that is perceived by workplace participants to be favourable for knowledge sharing.

Managers provided a structured form of personal support for learning in some firms by *designating learning facilitators* (Theme 3). For example, in three firms a specific member of staff was responsible for the management and delivery of one or more programme, such as organisational socialisation or health and safety.

> *Cathy Brown, who is the administration director here, she does recruitment, interviewing, the induction side, and then on-going HR management. (P5, Owner-manager).*

> *She does all that induction, and she runs our food safety programme, keeps it all up to date. And does the same with our health and safety programme (P11, Owner-manager).*

> *I basically set up the health and safety systems as well, and my interests are in the trade from a health and safety perspective. So when they come on board, basically there is an induction into the areas of emergency procedures and basic things like that. And then after the general induction when we've got everything sort of administratively sorted out they are basically handed over to their department manager. (P7, Marketing manager)*

These excerpts also illustrate what appears to be a key 'learning trigger' in the firms studied: health and safety regulatory requirements. Learning safe work practices is obviously especially important in the manufacturing sector. But this needs to be considered in relation to limitations of workplaces as learning environments (see Billett, 1995). One such limitation is concerns about transference of responsibility. For example, in Billett's (1995) study, workers reported being suspicious of safety training programmes, which they perceived as merely a means to pass the responsibility and liability for safety on to them. But above all, the values embedded in workplaces, and what is modelled, may lead to construction of inappropriate knowledge (e.g., bad habits, shorts cuts and unsafe work

practices). The extraordinary importance of safe work practices in manufacturing, combined with concerns about transference of responsibility and the potential risk of inappropriate workplace learning outcomes, has important implications for managers; especially in regard to their ability to shape the culture of work practice, and their overall responsibility for workplace learning arrangements.

In some firms, one member of the supervisory staff assumed a key role in facilitating learning in the production area, and was viewed by participants as an exemplary facilitator of learning.

> *We had a very excellent production director for a period. He was brilliant at it, absolutely brilliant, the staff all loved him, but he had a good balance. He sacked people if he needed to but he just had a personality and was able to get the best out of people, and we don't have that at the moment ... it is a gap. So, very informal, purely personality based in that situation, he was an excellent role model as well. I'm a believer in training, I just don't want to have to organise it and then do it myself. And we don't have anybody with that level of commitment here at the moment. Peter, the guy that I was mentioning a moment ago, did have that commitment. (P5, Owner-manager)*

> *The production manager, he continually explained how he does his job and the background behind it. So I was learning how the whole organisation works, especially the production area, so just a huge knowledge gain. He is a very approachable, person, which is good. In a different organisation, with a different production manager, it might have been a different outcome. But because he was so approachable and I could ask him questions and he was constantly giving little stories, information. (P17, Production Co-ordinator)*

These comments suggest that the quality of interactions between learners and more experienced co-workers, including supervisors, will have important effects on the learning outcomes. More specifically, the above excerpts imply that the people orientation, personality, interpersonal skills, knowledge and learning orientation of these key supervisory staff are major factors affecting employees' work-related learning. This is consistent with Billett's (2001a) view that "those who are to become learning guides will need to demonstrate particular attributes" (p. 188).

The findings thus suggest that some owner-managers view designating learning facilitators, who provide a structured form of personal support for learning, as an important strategy to manage learning in the workplace. Additionally, findings of this study provide further support for the belief held by some commentators (e.g., Hendry, Arthur & Jones, 1995; Sadler-Smith, Gardiner, Badger, Chaston & Stubberfield, 2000b) that managers can play an important role as facilitators of learning in small firms.

4.1.3 Physical Environment

It can be argued that a variety of elements comprising the physical environment can either help or hinder learning (e.g., Billett, 2000; Knowles, 1990; Pedler, Burgoyne & Boydell, 1997). For example, in one engineering firm, a participant saw the availability of more modern equipment (computer numerically controlled lathes) in competing firms as a factor that constrained learning within his firm. Whereas in bakeries, comments by respondents indicate that recipes provide important cues and clues to learning (Billett, 2001a).

> *Myself, I learn very well from just watching, as well as hands on, and having people instructing me. But I also learn quite well through reading, like reading these recipes. (P4, Apprentice)*

> *In the bakery we have recipes, obviously which are quite well documented. There is the recipe itself and the process of going through and the weights and measurements and baking times and temperatures. So obviously that has a considerable benefit (P2, Owner-manager).*

The richness and accessibility of learning resources is one aspect of the physical environment that learning theorists agree is crucial to effective learning (Ellstrom, 2001). Two managers gave examples of how they had fostered learning through provision of learning resources:

> *One of my managers just loves computers, so I bought him one. He didn't have one. Now he's an IT engineer, on good money. Soon after I bought a computer I bought him a robot, just basically a data computer and a cutting head that cuts shapes. And he just went to it that way, cut to order. And after five years he just moved on to work with another firm. He still looks after our computers. (P14, Owner-manager)*

One processor coming through at the moment, we had no idea how computer literate he was until he was working with an XL spreadsheet that we had provided. And we told him, 'Put the number in the square here'. And the next thing we knew the bloody thing was redesigned! Hey! Where did that come from? And he was basically just a process worker. (P5, Owner-manager)

Overall, the findings suggest that, in the opinion of the respondents, factors related to the organisational and social environments have a greater impact on employees' learning than factors related to the physical environment. Nevertheless, managers of small firms still need to consider the potential effects of elements of the physical environment on employees' work-related learning.

4.2 DEVELOPMENTAL INTERVENTIONS

The review of the literature (Chapter Two) revealed that managers can help employees learn through five common types of developmental interventions - coaching, mentoring, training, delegation, and performance appraisal. In the following sub-sections, this typology is used to structure discussion of the findings of the content analysis of the interview data regarding the kinds of developmental interventions managers in the small firms studied were using. As explained in Chapter Three, it was decided to combine on-the-job training and coaching for the purpose of analysis, because clearly distinguishing between them can be difficult in practice, since they are often used in combination.

4.2.1 On-The-Job Training and Coaching

Observations that emerged from interview data in the current study mirror findings of research by Kraut, Pedigo, McKenna and Dunnette (1989), and Moates and Kulonda (1990). The study by Kraut et al. (1989) sheds light on differences in management roles and activities across different management levels (first-line supervisor, middle manager, executive) and organisation functions (marketing, manufacturing, administration). Overall, their data suggest there are indeed differences in importance of various managerial tasks across management levels and organisation functions. The cluster 'instructing subordinates', which includes training, coaching, and instructing employees how to do their

jobs, was identified as one of seven major groups of management tasks. What's more, the activities involved in 'instructing subordinates' were of the highest importance for manufacturing managers, and became less important as one moves up the management hierarchy.

Moates and Kulonda (1990) researched differences between supervisors in small and large organisations. Their study examined data collected on 1,206 supervisors who worked for organisations employing 50 or fewer persons (small organisations), and 6,519 supervisors who worked for organisations employing more than 50 persons (large organisations). Differences between the groups appear when training of new employees is considered. In small organisations the supervisor was more likely to be personally involved in the training.

Similarly, in the current study, low-level managers such as supervisors and foremen seemed to have greater levels of personal involvement in providing on-the-job training and coaching than more senior managers, such as owner-managers, did.

> *There are supervisors at all the different workstations in the different areas. So it falls on the supervisor to ensure that his group are continually reminded of all the issues of that particular area. Because we're not a large company, the staff frequently move from one working area to another. (P11, Owner-manger)*

> *There's a foreman down there who shows them what to do. (P12, Owner-manager)*

> *To be perfectly honest I haven't the remotest idea what the departmental training involves. I've got a more general idea of the induction process, but I haven't the remotest idea how that is handled. It is essentially the supervisors. (P5, Owner-manger)*

But as could be expected, owner-managers of smaller firms (close to the 10 full-time equivalent employee threshold) did seem to have more personal involvement in on-the-job training and coaching than their counterparts in larger firms.

> *I'm responsible for most of it. But now that I've trained up a couple of young guys that are doing the apprenticeship, they are doing a bit of the bakery training for me as well. So they show some of the new guys how to produce good products as well. (P3, Owner-manager)*

4.2.2 Mentoring

None of the managers that participated in this part of the current study reported personally using mentoring as an employee development intervention. Only one participant reported involvement in mentoring. This owner-manager's involvement in mentoring was limited to facilitating a newcomer's access to an experienced co-worker who assumed the role of mentor.

> *We take them through the visions and the values, objectives, the actual job, give them a mentor which is not a direct report. So this person will tell you where the toilets are and where the coffee is and that sort of thing. So some of those mores, is it okay to ask for this, can you get sick leave before your sick leave is due, kind of those things which are not necessarily rules laid down by law or anything. (P16, Owner-manager)*

In this firm, mentoring is used as a tool for educating new employees and socialising them regarding the organisation's norms and values, as suggested by Schermerhorn (1996), Robbins, Millet, Cacioppe, Waters-Marsh (2001) and others. Given the limited scope for career development in most small firms (Marlow, 2000; Walton, 1999), mentoring is not likely to be widely used as an employee developmental intervention by managers in small firms. Where mentoring is used, its application is likely to be in the context of employee socialisation, rather than career and personal development.

4.2.3 Delegation

Two excerpts from the interview transcripts illustrate the use of delegation by managers and its relationship to learning. In the first excerpt a supervisor explains how he learns by taking on tasks usually performed by his manager:

> *I would take on work that Adam would normally do and try to achieve a standard that he would achieve, and take it as a challenge. It is quite challenging to learn things that you don't really know about; you are always learning something. (P15, Supervisor)*

But although commonly practised by managers, delegation is by no means always competently performed. In the next excerpt an owner-manager reflects on how he delegated a challenging task, but neglected to provide guidance and support:

I gave her something to do and she wasn't able to perform it. But she wasn't prepared to own up and it all got buried. So I learned a lesson myself there, that if you are pushing people make sure that you're on to it, that if they're not actually getting there, don't leave it too late, keep with them and help them. Rather than just say, 'Well you look after that', and think that it's done. Because if there is an issue, unless you are checking, you don't know. (P11, Owner-manager)

In this study, owner-managers appeared to use delegation of developmental tasks and assignments more frequently than low level managers did. And it seems that lower-level managers, such as the production manager, foreman or supervisor, or key members of the administration staff, were usually the recipients of such 'stretch' tasks and assignments.

4.2.4 Performance Appraisal

Findings of this part of the study appear to be consistent with findings of other New Zealand research (e.g., Gilbert & Jones, 2000; Knuckey, Leung-Wai & Meskill, 1999; Knuckey et al., 2002), which shows that formal performance appraisal is uncommon in small firms. A fairly formal appraisal system is used in just four of the firms studied. A production worker provided an example of how such an appraisal system operated:

He has got this general folder that we fill in, not all the time, I'd say about every like 6 months or something like that...where he says 'Ben has done well on... what do you say about your performance on die cutting and all that.....would you say its good, very good, excellent?' Then if you are improving, he keeps a record of that, and he knows that you're actually improving in different areas on the work floor. (P11, Production Worker)

Feedback is a key element of the performance appraisal process (London, Larsen & Thisted, 1999). And although formal performance appraisal systems are uncommon in small firms, this part of the current study did uncover evidence of managers providing performance feedback on an impromptu basis. To illustrate, when asked about performance appraisal in his organisation, an owner-manager said:

> *To answer that I would tell you in this way. One of the foremen was away, just on three or four weeks ago I suppose. A young fellow, who is learning on the autos here, he looked after the machines for just over a week. He did a damn good job. So I got him up here, I let him know what I thought of him and also gave him a rise into the bargain. I told him why I was doing it. (P12, Owner-manager)*

Findings of this study in regard to performance appraisal thus underline the notion that informal processes characterise small business organisations (Marlow & Patton, 2002).

4.8 SUMMARY

Table 4.2 summarises findings of this part of the study related to the effects of managers on employees' informal workplace learning through managers' influencing conditions in the work environment.

Table 4.2

Summary of findings related to the work environment

Levels of analysis	Theme	How managers foster learning
Organisational environment	1	Provide access to a range of work activities
	2	Support apprentice learning
	3	Encourage recruitment from employees' familial and social milieu
	4	Use employee selection methods that also help diagnose learner's current skill level
	5	Sponsor programmes that facilitate organisational socialisation
Social environment	1	Promote communication in the workplace
	2	Facilitate access to direct guidance from models
	3	Designate learning facilitators
Physical environment	1	Provide resources for learning

At the organisational level, it seems that some managers make effective contributions to their employees' learning through providing access to a range of work activities, supporting apprentice learning and sponsoring programmes that facilitate organisational socialisation. By encouraging existing staff to recruit new employees from their familial and social

milieu, and by using employee selection methods that require newcomers to demonstrate their skills on-the-job, managers may also (in all probability unintentionally) facilitate the learning of these newcomers. This is because when existing staff are involved in recruiting newcomers through social networks, they are also likely to take the initiative in supporting these newcomers on their pathways of work-related learning. Also, employee selection methods that require candidates to demonstrate their skills on-the-job, are likely to yield, as a by-product, information about their learning needs that can assist those who will guide their learning to select tasks appropriate to the learners' level of development.

The findings suggest that, in the opinion of the respondents, numerous elements of the social environment also have significant effects on employee learning. Managers seem to appreciate the close parallel between the quality and quantity of communication, and the quality and quantity of informal workplace learning. But the apparent ethnic and cultural diversity of the production workforce in general, and some workers' lack of English proficiency in particular, seemed to be impeding effective communication in the workplace. Direct guidance from models appeared to be the most important source of learning for novices, and managers played an important role in promoting learning at work by facilitating access to these models. In some firms, managers also designated learning facilitators to oversee and deliver programmes, such as organisational socialisation or health and safety, or to take a lead role in providing on-the-job training and coaching.

Overall, the findings suggest that respondents perceived that the physical environment had limited effects on employees' learning, relative to the other two elements of the work environment discussed here. However, the study did uncover several examples of managers providing an opportunity for learning, and encouraging learning, through provision of physical resources.

Apart from creating an environment that provides opportunities and support for learning, managers also foster learning through five common types of developmental interventions. On-the-job training and coaching seemed to be the most common types of interventions used by managers, especially first-level managers. On the other hand, the findings suggest

that owner-managers used delegation of challenging assignments more often than lower-level managers did. None of the managers who participated in this part of the study reported personally mentoring staff. Similarly, there was evidence that managers were using performance appraisal systems in only four of the ten organisations. Nevertheless, there were examples of managers providing performance feedback on an impromptu basis.

The findings of this component of the study provided a descriptive account of how owner-managers, and other managers, foster employees' learning in the small firms studied. As previously noted in Chapter Three, the focus is on the owner-manager in much of the small business research literature (Marlow & Patton, 2002). Similarly, the focus in much of the literature on learning in small firms links learning to individual entrepreneurs (Taylor & Thorpe, 2004). Curran and Blackburn (2001) contend that small firm employees are "a somewhat neglected group in small business research" (p.71). Hendry, Arthur and Jones (1995) echo their views and state, "in the fascination with lone entrepreneurs, the workforce in smaller firms has been comparatively neglected" (p. 18). The current study makes a contribution to redressing this shortcoming by including small firm employees as units of analysis. The results reported in the next chapter (Chapter Five) provide a description of how employees in the small firms studied perceive their workplaces as learning environments.

CHAPTER FIVE

**EMPLOYEE PERCEPTIONS OF THEIR WORKPLACES AS LEARNING
ENVIRONMENTS**

Findings of the qualitative component of this study (presented in Chapter Four) provided a descriptive account of how owner-managers, and other managers, foster employees' learning in the small firms studied. Specifically, the effects of these managers on salient elements of the work environment that influence informal workplace learning, and the types of employee development interventions they use, were described. Most of the participants in the qualitative component of the study were owner-managers, or other lower-level managers.

In contrast, this chapter provides an employee perspective. Analysis of the mail survey data presented here provides a description of how employees in the sample firms perceived their workplaces as learning environments. (Chapter Three provided insights into the nature of these workplaces, and a demographic profile of the respondents is presented in section 5.1 below.) This description includes employee perceptions of the characteristics of their work environments (that have the potential to either foster or constrain informal workplace learning), as well as employee perceptions of their workplace supervisors' proximate support for employees' learning. The chapter also includes a description of the outcomes of employee learning experiences at three of the four levels of Kirkpatrick's (1998) four-level evaluation framework: (1) reaction (satisfaction with on-the-job learning); (2) learning (self-rated competency); and (3) results (work group's performance). Employees' attributions of their work-related learning to various sources and methods of learning are also described. Results of the descriptive analysis for various demographic groups are also presented in this chapter to provide a comparative view of employee perceptions of their workplaces as learning environments.

This chapter further explores the effects of managers on employees' learning through examining the association between variables used in the current study. In particular, the associative relationships between the measures of employee perceptions of work environment characteristics, workplace supervisors' proximate support for learning, and sources of learning, on the one hand, and the measures of employee satisfaction with learning, on the other, are examined. The aim was to identify specific work environment variables, supervisor support behaviours, and sources of learning that were statistically significant in explaining variation in employee (dis)satisfaction with informal workplace learning. But first, a demographic profile of the mail survey respondents is presented.

5.1   DEMOGRAPHIC PROFILE OF THE RESPONDENTS

As noted previously, results of the descriptive analysis for various demographic groups are presented in this chapter to provide a comparative view of employee perceptions of their workplaces as learning environments. Items F1-F8 in section F of the mail survey questionnaire (see Appendix G) collected information about the respondent in seven areas relevant to studying informal workplace learning processes: gender, ethnicity, employment status, tenure, nature of work, education level, and age. Table 5.1 presents a profile of the respondents in terms of these demographic variables.

Table 5.1 shows how the total sample (group) was divided into meaningful sub-groups. Dividing the total sample into sub-groups has the potential to improve interpretation of the results. As Hair et al. (2003) note, when perceptions of employees are examined as a single group, there typically is some error associated with the group, because the researcher may be combining a lot of variability together. As the single group is separated into smaller sub-groups, the potential error caused by combining such variability is reduced. Thus, in this study, employee perceptions were examined both as a single group (analysis of results at the aggregate level) and as theoretically meaningful sub-groups (analysis of results by demographic variables).

Table 5.1
Profile of respondents

Demographic Variables	Number of Cases in Each Category (N = 464)
Gender	
Female	167
Male	289
Missing Cases	8
Ethnicity	
European/NZ European	340
NZ Māori	78
Pacific Peoples	22
Chinese	5
Other Asian	7
Indian	3
Other	4
Missing Cases	5
Employment Status	
Full Time	433
Part Time	26
Missing Cases	5
Continuing/Confirmed	421
Temporary/Casual	21
Missing Cases	22
Tenure	
Less than 2 years	178
2-5 years	137
6-10 years	68
More than 10 years	78
Missing Cases	3
Primary Nature of Work	
Production	269
Maintenance/Service	27
Production and Staff Supervision	81
Management	35
Other	48
Missing Cases	4
Education	
Some Secondary	230
7th Form (final year of secondary school)	40
Trade Certificate	95
Diploma	26
Degree	40
Other	19
Missing Cases	14
Age	
18-24	76
25-34	113
35-44	142
45-54	89
55-64	36
Over 65	3
Missing Cases	5

An analysis of results based on employment status (F3 and F4) was not done in this study. The sub-samples for part-time employment (F3) and temporary/casual employment (F4) were too small for meaningful statistical analysis. Likewise, some sub-samples within ethnicity (F2), tenure (F5), nature of work (F6), education (F7), and age group (F8), were either excluded from the analysis, or in most cases, logically combined with other sub-samples in the same demographic variable to form larger data sets. This was done in order to make it possible to increase the power of statistical tests (Hair, Babin, Money & Samouel, 2003).

New Zealand Māori and the individuals described as 'Pacific Peoples' were combined to form a larger data set (N = 100). For the same reason, respondents with tenures of six to 10 years were pooled with respondents with tenures of more than 10 years (N = 146). Similarly, production staff and maintenance/service staff were combined to form a single data set (non-managerial, N = 296), and respondents in the 'production and staff supervision' category were added to management staff to form a larger data set (managerial, N = 116). Respondents with some secondary education only were combined with respondents with a 7th form qualification to create a category titled 'secondary' (N = 270), and respondents with a trade certificate, diploma or degree were combined to form a category titled 'tertiary' (N = 161). Finally, respondents in the 45-54 age category were joined with respondents in the 55-64 and over 65 categories (N = 128).

In the analysis that follows (in sections 5.2 – 5.6), the presentation of aggregate results is followed by presentation of results for sub-samples of respondents within each demographic variable. The results are presented in a manner that facilitates comparisons of means on each questionnaire item. Independent samples t-tests were used to determine if the means on an item were significantly different ($p < .05$), whether we assume equal or unequal variances. The t-test assesses whether the observed differences between two sample means could have occurred by chance, or if there is a true difference (Hair et al., 2003).

In presenting the results relating to tenure and age, the focus is on the two sub-samples of respondents considered most likely to be facing major learning challenges, that is, respondents with tenures of less than two years, and respondents in the 18-24 age category. The results for respondents who are newcomers to their organisations (tenures of less than two years) will be compared to the results for respondents with significantly longer work experience in their organisations (six or more years). Similarly, the results for respondents in the 18-24 age category, who are likely to be relatively unskilled and new to the workforce, will be compared to the results for respondents who are likely to be more skilled and have many years of work experience (35-44 age category). Thus, in regard to tenure and age, the results of the t-tests comparing the means of these contrasting sub-samples of respondents are reported. These results may provide an indication of whether or not managers in the sample firms foster continuous learning.

5.2   WORK ENVIRONMENT CHARACTERISTICS

Section A of the questionnaire was designed to address the research question: *Are managers perceived as creating conditions in the work environment that are favourable to employee learning?* (This is one of the research questions that were initially presented in Chapter Three.) The questionnaire items measured respondents' perceptions of work environment characteristics that have been found to have positive or negative effects on individuals' learning. Table 5.2 contains descriptive statistics for the questionnaire items. Mean scores less than 5.0 are shaded. This was done to indicate work environment conditions that, in the opinion of respondents, were unfavourable to learning.

Table 5.2

Descriptive statistics: Work environment variables

Variables	N	Mean	Std Dev
A1: opportunities to learn different tasks	464	5.54	1.26
A2: opportunities to take on challenging tasks	462	5.42	1.23
A3: opportunities to choose own methods	461	4.68	1.49
A4: opportunities to use abilities	460	5.45	1.23
A5: training is arranged for you	458	5.05	1.48
A6: no informal training available	450	4.98	1.61
A7: managers tolerate mistakes	460	5.42	1.30
A8: take time to figure out ways to improve	458	5.26	1.30
A9: feel encouraged to experiment	459	4.88	1.43
A10: ideas for change welcomed	459	4.78	1.43
A11: little encouragement to learn skills	460	4.77	1.60
A12: learning new skills rewarded	456	3.86	1.61
A13: managers share learning experiences	463	4.58	1.56

Note: Positively (and negatively) stated propositions and a seven-point scale (7 = strongly agree, 1 = strongly disagree) were used to measure employee perceptions of work environment characteristics. Mean scores less than 5.0 are shaded.

The results in Table 5.2 indicate weak disagreement ($\bar{x} < 5.0$) with two propositions: *there is no coaching or informal training available* (A6); and *there is little encouragement to learn new skills* (A11). There was weak agreement ($\bar{x} < 5.0$) with five propositions. These were: *people are given opportunities to choose their own methods of working* (A3); *people feel encouraged to experiment to learn new ways of doing old tasks* (A9); *our ideas for change are welcomed by management* (A10); *people who learn new skills are rewarded* (A12); and *managers often share their learning experiences with employees* (A13).

In comparison, there was stronger agreement ($\bar{x}$ > 5, but < 6) with six propositions. These propositions were: *people are given opportunities to learn a number of different tasks* (A1); *people are given opportunities to take on challenging tasks* (A2); *people are given opportunities to use their skills and abilities* (A4); *if you need training it is arranged for you* (A5); *managers tolerate mistakes when someone is learning a new task or skill* (A7); and *people often take time to figure out ways to improve how work is done* (A8).

Collectively, these results indicate employees perceive that managers may be failing to create some important facilitating conditions (see items with $\bar{x}$ < 5.0). Although learning opportunities (A1-A4) appear to exist, some forms of support for learning seem to be lacking. Chapter Six provides a detailed discussion of the work environment conditions (as indicated by the results presented here), and potential effects of such conditions on employees' learning.

Next we consider the results regarding work environment conditions by demographic variables. Table 5.3 shows the means on the thirteen *work environment* variables for each sub-sample within six demographic variables. Means on a variable that were significantly different (p < .05) have been shaded.

Table 5.3

Means on work environment variables for demographic groups

Variables	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13
Gender													
Female (N = 167)	5.70	5.47	4.67	5.46	5.33	5.04	5.51	5.32	5.00	4.93	5.02	3.85	4.64
Male (N = 289)	5.45	5.40	4.70	5.45	4.89	4.94	5.38	5.23	4.80	4.69	4.62	3.86	4.53
Ethnicity													
European/NZ European (N = 340)	5.56	5.44	4.64	5.43	5.07	5.02	5.43	5.20	4.83	4.78	4.87	3.91	4.61
Māori & Pacific Peoples (N = 100)	5.52	5.49	4.82	5.49	5.03	4.94	5.29	5.47	5.06	4.77	4.74	3.70	4.49
Tenure (in years)													
Less than 2 (N = 178)	5.57	5.47	4.81	5.51	5.23	5.08	5.49	5.37	4.95	4.79	4.89	3.94	4.75
2-5 (N = 137)	5.55	5.43	4.65	5.51	5.21	5.11	5.49	5.17	4.85	4.88	4.84	3.84	4.53
6 or more (N = 146)	5.48	5.35	4.58	5.32	4.68	4.73	5.26	5.22	4.81	4.68	4.57	3.77	4.39
Nature of work													
Managerial (N = 116)	5.68	5.62	4.83	5.54	5.11	5.12	5.60	5.16	5.00	4.97	4.78	4.16	4.62
Non-managerial (N = 296)	5.51	5.35	4.67	5.47	5.05	4.94	5.37	5.34	4.85	4.73	4.78	3.80	4.59
Education													
Secondary (N = 270)	5.67	5.48	4.69	5.49	5.18	4.93	5.42	5.42	4.96	4.81	4.76	3.89	4.65
Tertiary (N = 161)	5.29	5.33	4.63	5.38	4.81	5.04	5.46	5.00	4.73	4.70	4.75	3.84	4.48
Age													
18-24 (N = 76)	5.54	5.51	5.01	5.53	5.44	5.14	5.54	5.59	5.09	4.80	4.75	3.97	4.84
25-34 (N = 113)	5.35	5.32	4.76	5.41	4.87	4.88	5.52	5.09	4.95	4.68	4.56	3.74	4.52
35-44 (N = 142)	5.61	5.52	4.56	5.48	4.96	4.99	5.37	5.15	4.54	4.67	4.83	3.87	4.32
45 and over (N = 128)	5.68	5.39	4.58	5.42	5.11	4.98	5.31	5.35	5.09	4.96	4.93	3.93	4.80

Note: Shaded means are significantly different (p < .05).

The results in Table 5.3 show that there were 15 differences in means that were statistically significant. Five of these significant differences occurred in relation to age. There are also some patterns in the means. The results suggest that, in general, females, managers, and respondents with no post-secondary school formal education qualifications (secondary) viewed the work environment conditions more favourably than respective comparison sub-samples did. To illustrate, means on eleven items are relatively greater for females. Likewise, the means on eleven items are relatively greater for managers. Also, respondents with no post-secondary school formal education qualifications (secondary) indicated relatively stronger levels of agreement with ten of the eleven positively stated propositions. However, these results need to be considered in relation to the finding that there were significant differences only for some items. These items were: A1, A5 and A11 (male/female); A2 and A12 (managers/non-managers); and A1, A5 and A8 (secondary/tertiary). This suggests that the perceptions of employees in the sub-samples differed significantly in relation to some work environment characteristics only. In Chapter Six, these results will be discussed in a widened context.

Results in Table 5.3 relating to tenure suggest that employee perceptions of work environment conditions became less favourable as tenure increased. Overall, the means on items tend to decline as tenure increases. Means of respondents with tenures of less than two years, and six or more years, on items A 5 and A 13 were significantly different. Similarly, in regard to age, the results show that, on the whole, respondents in the 18-24 age category perceived most work environment conditions more favourably than respondents in the other three age categories did. The differences between the means of respondents in the 18-24 age category and respondents in the 35-44 age category on five items (A3, A5, A8, A9, A13) were statistically significant.

On the whole, these results indicate that specific sub-samples of respondents viewed their work environment conditions more favourably than comparison sub-samples did. For instance, employees who had recently entered the workforce (younger respondents) and employees who were relative newcomers to their organisation (respondents with short tenures) seemed to perceive their work environments as being more facilitative of learning,

when compared to relatively older respondents and respondents with relatively longer tenures. Implications of these results for managing the learning of such diverse groups of employees are explained in Chapter Seven.

5.3   SUPERVISORS' PROXIMATE SUPPORT FOR LEARNING

Section B of the questionnaire was designed to address the research question: *Do workplace supervisors enact behaviours, in one-on-one settings, likely to foster employee learning?* (This is one of the research questions that were initially presented in Chapter Three.)   The propositions in section B focus on supportive behaviours workplace supervisors enact in one-on-one settings that are likely to foster learning. Table 5.4 contains descriptive statistics for questionnaire items B1-B7. Items with mean scores less than 5.0 are indicators of supportive behaviours that, in the opinion of subordinates, were lacking in their workplace supervisors.

Table 5.4

Descriptive statistics: Supervisors' support for learning variables

Variables	N	Mean	Std Dev
B1: discusses my performance	463	4.61	1.72
B2: asks what I need to learn	458	4.44	1.67
B3: provides constructive feedback	458	4.78	1.60
B4: available to talk about problems	462	5.58	1.30
B5: works with me to solve problems	460	5.30	1.44
B6: provides on the job training	459	5.02	1.52
B7: arranges help from others	463	5.21	1.47

Note: Responses were recorded on a seven-point scale (7 = strongly agree, 1 = strongly disagree). Mean scores less than 5.0 are shaded.

The results in Table 5.4 indicate there was weak agreement ($\bar{x} < 5.0$) with three propositions that collectively imply a proactive stance to fostering employee learning. These propositions were: *meets me to discuss my performance* (B1); *asks me what I feel I need to learn to do my job more effectively* (B2); and *provides constructive feedback on my performance* (B3).

There was comparatively stronger agreement ($\bar{x} > 5.0$, but < 6) with the other four propositions. They were: *is available to talk about problems* (B4); *works with me to solve problems* (B5); *provides on the job training when I need it* (B6); and *arranges help from others when something comes up that I do not know how to handle* (B7).

Collectively, these results suggest that workplace supervisors in the sample firms do not view supporting the learning of their staff as a priority. Respondents perceived that supervisors were not adopting a proactive stance in relation to fostering employee learning, and that supervisors were providing only low levels of learning support. Implications of these results for management practice and management development are considered in Chapter Seven.

The results relating to supervisors' support for learning by demographic variables are considered next. Table 5.5 shows the means on each of the seven indicators of *supervisors' support for learning* for each sub-sample within the six demographic variables.

Table 5.5

Means on supervisors' support for learning variables for demographic groups

Variables	B1	B2	B3	B4	B5	B6	B7
Gender							
Female (N = 167)	4.48	4.42	4.63	5.39	5.16	4.99	5.16
Male (N = 289)	4.69	4.45	4.86	5.67	5.36	5.01	5.24
Ethnicity							
European/NZ European (N = 340)	4.58	4.38	4.77	5.58	5.31	4.98	5.17
Māori & Pacific Peoples (N = 100)	4.80	4.69	4.85	5.62	5.28	5.17	5.32
Tenure (in years)							
Less than 2 (N = 178)	4.78	4.58	4.93	5.73	5.54	5.23	5.40
2-5 (N= 137)	4.74	4.45	4.89	5.68	5.30	4.99	5.18
6 or more (N = 146)	4.31	4.28	4.49	5.29	4.99	4.77	4.98
Nature of work							
Managerial (N = 116)	4.66	4.47	4.72	5.59	5.36	5.05	5.13
Non-managerial (N = 296)	4.59	4.43	4.80	5.60	5.26	5.02	5.29
Education							
Secondary (N = 270)	4.67	4.54	4.85	5.58	5.32	5.18	5.33
Tertiary (N = 161)	4.51	4.29	4.71	5.62	5.30	4.84	5.06
Age							
18-24 (N = 76)	5.11	4.80	5.05	5.78	5.48	5.44	5.62
25-34 (N = 113)	4.52	4.35	4.86	5.59	5.38	4.97	5.19
35-44 (N = 142)	4.41	4.33	4.60	5.56	5.26	4.99	5.14
45 and over (N = 128)	4.63	4.47	4.74	5.48	5.19	4.90	5.09

Note: Shaded means are significantly different (p < .05).

Looking at the results in Table 5.5 we see 12 differences in means were statistically significant. Most of these differences occurred in relation to tenure and age. Regarding tenure, the means on items tend to decline as tenure increases, suggesting that as employees' tenure increased, their perceptions of the workplace supervisors' proximate support for learning became less favourable. The means of the sub-samples of respondents with tenures of less than two years, and six or more years, on six items were significantly different. Similarly, with regard to age, the results suggest that, overall, respondents in the

18-24 age category viewed their immediate supervisors' level of proximate support for learning more favourably than respondents in the other three age categories did. The means of respondents in the 18-24-age category and 35-44 age category on five items (B1, B2, B3, B6 and B7) were significantly different.

It is also noteworthy that respondents with tertiary qualifications indicated weaker levels of agreement with six of the seven propositions. However, the difference in the means of the two sub-samples (secondary/tertiary) on just one item (B6) was statistically significant.

In summary, two groups of employees reported that their supervisors were providing relatively higher levels of proximate support for learning. These two groups were employees who had recently entered the workforce (younger respondents), and employees who were relative newcomers to their organisation (respondents with short tenures). The results also indicate that employees with just secondary school education were more likely to be recipients of on-the-job training from their workplace supervisors (B6) than employees with tertiary qualifications.

5.4   LEARNING OUTCOMES FOR INDIVIDUALS

Section C of the questionnaire was designed to address the research question (that was initially presented in Chapter Three): *What are outcomes of employee learning experiences for the individual?* The questionnaire items measured respondents' perceptions of outcomes of their learning experiences. These outcomes were (dis)satisfaction with on-the-job learning (items C1-C4) and self-rated competency (items C5-C8). Descriptive statistics for questionnaire items C1-C8 are contained in Table 5.6. Mean scores less than 5.0 are shaded to indicate low levels of satisfaction with learning or (self-rated) competency.

Table 5.6

Descriptive statistics: 'Learning outcomes for the individual' variables

Variables	N	Mean	Std Dev
(Dis)Satisfaction with learning			
C1: satisfied with what I have learned	463	5.50	1.37
C2: satisfied with my personal development	462	5.53	1.34
C3: my training didn't cover basics	457	4.84	1.62
C4: organisation has helped me develop	459	5.23	1.41
Self-rated competency			
C5: I am quite knowledgeable	462	5.78	0.98
C6: I have skills to perform effectively	462	5.87	0.94
C7: I have enough training	462	5.14	1.47
C8: I am quite capable	461	6.07	0.80

Note: All perceptual responses were recorded on a seven-point scale (7 = strongly agree, 1 = strongly disagree).   Mean scores less than 5.0 are shaded.

(Dis)Satisfaction with learning

The results in Table 5.6 indicate weak disagreement with the proposition, *my training in this organisation didn't cover the basics I need to know* (C3, $\bar{x} < 5$).   There was only partial agreement ($\bar{x} > 5$ but < 6) with each of the other three propositions.   These propositions were: *I am satisfied with what I have learned since joining this organisation* (C1); *I am satisfied with my personal development since joining this organisation* (C2); and *this organisation has helped me to grow and develop* (C4).

Overall, these results suggest that employees experienced moderate levels of satisfaction with their workplace learning.   Further on in this chapter (in section 5.7) we examine the associative relationships between these results relating to employee satisfaction with learning and the results relating to work environment conditions and supervisor support for learning (presented previously in sections 5.2 and 5.3 respectively).

Self-rated competency

The results in Table 5.6 show that, in general, employees perceived that they were competent at their jobs. Overall, the survey participants agreed with the proposition, *I am quite capable at my job* (C8). Respondents rated their job-related skills (C6) at a slightly higher level than their job-related knowledge (C5). The estimated standard deviations for C5 (0.98), C6 (0.94) and C8 (0.80) are small (< 1.0). This suggests limited variability in the opinions of respondents. There was only partial agreement with the proposition, *I have enough training for my job* (C7). This finding will be considered in relation to results of the other measures of employee access to training (A5, A6) in Chapter Six.

Next we consider the results regarding learning outcomes for individuals by demographic variables. Table 5.7 shows the means on the eight variables related to *learning outcomes for individuals* for each sub-sample within the six demographic variables.

Table 5.7

Means on 'learning outcomes for the individual' variables for demographic groups

Variables	C1	C2	C3	C4	C5	C6	C7	C8
	Satisfaction with learning				Self-rated competency			
Gender								
Female (N = 167)	5.64	5.67	4.97	5.29	5.84	5.89	5.30	6.15
Male (N = 289)	5.43	5.45	4.77	5.18	5.74	5.85	5.04	6.03
Ethnicity								
European/NZ European (N = 340)	5.48	5.51	5.02	5.22	5.78	5.83	5.11	6.04
Māori & Pacific Peoples (N = 100)	5.63	5.60	4.42	5.28	5.77	5.98	5.30	6.20
Tenure (in years)								
Less than 2 (N = 178)	5.69	5.68	4.99	5.26	5.61	5.82	5.27	5.98
2-5 (N = 137)	5.39	5.51	4.74	5.24	5.72	5.77	4.93	6.01
6 or more (N = 146)	5.40	5.38	4.76	5.18	6.05	6.04	5.21	6.23
Nature of work								
Managerial (N = 116)	5.66	5.65	4.84	5.49	6.06	6.01	5.17	6.14
Non-managerial (N = 296)	5.46	5.49	4.84	5.13	5.66	5.86	5.17	6.05
Education								
Secondary (N = 270)	5.68	5.69	4.81	5.35	5.79	5.90	5.21	6.15
Tertiary (N = 161)	5.20	5.25	4.93	5.04	5.82	5.86	5.06	5.98
Age								
18-24 (N = 76)	5.71	5.81	5.20	5.45	5.59	5.71	5.11	5.95
25-34 (N = 113)	5.52	5.61	4.74	5.31	5.84	5.91	4.97	6.13
35-44 (N = 142)	5.37	5.29	4.82	5.11	5.87	5.90	5.30	6.16
45 and over (N = 128)	5.55	5.59	4.79	5.18	5.76	5.93	5.18	6.05

Note: Shaded means are significantly different (p < .05).

Looking at the results in Table 5.7 we see that most statistically significant differences in means occurred in relation to tenure. The means on items C1-C4 (satisfaction with on-the-job learning) tend to decrease as tenure increases; suggesting that satisfaction with workplace learning diminishes as tenure increases. The means of respondents with tenures of less than 2 years, and 6 or more years, on items C1 and C2 were significantly different. On the other hand, means on items C5-C8 (self-rated competency) tend to increase as

tenure increases. There were significant differences in the means of respondents with tenures of less than 2 years, and 6 or more years, on items C5, C6, and C8.

The results suggest that Māori and Pacific Peoples were significantly less satisfied with the training provided by their organisations (item C3) than Europeans/New Zealand Europeans were. Also, the means on six of the eight items in Table 5.7 are relatively greater for managers than non-managers. This is suggestive that, on the whole, managers experienced relatively higher levels of satisfaction with learning, and they rated their job competency at relatively higher levels. However, the differences in means on two items only (C4, C5) were statistically significant. Regarding education, respondents with just secondary school education indicated relatively higher levels of satisfaction with learning, and they rated their job competency at relatively higher levels. The means of the two groups (secondary/tertiary) on four items (C1, C2, C4 and C8) were significantly different.

We note from the results relating to age that respondents in the 18-24 category reported the highest levels of satisfaction with learning (C1-C4). The difference in means of respondents in the 18-24 age category and respondents in the 35-44 age category on item C2 was statistically significant. Regarding self-rated competency (C5-C8), means on items tend to be lower in the 18-24 age category than means on the same items in the other three age categories. The means of respondents in the 18-24 age category and respondents in the 35-44 age category on C5 were significantly different.

To summarise, overall, some sub-samples within demographic variables reported relatively lower levels of satisfaction with their workplace learning experiences. In particular, employees with tertiary qualifications, and employees with relatively longer tenures, seemed less satisfied. Similarly, some sub-samples within demographic variables reported relatively higher levels of self-rated competency. Not surprisingly, employees with relatively long tenures perceived themselves as being more competent at their jobs than employees with relatively short tenures did.

5.5   LEARNING OUTCOMES FOR ORGANISATIONS

Section D of the questionnaire was designed to address the research question (that was initially presented in Chapter Three): *What are outcomes of employee learning experiences for the organisation?* Items in this section of the questionnaire gauged respondents' perceptions of work group performance in terms of typical 'results' measures: quality, complaints from internal or external customers, quantity and costs. Table 5.8 provides descriptive statistics for questionnaire items D1-D5.

Table 5.8

Descriptive statistics: 'Learning outcomes for the organisation' variables

Variables	N	Mean	Std Dev
D1: quality is improving	394	1.52	1.14
D2: quality errors seldom occur	409	0.84	1.46
D3: complaints about our work	386	0.57	1.69
D4: meets or exceeds targets	372	1.15	1.49
D5: good at keeping costs down	296	0.97	1.45

Note: Responses were recorded on a seven-point scale ranging from −3 (strongly disagree) to + 3 (strongly agree) with a midpoint 'not sure' response option.

The results contained in Table 5.8 show weak disagreement ($\bar{x} < 1$) with the proposition, *those who receive or use my group's work, often have complaints about our work* (D3). There was weak agreement ($\bar{x} < 1$) with the propositions, *serious quality errors seldom occur in my group's work* (D2) and *my work group is good at keeping costs down* (D5).

There was stronger, but still only partial agreement ($\bar{x}$ > 1 but < 2) with the other two propositions. These propositions were: *the quality of work provided by my group is improving over time* (D1); and *my work group regularly meets or exceeds its production/performance targets* (D4).

Interestingly, in this section of the questionnaire, large numbers of respondents (as detailed below) selected the 'not sure' response option. In particular, it seems that respondents may lack access to information about: costs (D5, 160 respondents, or about 35%, 'not sure'); actual performance in relation to production/performance targets (D4, 83 respondents, or about 18%, 'not sure'); and complaints by internal or external customers (D3, 72 respondents, or about 16%, 'not sure'). To gain access to these types of information, employees are likely to be very reliant on managers as sources of information.

On the other hand, respondents seemed to have better access to information about quality improvement over time (D1, only 59 respondents, or about 13%, 'not sure') and occurrences of serious quality errors in their group's work (D2, only 47 respondents, or about 10%, 'not sure'). Employees may not be as reliant on managers as sources of information for access to these two types of information. In the next chapter we extend this discussion of employee access to information, to include the potential effects on employee learning.

An analysis of section D (Work Group's Performance) results by demographic variables was not done in this study, because the potential of such analysis to yield significant findings was considered to be limited. As explained above, the results from section D suggest that many respondents lacked access to information about key measures of their work group's performance.

5.6   SOURCES AND METHODS OF LEARNING

Section E of the questionnaire was designed to address the research question (that was initially presented in Chapter Three): *To what sources and methods of learning do employees attribute development of their work-related knowledge and skills?* The questionnaire items measured the respondents' perceptions of the usefulness of seven 'aids to learning'. These 'aids to learning' consisted of three sources (E1-E3) and four methods (E4-E7) of learning. Descriptive statistics for questionnaire items E1-E7 are contained in Table 5.9. The lowest mean in each of the 'sources of learning' and the 'methods of learning' is shaded. This was done to indicate the least useful source and method of learning, in the opinion of the respondents.

Table 5.9

Descriptive statistics: 'Aids to learning' variables

Variables	N	Mean	Std Dev
Sources of learning			
E1: my immediate supervisor	440	3.62	1.00
E2: other managers in my organisation	434	3.22	1.05
E3: my workmates	445	3.77	0.92
Methods of learning			
E4: everyday work activities	419	3.74	0.82
E5: on-the-job training	428	3.53	1.03
E6: observing and listening	441	3.95	0.89
E7: trial and error	416	3.56	1.07

Note: Responses were recorded on a five-point scale (5 = extremely useful, 1 = not at all useful). The response keys provided a 'not sure' response option at the end of the scale. The lowest mean in each of the 'sources of learning' and the 'methods of learning' is shaded.

The results in Table 5.9 indicate the respondents perceived their workmates (E3) were the most useful source of learning. The estimated standard deviation for E3 (0.92) is small (< 1.0). This suggests the respondents were very consistent in their opinions about the usefulness of their workmates as sources of learning. As could be expected, respondents perceived their immediate supervisor (E1) as a more useful source of learning than other managers in their organisation (E2).

The respondents' perceptions of the usefulness of four methods of learning are also captured in Table 5.9. The results show that learning by observation (E6) was perceived as the primary method of learning. Learning by direct experiences, of both everyday work activities (E4) and trial and error (E7), was perceived as more useful as a method of learning than learning by on-the-job training (E5). The estimated standard deviations for both E4 (0.82) and E6 (0.89) are small (< 1.0). This suggests limited variability in the opinions of respondents.

The results relating to 'aids to learning' by demographic variables are considered next. Table 5.10 shows the means on the seven *'aids to learning'* variables for each sub-sample within the six demographic variables.

Table 5.10

Means on 'aids to learning' variables for demographic groups

Variables	E1	E2	E3	E4	E5	E6	E7
	Sources of learning			Methods of learning			
Gender							
Female (N = 167)	3.62	3.34	3.86	3.82	3.61	3.93	3.79
Male (N = 289)	3.62	3.14	3.71	3.70	3.47	3.95	3.43
Ethnicity							
European/NZ European (N = 340)	3.59	3.14	3.70	3.77	3.49	3.96	3.59
Māori & Pacific Peoples (N = 100)	3.79	3.52	4.04	3.72	3.67	3.88	3.47
Tenure (in years)							
Less than 2 (N = 116)	3.84	3.32	4.01	3.81	3.74	3.99	3.61
2-5 (N = 137)	3.63	3.18	3.78	3.71	3.42	3.88	3.55
6 or more (N = 146)	3.33	3.14	3.46	3.69	3.36	3.96	3.50
Nature of work							
Managerial (N = 116)	3.58	3.18	3.50	3.88	3.39	4.01	3.54
Non-managerial (N = 296)	3.62	3.25	3.86	3.72	3.59	3.93	3.52
Education							
Secondary (N = 270)	3.66	3.35	3.81	3.76	3.69	3.98	3.59
Tertiary (N = 161)	3.59	2.93	3.67	3.73	3.29	3.89	3.53
Age							
18-24 (N = 76)	3.87	3.19	4.20	3.83	3.82	4.05	3.75
25-34 (N = 113)	3.59	3.05	3.73	3.77	3.39	3.86	3.74
35-44 (N = 142)	3.56	3.21	3.61	3.66	3.35	3.99	3.49
45 and over (N = 128)	3.59	3.44	3.73	3.79	3.67	3.93	3.36

Note: Shaded means are significantly different (p < .05). Section E answers were on a scale of 1 (not at all useful) – 5 (extremely useful).

According to the results in Table 5.10, both females and males perceived learning by observation (E6) to be the most useful method of learning, and both attributed much of their informal workplace learning to their workmates (E3), and to everyday work activities (E4). The means of these two sub-samples of respondents on item E7 (*trial-and-error* as a method of learning) were significantly different.

The means on items E1 (*my immediate supervisor*), E2 (*other managers*), E3 (*workmates*) and E5 (*on-the-job training*), were relatively higher for Māori and Pacific Peoples. Each of these four 'aids to learning' implies a process of learning through interaction with others. In contrast, the means on items E4 (*everyday work activities*), E6 (*observing and listening*) and E7 (*trial-and-error*) were relatively higher for Europeans/New Zealand Europeans. These three 'aids to learning' implies a process of learning that is relatively independent of others. These results are suggestive that Māori and Pacific Peoples, and Europeans/New Zealand Europeans, may have different learning style preferences. However, these results need to be considered in relation to the finding that differences in the means on E2 and E3 only were statistically significant.

Except for item E6 (*observing and listening*), each item's mean score declined as tenure increases. The means of respondents with tenures of less than two years, and six or more years, on items E1 (*my immediate supervisor*), E3 (*my workmates*) and E5 (*on-the-job training*) were significantly different. This is suggestive that, in managing their learning needs, newcomers to the sample firms (respondents with tenures of less than two years) were relatively more reliant on support from others.

Both managers and non-managers perceived learning by observation (E6) as the most useful method of learning. They also attributed much of their informal workplace learning to everyday work activities (E4). However, they differed significantly in their perceptions of the usefulness of workmates (E3) as sources of learning. Non-managers perceived workmates as being significantly more useful.

With regard to education, both sub-samples of respondents perceived learning by observation (E6) as the most useful method of learning. They also attributed much of their informal workplace learning to everyday work activities (E4) and workmates (E3). However, the two sub-samples differed significantly in their perceptions of the usefulness of other managers (E2) and on-the-job training (E5) as 'aids to learning'. Respondents with just secondary school education perceived 'other managers' and on-the-job training as being significantly more useful.

Compared to respondents in the 35-44 age category, respondents in the 18-24 age category perceived supervisors (E1), workmates (E3), and on-the-job training (E5) as being significantly more useful 'aids to learning'. Results for E1-E3 suggest that respondents in all four age categories perceived workmates (E3) to be more useful than managers (E1 and E2) as sources of learning. Furthermore, the results for (E4-E7) indicate that all four sub-samples of respondents perceived learning through observation (E6) to be the most useful method of learning, followed by learning through everyday work activities (E4).

In summary, on the topic of the three sources of learning, most mean differences that were statistically significant occurred in relation to workmates (E3). Employees who were newcomers to their organisations, younger employees, non-managers, and Māori and Pacific Peoples, perceived workmates as being significantly more useful as sources of learning than the respective comparison groups did. Also, employees who were relative newcomers to their organisations, and younger employees, seemed to be more reliant on their workplace supervisor as a source of learning.

Concerning the methods of learning, most mean differences that were statistically significant occurred in relation to on-the-job training (E5). Employees who were relative newcomers to their organisations, employees with just secondary school education, and younger employees, perceived on-the-job training as being a significantly more useful method of learning than respondents in the respective comparison sub-samples did. One explanation for this is that, as tenure and age increase, workers are more likely to be providers, as opposed to recipients, of on-the-job training.

The results presented thus far provide a description of how employees in the small firms studied perceive their workplaces as learning environments. This description includes employee perceptions of the characteristics of their work environments as well as employee perceptions of their workplace supervisors' proximate support for employees' learning. It also included a description of the outcomes of employee learning experiences in terms of reaction (satisfaction with on-the-job learning), learning (self-rated competency), and results (work group's performance). Employees' attributions of their work-related learning to various sources and methods of learning were also described. Results were also presented for various demographic groups to provide a comparative view of employee perceptions of their workplaces as learning environments. However, the results have not provided an indication of the nature and degree of association between the variables. This is examined in the next section. The section begins with an overview of the analysis that was conducted.

5.7 WHICH VARIABLES ARE ASSOCIATED WITH EMPLOYEE SATISFACTION AND SELF-RATED COMPETENCY?

To further investigate the effects of managers on employees' learning, correlation and multiple regression analysis were used to analyse the associative relationships between the measures of work environment characteristics, supervisors' support for learning, and sources of learning, and the measures of satisfaction with learning and self-rated competency. Before correlation and regression analysis began, factor analysis was employed to identify optimal sets of measures, and to create composite measures for use in the subsequent correlation and multiple regression analysis. After factor analysis was conducted, reliability analysis was used to assess the internal consistency reliability of the factor analysis constructs. The following sub-sections present results of the analysis. First, the results of factor analysis and reliability analysis are presented. Next, the results of the correlation analysis and multiple regression analysis are reported.

5.7.1 Factor Analysis

Factor analysis is a 'data reduction' technique that plays an important complementary role with multiple regression analysis (Hair, Anderson, Tatham & Black, 1998). In the current study, factor analysis was employed to achieve primarily two objectives. Firstly, it was used to create sets of variables that retain the nature and character of the original variables, but where appropriate, reduce their number to include only the most parsimonious sets of variables in the subsequent correlation and multiple regression analysis. Secondly, it was used to create average summated scores (composite measures) for use in subsequent correlation and multiple regression analysis. The summated score represents the multiple aspects of a concept in a single measure. It reduces measurement error by using multiple indicators, instead of relying on a single response (Hair et al., 1998). By using the 'average' response to a set of related variables, the measurement error that might occur in a single question will be reduced. The impact of measurement error is to partially mask any relationships between independent and dependent variables, and make the estimation of multiple regression models more difficult. But before factor analysis can be employed, the suitability of the data for factor analysis must first be established.

Suitability of the data

For factor analysis to be appropriate, two conditions must be met: (1) the collection of variables to be factor analysed must be correlated; and (2) the sample size should be adequate (Hair et al., 1998). In this study, all the variables in sections A, B and C of the questionnaire were factor analysed. The variables in sections D (Work Group's Performance), E (Aids to Learning) and F (General Information) were not included in the factor analysis. Previously, examination of the section D results revealed that many respondents lacked access to information about key measures of their work group's performance. Therefore, a decision was made to exclude section D variables from further analysis. The section E items were not factor analysed because they were not created to reflect a construct. The items in section F gathered demographic data about the respondents and therefore were not used in factor analysis.

Factor analytic techniques allow us to look at the patterns that underlie the correlations between a number of variables (Miller, Acton, Fullerton & Maltby, 2002). Thus, the collection of variables to be factor analysed must be correlated. Visual examination of the correlation matrix (table showing inter-correlations among A1-A13, B1-B7, C1-C8) revealed that a substantial number were significant at the .01 level. This provided an adequate basis for proceeding to the next level of analysis of suitability of the data.

Two tests that are recommended by Hair et al. (1998), were used to further assess the suitability of the data for factor analysis: (1) the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy; and (2) Bartlett's test of sphericity. When the KMO test is applied to the data to be factor analysed, high values (between 0.5 and 1.0) indicate that factor analysis is appropriate, while values below 0.5 imply that factor analysis may not be appropriate. Bartlett's test of sphericity is a test statistic used to examine the hypothesis that the variables are uncorrelated in the population. The significance level gives the result of the test. Very small values (less than 0.05) indicate that there are probably significant relationships among the variables, while a value higher than about 0.10 indicates the data may not be suitable for factor analysis.

These two tests to assess the suitability of the data for factor analysis were conducted using the SPSS. The results of both tests suggested that factor analysis would be appropriate. The value of the KMO statistic (0.914) was large (> 0.5). Furthermore, the null hypothesis, that the variables are uncorrelated was rejected by the Bartlett's test of sphericity (significance = 0.000).

Regarding the sample size question, according to Hair et al. (1998), the sample size should be 100 or larger. They also assert that, as a general rule, the minimum is to have at least five times as many observations as there are variables to be factor analysed. The sample used for the current study (464 respondents) was considerably larger than their guideline sample size of 100. Additionally, the ratio of observations (464) to variables (28) to be factor analysed (approximately 17:1) was also much larger than their guideline ratio of 5:1.

Extracting the factors

Once it had been determined that factor analysis was an appropriate technique for analysing the data, the 'principal component analysis' extraction method was chosen to extract the principal components (factors). Extraction techniques allow you to determine the factors (or principal components) underlying the relationships between a number of variables (Miller et al., 2002). There are many extraction procedures, but the 'principal component analysis' extraction method is the most common (Hair et al., 2003; Miller et al., 2002). This method is recommended when the primary concern is to determine the minimum number of factors that will account for maximum variation in the data for use in subsequent multiple regression analysis (Hair et al., 1998).

A key issue in factor analysis involves how many factors are needed to effectively represent the variables. Eigenvalues is the most commonly used criteria to determine the number of factors to extract (Hair et al., 2003; Miller et al., 2002). Factors with an eigenvalue of less than one are considered insignificant and not retained. Accordingly, in this study an eigenvalue-greater-than-one criterion was used to determine the number of principal components (factors) to extract.

Using the SPSS, the 28 variables (A1-A13, B1-B7, C1-C8) were factor analysed. The statistics in Table 5.11 shows that six factors have an eigenvalue greater than 1.0. These six factors accounted for 64.849 percent of the total variance in the original 28 variables, which is greater than the recommended 60 percent (Hair et al., 2003).

Table 5.11

Percentage of variation in original data explained by each factor

Factor	Eigenvalue	% of Variance	Cumulative %
Factor 1	9.974	35.621	35.621
Factor 2	2.456	8.772	44.394
Factor 3	1.771	6.324	50.718
Factor 4	1.710	6.106	56.824
Factor 5	1.201	4.291	61.115
Factor 6	1.046	3.734	64.849

The 'varimax' rotation method was used to transform the factor matrix into a simpler one that is easier to interpret. 'Rotation' is necessary when the extraction technique suggests that there are two or more factors (Miller et al., 2002). The rotation of factors is designed to give us an idea of how the factors that were extracted differ from each other, and to provide a picture of which variables 'load' on which factors. Looking at the original variables that combine to make the factors would help to determine if the factors are logical and theoretically meaningful. The rotated factor matrix is in Table 5.12.

Table 5.12

Rotated factor matrix

	Factors					
	1	2	3	4	5	6
A1: opportunities to learn different tasks					.603	
A2: opportunities to take on challenging tasks					.775	
A3: opportunities to choose own methods					.640	
A4: opportunities to use abilities					.639	
A5: training is arranged for you						
A6: no informal training available						.766
A7: managers tolerate mistakes		.577				
A8: take time to figure out ways to improve		.676				
A9: feel encouraged to experiment		.730				
A10: ideas for change welcomed		.731				
A11: little encouragement to learn skills						.772
A12: learning new skills rewarded		.509				
A13: managers share learning experiences		.565				
B1: discusses my performance	.795					
B2: asks what I need to learn	.794					
B3: provides constructive feedback	.806					
B4: available to talk about problems	.730					
B5: works with me to solve problems	.740					
B6: provides on the job training	.675					
B7: arranges help from others	.655					
C1: satisfied with what I have learned				.717		
C2: satisfied with my personal development				.741		
C3: my training didn't cover basics						.755
C4: organisation has helped me develop				.635		
C5: I am quite knowledgeable			.840			
C6: I have skills to perform effectively			.843			
C7: I have enough training			.574			
C8: I am quite capable			.876			

Note: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in six iterations.

Table 5.12 shows the 'loadings' of the original variables on the six factors that were extracted; variables that have 'high loadings' on a factor help define that factor (Hair et al., 2003). The higher the loading, the more important the variable is to that factor. Opinions vary about at which point loadings become important to a factor. One view is that anything

above 0.44 can be considered salient (Miller et al., 2002). Accordingly, for the current study, factor loadings under 0.50 were suppressed in the SPSS.

It can be seen from Table 5.12 that all four work environment variables that collectively represent 'learning opportunities' (A1-A4) loaded on factor 5. Also, six of the nine work environment variables that collectively represent 'support for learning' (A5-A13) loaded on factor 2. Item A5 was eliminated because it had a factor loading under 0.50, and two negatively worded items (A6, A11) loaded on factor 6. All original 'supervisors' proximate support for learning' variables (B1-B7) loaded on factor 1. Three of the original 'satisfaction with on-the-job learning' variables (C1-C4) loaded on factor 4. Item C3, a negatively worded item, loaded on factor 6. All original 'self-rated competency' variables (C5-C8) loaded on factor 3.

Looking at the original variables that combine to make the factors (see Table 5.12), it can be concluded that factors 1-5 are logical and consistent with theory. On the other hand, factor 6 consists of a collection of all the negatively worded statements in the 28 original variables. A five-factor solution would thus be more theoretically meaningful than the initial six-factor solution. Furthermore, a five-factor solution would still account for more than 60 percent of the total variance (see Table 5.11). Therefore, based on the factor analysis results, and after careful consideration of the contents of the individual items in relation to the constructs that they assess, a decision was made to exclude four of the original 28 items from the subsequent analysis. These four items were the three negatively worded items (A6, A11, C3) that loaded on factor 6, and item A5 that had a factor loading under 0.50.

Average summated scores

The next step was to create composite variables (measures). A composite measure for each factor was formed by using a simple additive index of the responses for each respondent. To calculate a single respondent's average summated score on a factor, the variable responses are first added and then a mean is calculated (Hair et al., 2003). In the SPSS, this same process would be completed for all the respondents for each of the five factor analysis

constructs. The calculation of the average summated scores for each respondent created five composite variables. They were: (1) learning opportunities; (2) support for learning; (3) supervisors' proximate support for learning; (4) satisfaction with on-the-job learning; and (5) self-rated competency. These composite variables were used in subsequent correlation and regression analysis as metric variables to represent the five factor analysis constructs. But first, reliability analysis was used to assess the internal consistency reliability of the factor analysis constructs.

5.7.2   Reliability Analysis

According to Hair et al. (2003), reliability is most frequently associated with multi-item scales. They contend that for a multi-item scale to be reliable, the scores (ratings) for the individual items that comprise the scale should be correlated. The stronger the correlations, the higher the reliability of the scale will be. There are different types of reliability. In this study, internal consistency reliability analysis was used to assess the reliability of the factor analysis constructs.

The rationale for internal consistency is that the individual items should all be measuring the same construct and thus be highly inter-correlated. An acceptable level of reliability indicates the respondents answered the questions in a consistent manner (Hair et al., 2003). A commonly used measure of this form of reliability is Cronbach's alpha. The Cronbach's alpha coefficient varies from 0 to 1, and a value of 0.6 or less generally indicates unsatisfactory internal consistency reliability (Hair et al., 2003).

Results of the reliability analysis are in Table 5.13. The results show that the alpha coefficient for each construct is greater than 0.75, indicating good internal consistency reliability for each construct.

Table 5.13

Results of the reliability analysis

Constructs	Alpha coefficient
Learning opportunities	.7861 (4 items)
Support for learning	.8023 (6 items)
Supervisors' proximate support for learning	.9077 (7 items)
Satisfaction with on-the-job learning	.8561 (3items)
Self-rated competency	.7779 (4 items)

Once the internal consistency reliability of the factor analysis constructs had been assessed, correlation analysis was conducted as a prelude to multiple regression analysis. In the next sub-section, results of the correlation analysis are reported and the implications of these results for multiple regression analysis explained.

5.7.3   Correlation Analysis

Correlation analysis involves examining the relationship between two variables and the extent to which they 'co-vary'. The correlation coefficient is a measure of this association, and indicates the direction and magnitude of the association between the variables (Cooper & Emory, 1995). The coefficient's sign (+/-) signifies the direction of the association. Direction indicates whether large values on one variable are associated with large values on the other (and small values with small values). When the values correspond in this way the two variables have a positive association: as one increases, the other also increases. The magnitude is the degree to which variables move in unison or opposition.

The Pearson correlation coefficient measures the linear association between two metric variables. Pearson's correlation coefficient varies over a range of + 1 through 0 to − 1 (Zikmund, 2000). Variables with coefficients of + 1 or − 1 are perfectly correlated.

In the current study, an important aim of the correlation analysis was to examine the correlations between each of the two learning outcome composite variables and the other variables in the correlation matrix. The two learning outcome composite variables were: (1) satisfaction with on-the-job learning; and (2) self-rated competency. It was originally intended that both variables would serve as the dependent variables in the subsequent multiple regression analysis. The following sub-sections present results of the correlation analysis. First we examine correlations among the five composite variables.

Composite variables

Table 5.14 shows the correlations among the five composite variables. All the correlation coefficients were statistically significant (0.01 level). Thus we could say that a relationship between the variables was present. Each of the first three composite variables in Table 5.14 had stronger positive associations with *satisfaction* than with (self-rated) *competency*. Of the three composite variables, *supervisors' support for learning* had the strongest association (.597) with *satisfaction*.

Table 5.14

Correlation matrix for the composite variables

		Learning opportunities	Support for learning	Supervisors' support	Competency	Satisfaction
Learning opportunities	Coeff	1	.591*	.523*	.272*	.554*
	Sig.		.000	.000	.000	.000
	N	464	464	464	463	463
Support for learning	Coeff	.591*	1	.589*	.323*	.586*
	Sig.	.000		.000	.000	.000
	N	464	464	464	463	463
Supervisors' support	Coeff	.523*	.589*	1	.253*	.597*
	Sig.	.000	.000		.000	.000
	N	464	464	464	463	463
Competency	Coeff	.272*	.323*	.253*	1	.419*
	Sig.	.000	.000	.000		.000
	N	463	463	463	463	463
Satisfaction	Coeff	.554*	.586*	.597*	.419*	1
	Sig.	.000	.000	.000	.000	
	N	463	463	463	463	463

Note: *Correlation is significant at the 0.01 level .

Next we examine the correlations among individual variables and the two learning outcome composite variables: (1) self-rated competency; and (2) satisfaction with on-the-job learning.

Individual variables

In this sub-section we examine the correlations among the individual measures of work environment conditions, supervisors' support for learning, sources of learning, and the two learning outcome composite variables. For practical reasons the results are presented in two tables (5.15 and 5.16). Table 5.15 shows the correlations among the individual work environment variables and the two composite variables (self-rated competency (src) and satisfaction (satis) with learning).

Table 5.15

Correlation matrix for work environment, self-rated competency, and satisfaction with learning variables

		a1	a2	a3	a4	a7	a8	a9	a10	a12	a13	src	satis
a1	Coeff	1	.666*	.306*	.528*	.277*	.309*	.348*	.372*	.321*	.384*	.293*	.508*
	Sig.		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	464	462	461	460	460	458	459	459	456	463	463	463
a2	Coeff	.666*	1	.400*	.549*	.268*	.304*	.343*	.307*	.317*	.334*	.228*	.436*
	Sig.	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	462	462	459	458	459	456	457	457	454	461	461	461
a3	Coeff	.306*	.400*	1	.504*	.277*	.222*	.404*	.364*	.259*	.267*	.138*	.315*
	Sig.	.000	.000		.000	.000	.000	.000	.000	.000	.000	.003	.000
	N	461	459	461	457	457	456	456	456	453	461	460	460
a4	Coeff	.528*	.549*	.504*	1	.342*	.358*	.438*	.466*	.405*	.424*	.204*	.502*
	Sig.	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000
	N	460	458	457	460	456	454	455	455	452	459	459	459
a7	Coeff	.277*	.268*	.277*	.342*	1	.349*	.356*	.377*	.297*	.309*	.136*	.307*
	Sig.	.000	.000	.000	.000		.000	.000	.000	.000	.000	.004	.000
	N	460	459	457	456	460	454	455	455	452	459	459	459
a8	Coeff	.309*	.304*	.222*	.358*	.349*	1	.612*	.424*	.261*	.400*	.221*	.369*
	Sig.	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000
	N	458	456	456	454	454	458	453	453	451	457	457	457
a9	Coeff	.348*	.343*	.404*	.438*	.356*	.612*	1	.631*	.338*	.459*	.301*	.488*
	Sig.	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000
	N	459	457	456	455	455	453	459	455	451	458	458	458
a10	Coeff	.372*	.307*	.364*	.466*	.377*	.424*	.631*	1	.392*	.491*	.246*	.427*
	Sig.	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000
	N	459	457	456	455	455	453	455	459	451	458	458	458
a12	Coeff	.321*	.317*	.259*	.405*	.297*	.261*	.338*	.392*	1	.484*	.180*	.392*
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	N	456	454	453	452	452	451	451	451	456	455	455	455
a13	Coeff	.384*	.334*	.267*	.424*	.309*	.400*	.459*	.491*	.484*	1	.263*	.510*
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000
	N	463	461	461	459	459	457	458	458	455	463	462	462
src	Coeff	.293*	.228*	.138*	.204*	.136*	.221*	.301*	.246*	.180*	.263*	1	.419*
	Sig.	.000	.000	.003	.000	.004	.000	.000	.000	.000	.000		.000
	N	463	461	460	459	459	457	458	458	455	462	463	463
satis	Coeff	.508*	.436*	.315*	.502*	.307*	.369*	.488*	.427*	.392*	.510*	.419*	1
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	463	461	460	459	459	457	458	458	455	462	463	463

Note: *Correlation is significant at the 0.01 level. src = self-rated competency. satis = satisfaction with learning.

The results in Table 5.15 indicate that there were moderate to small but definite positive correlations between each of A1-A4 and the two composite variables (src and satis). Of these four 'learning opportunities' variables, A1 (*people are given opportunities to learn a number of different tasks*) and A4 (*people are given opportunities to use their skills and abilities*) had the strongest associations (.508 and .502 respectively) with *satisfaction*. Correlations between each of A1-A4 and *competency* suggest a small but definite relationship (all < .294).

There were moderate to weak positive correlations between each of A7-A13 and the two composite variables (src and satis). Of these six 'support for learning' variables, A13 (*managers often share their learning experiences with employees*) had the strongest association (.510) with *satisfaction*. There was a small but definite relationship (all < .302) between each of A7-A13 and *competency*.

Table 5.16 shows the correlations among the individual supervisors' proximate support for learning (B1-B7) variables, sources of learning (E1-E3) variables, and the two composite variables (self-rated competency (src) and satisfaction (satis) with learning).

Table 5.16

Correlation matrix for supervisors' support for learning, sources of learning, self-rated competency, and satisfaction with learning variables

		b1	b2	b3	b4	b5	b6	b7	e1	e2	e3	src	satis
b1	Coeff	1	.746*	.737*	.493*	.494*	.467*	.481*	.355*	.336*	.190*	.167*	.456*
	Sig.		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	463	458	458	461	459	459	463	440	434	444	462	462
b2	Coeff	.746*	1	.664*	.478*	.527*	.557*	.541*	.297*	.319*	.195*	.203*	.450*
	Sig.	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	458	458	454	457	455	455	458	436	429	439	457	457
b3	Coeff	.737*	.664*	1	.604*	.590*	.537*	.569*	.357*	.338*	.173*	.178*	.489*
	Sig.	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	458	454	458	457	454	454	458	436	430	441	457	457
b4	Coeff	.493*	.478*	.604*	1	.749*	.546*	.576*	.399*	.303*	.180*	.155*	.458*
	Sig.	.000	.000	.000		.000	.000	.000	.000	.000	.000	.001	.000
	N	461	457	457	462	458	457	461	438	432	443	461	461
b5	Coeff	.494*	.527*	.590*	.749*	1	.657*	.627*	.439*	.374*	.170*	.224*	.481*
	Sig.	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000
	N	459	455	454	458	460	455	459	436	431	442	459	459
b6	Coeff	.467*	.557*	.537*	.546*	.657*	1	.674*	.452*	.357*	.229*	.261*	.518*
	Sig.	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000
	N	459	455	454	457	455	459	459	437	431	440	459	459
b7	Coeff	.481*	.541*	.569*	.576*	.627*	.674*	1	.415*	.368*	.224*	.249*	.552*
	Sig.	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000
	N	463	458	458	461	459	459	463	440	434	444	462	462
e1	Coeff	.355*	.297*	.357*	.399*	.439*	.452*	.415*	1	.444*	.364*	.194*	.429*
	Sig.	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000
	N	440	436	436	438	436	437	440	440	423	429	439	439
e2	Coeff	.336*	.319*	.338*	.303*	.374*	.357*	.368*	.444*	1	.257*	.265*	.442*
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	N	434	429	430	432	431	431	434	423	434	426	433	433
e3	Coeff	.190*	.195*	.173*	.180*	.170*	.229*	.224*	.364*	.257*	1	.041	.210*
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000		.392	.000
	N	444	439	441	443	442	440	444	429	426	445	444	444
src	Coeff	.167*	.203*	.178*	.155*	.224*	.261*	.249*	.194*	.265*	.041	1	.419*
	Sig.	.000	.000	.000	.001	.000	.000	.000	.000	.000	.392		.000
	N	462	457	457	461	459	459	462	439	433	444	463	463
satis	Coeff	.456*	.450*	.489*	.458*	.481*	.518*	.552*	.429*	.442*	.210*	.419*	1
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	462	457	457	461	459	459	462	439	433	444	463	463

Note: *Correlation is significant at the 0.01 level. src = self-rated competency. satis = satisfaction with learning

The results in Table 5.16 indicate that there were moderate to weak positive correlations between each of B1-B7 and the two composite variables. Of these seven measures of the supervisors' support for learning, B7 (*arranges help from others when something comes up that I do not know how to handle*) and B6 (*provides on the job training when I need it*) had the strongest associations (.552 and .518 respectively) with *satisfaction*. Correlations between each of B1-B7 and *competency* were statistically significant but weak (all < .262).

The correlation matrix reveals moderate to weak positive correlations between each of E1-E3 and the two composite variables. E1 (immediate supervisor) and E2 (other managers) had much stronger associations with *satisfaction* (.429 and .442 respectively) than E3 (workmates) did (.210). Correlations between each of E1-E3 and *competency* suggest a small but definite relationship (all < .266).

Overview of correlation results and implications for multiple regression analysis
Generally, the results of the correlation analysis provide empirical justification, in addition to the theoretical and conceptual grounds, for the selection of *satisfaction with on-the-job learning* as a dependent variable in the subsequent regression analysis. However, because of the statistically significant but generally weak strength of associations between *self-rated competency* and the other variables in the correlation matrices, a decision was made to *exclude* self-rated competency as a dependent variable from the subsequent multiple regression analysis.

The correlation analysis also provided an opportunity to examine the data sets to determine if multi-collinearity could cause problems with regression. Multi-collinearity in multiple regression analysis refers to the correlation among the 'independent' variables (Hair et al., 2003). When multi-collinearity is too high, it could cause problems with regression.

Examination of the results of the correlation analysis revealed that there was minimal likelihood of multi-collinearity, as the highest inter-correlation was 0.749, between B4 and B5 (see Table 5.16). A general rule of thumb adopted by statisticians is a correlation coefficient between two 'independent' variables greater than + 0.70 (or less than - .70) is

evidence of potential problems with multi-collinearity (Hair et al., 2003). More precise tests were used in the subsequent multiple regression analysis to determine whether multi-collinearity was high enough to cause problems.

5.7.4 Multiple Regression Analysis

Multiple regression analysis provides a means of analysing situations where a dependent variable is affected simultaneously by several independent variables. In the current study, multiple regression analysis was used to identify the independent variables that were statistically significant in explaining variation in *satisfaction with on-the-job learning* (dependent variable). To identify the significant independent variables, we will first examine the associative relationships between the composite variables that were calculated to represent the factor analysis constructs.

Composite variables

The three composite independent variables (learning opportunities, support for learning, and supervisors' support for learning) and the dependent variable (satisfaction) were entered in the SPSS and the regression was run. In the SPSS output file, the Model Summary table revealed that the R-Square statistic was 0.473. (R-Square ranges from 0 to +1. A larger R-Square indicates a stronger relationship between the independent variables and the dependent measure.) The ANOVA table indicated the overall regression model was significant at a very high level (F = 137.238, p < 0.001). This means that 47.3% of the total variation in satisfaction can be explained from the three composite independent variables, and the probability of random chance producing these findings is less than 1/1000 (Sweet & Grace-Martin, 2003).

Table 5.17 contains other key statistics taken from the regression output. Statistics in the table show that all three independent variables were significant at a very high level (.000). The t statistics in the table can help determine the relative importance of each variable in the model. The t-values suggest that of the three variables, *supervisors' proximate support*

for learning is the most important independent variable in explaining variation in levels of satisfaction with on-the-job learning.

Table 5.17

Regression statistics: Composite variables

Composite independent variables	t	Significance	Tolerance	VIF
Learning opportunities	5.306	.000	.604	1.657
Support for learning	5.640	.000	.543	1.842
Supervisors' proximate support	7.415	.000	.606	1.650

Dependent variable: Satisfaction with on-the-job learning

Tolerance and VIF are collinearity statistics that are used to determine if collinear independent variables have been put in the regression equation (Hair et al., 2003). Different independent variables may be so strongly collinear that they do not vary sufficiently from one another to be distinguishable in the regression equation. If variables are collinear, there is not enough distinct information in these variables for the multiple regression procedure to operate correctly. Thus, collinearity occurs when the variables have strongly redundant information. If the Tolerance value is smaller than .10, or if the VIF is larger than 5.0, then we conclude that collinearity is a problem (Hair et al., 2003). The Tolerance and VIF statistics (taken from the SPSS output file) in Table 5.17 indicate that collinearity among the three independent variables was not a problem.

The results presented in this sub-section have provided insights into the associative relationships between the three composite independent variables and the composite outcome variable (satisfaction with on-the-job learning). Next, we examine the associative relationships between the most parsimonious sets of independent variables (extracted through factor analysis) and the composite outcome variable (satisfaction with on-the-job learning).

Individual variables

The sets of individual independent variables (related to learning opportunities, support for learning, supervisors' support for learning, and sources of learning) and the composite dependent variable (satisfaction) were entered in four separate regression models in the SPSS and the regressions were run. Diagnostic information for the four multiple regression models, taken from the Model Summary tables and the ANOVA tables, is contained in Table 5.18.

Statistics in Table 5.18 indicate that each regression model was significant at a very high level (.000). The regression model for *supervisors' support for learning* explained 39% of the total variance in satisfaction, while the regression model for *sources of learning* explained just 26.7% of the total variation in satisfaction. The regression models for *learning opportunities* and *support for learning* explained 34.1% and 36.2% respectively of the total variation in satisfaction.

Table 5.18

Satisfaction regression models

Independent variables	R Square	% of variance	F	Sig.
Learning opportunities (A1-A4)*	.341	34.1	58.014	.000
Support for learning (A7– A10; A12-A13)*	.362	36.2	40.557	.000
Supervisors' support for learning (B1-B7)*	.390	39.0	40.075	.000
Sources of learning (E1-E3)*	.267	26.7	49.937	.000

Note: Dependent variable: Satisfaction with on-the-job learning. * Related statistics shown in Table 5.19.

Table 5.19 contains other key statistics taken from the regression output. The Tolerance and VIF statistics in the table indicate that collinearity among the independent variables was not a problem for each of the four regression models. Since we found significant satisfaction regression models (see Table 5.18), it was important to understand which

specific independent variables were important influencers of satisfaction with on-the-job learning. To do this we examine the t-values and significance levels in Table 5.19. The cut-off point for a significant independent variable in this analysis was 0.000.

Statistics in Table 5.19 show that both A1 (*people are given opportunities to learn a number of different tasks*) and A4 (*people are given opportunities to use their skills and abilities*), with their respective levels of statistical significance shown as 0.000, were significant 'learning opportunities' variables in explaining variation in satisfaction. Also, two of the 'support for learning' variables were significant at the .000 level. A9 (*people feel encouraged to experiment to learn new ways of doing old tasks*) and A13 (*managers often share their learning experiences with employees*), with their respective levels of statistical significance shown as .000 were significant variables in explaining variation in satisfaction. A12 (*people who learn new skills are rewarded*) approaches significance but does not meet the criterion of $p < .001$. However, A12 is significant at the .01 level. The t-values suggest that, of these three 'support for learning' variables, A13 has the most influence on the dependent variable (satisfaction).

With regard to 'supervisors' support for learning', statistics in Table 5.19 indicate that only B7 (*arranges help from others when something comes up that I do not know how to handle*) was significant at the .000 level. B6 (*provides on the job training when I need it*) approaches significance but does not meet the criterion of $p < .001$. Nevertheless, B6 was significant at the .01 level. The t-values suggest that B7 was more important than B6 in explaining variation in levels of satisfaction with on-the-job learning.

Two of the 'sources of learning' variables were significant at the .000 level. Both E1 (*immediate supervisor*) and E2 (*other managers*), with their respective levels of statistical significance shown as .000, were significant variables in explaining variation in satisfaction. The t-values suggest that E2 was more important than E1 in explaining variation in levels of satisfaction with workplace learning.

Table 5.19

Regression statistics: Individual variables

Independent variables	T	Significance	Tolerance	VIF
Model 1: Learning opportunities				
A1	5.623	.000	.518	1.930
A2	1.050	.294	.490	2.042
A3	1.185	.237	.716	1.396
A4	5.643	.000	.557	1.795
Model 2: Support for learning				
A7	1.786	.075	.794	1.259
A8	.372	.710	.603	1.660
A9	4.428	.000	.444	2.253
A10	.670	.504	.524	1.907
A12	2.874	.004	.719	1.391
A13	5.490	.000	.605	1.654
Model 3: Supervisors' support for learning				
B1	1.822	.069	.337	2.967
B2	.210	.834	.372	2.688
B3	1.511	.131	.352	2.840
B4	1.272	.204	.388	2.577
B5	.774	.439	.341	2.936
B6	2.735	.006	.428	2.339
B7	4.549	.000	.438	2.283
Model 4: Sources of learning				
E1	5.667	.000	.737	1.357
E2	6.600	.000	.797	1.255
E3	.839	.402	.858	1.165

Note: Dependent variable: Satisfaction with on-the-job learning.

Overview of regression results

The results presented in this sub-section identified specific independent variables that had a statistically significant association with *satisfaction with on-the-job learning*. These independent variables were as follows (*significant at the .000 level; **significant at the .01 level):

- Learning opportunities:

    A1* (*people are given opportunities to learn a number of different tasks*)

    A4* (*people are given opportunities to use their skills and abilities*)

- Support for learning:

    A9* (*people feel encouraged to experiment to learn new ways of doing old tasks*)

    A12** (*people who learn new skills are rewarded*)

    A13* (*managers often share their learning experiences with employees*)

- Supervisors' proximate support for learning:

    B6** (*provides on the job training when I need it*)

    B7* (*arranges help from others when something comes up that I do not know how to handle*)

- Sources of learning

    E1* (*immediate supervisor*)

    E2* (*other managers*)

Even though some of the above regression results were statistically significant, they had to be interpreted cautiously until residuals analysis was conducted to determine if any of the assumptions of the five regression models had been violated (Hair et al., 1998; Sweet & Grace-Martin, 2003).

Examination of residuals

An analysis of the residuals (the unexplained portion of the dependent variable) helps to determine whether the assumptions that have been made about the regression models are appropriate. In this study, residuals analysis involved visual examination of three types of graphical plots of the regression residuals, for each of the five regression models (Hair et al., 2003).

In the SPSS output files, the five histograms (see Appendix I) showed the frequency distributions of the standardised residuals compared to a normal distribution curve. These plots of standardised residuals provided information on the assumption that the residuals were normally distributed. Examination of the five histograms in the SPSS output files showed that in each case there were some residuals that were beyond the left tail of the curve, but in each case many of the residuals were fairly close. Also, in each case some of the columns of residuals were above the curve, and others were below it. But, on the whole, it seemed that 95 percent of the standardised residuals were between −2 and +2 standard deviations in each case.

The normal probability plot of standardised residuals is another approach to determine if the residuals are normally distributed. The normal probability plot of regression standardised residuals compares the observed standardised residuals against the expected standardised residuals from a normal distribution. If the observed residuals are normally distributed, they will be close to the 45-degree line shown on the plot. Examination of the five normal probability plots of standardised residuals (see Appendix I) in the SPSS output files revealed that in each case the residuals were reasonably close to the 45-degree line.

Finally, in the SPSS output files, the five scatter plots (see Appendix I) compared the standardised predicted values of the dependent variable with the standardised residuals from the regression equations. Overall, the five scatter plots of residuals showed no large differences in the spread of the residuals when looking at each scatter plot from left to right on the chart and most of the points were within the −2 or +2 range of standard deviation.

There was no clear relationship between the residuals and the predicted values, which indicated that the assumption of linearity was not violated.

Thus, from an examination of the information contained in all the plots in the SPSS output files, it could be concluded that there were no significant data problems that would indicate the assumptions of multiple regression had been seriously violated. This conclusion is reinforced by the fact that regression is considered a robust statistical technique, and substantial violations of assumptions are necessary to create problems (Hair et al., 2003).

5.8   SUMMARY

The results presented here provided a description of how employees perceived their workplaces as learning environments. Findings relating to the work environment characteristics indicated that managers might have been failing to create some important facilitating conditions in the work environments. Also, in general, workplace supervisors in the sample firms did not seem to regard supporting the learning of staff as a priority. In addition, the results indicated that employees lacked access to information, about their work group's performance, necessary for learning. Nevertheless, employees did report moderate levels of satisfaction with learning, and relatively high levels of (self-rated) competency.

Employee attributions of their work-related learning to various sources and methods of learning were reported. These findings highlighted the importance of workmates and observation as 'aids to learning'. Finally, specific work environment conditions, supervisor support behaviours, and sources of learning, which had a statistically significant association with employee satisfaction with on-the-job learning, were identified. In the next chapter, the results reported here are discussed.

CHAPTER SIX

DISCUSSION OF THE EMPLOYEE SURVEY RESULTS

In Chapter Four, findings of the qualitative component of this study were presented and discussed. As a whole, the chapter provided a descriptive account of how managers, in the small firms studied, fostered the learning of their staff. In contrast, the results of the mail survey reported in Chapter Five revealed how employees in the sample firms perceived their workplaces as learning environments. Additionally, findings for the various demographic groups provided a comparative view of employee perceptions of their workplaces as learning environments. The results also enabled us to gain insights into the nature and degree of association between employee perceptions of specific work environment conditions, workplace supervisor supportive behaviours, and sources of learning, on the one hand, and employee satisfaction with workplace learning on the other.

This chapter presents a discussion of the employee survey results reported in Chapter Five. In the discussion, results of the survey are linked to existing theory. Also, links between the results of this quantitative component of the study and findings of the qualitative part of the current study (see Chapter Four) are established. The chapter begins with a discussion of the aggregate results (section 6.1). Next, results for the various sub-samples within the demographic variables are discussed (section 6.2). Finally, results of the correlation and regression analysis are discussed (section 6.3).

6.1   AGGREGATE RESULTS

This section presents a discussion of the mail survey results at the aggregate level. The aggregate results are considered first in order to further develop the overall picture of how employees in the sample firms view their workplaces as learning environments. In the discussion we explore the meaning of results relating to conditions in the work environments (section A of the questionnaire), workplace supervisors' proximate support for employee learning (section B), and outcomes of employee learning experiences

(sections C and D). We also consider results relating to sources and methods of employee learning (section E of the questionnaire) to further develop our insights into employee learning processes. (The questionnaire is contained in Appendix G.)

6.1.1 Conditions in the Work Environments

The results regarding work environment conditions suggest that learning opportunities (A1-A4) in the sample firms are *constrained* mainly by limited opportunities for employees to choose their own methods of working (A3: $\bar{x} = 4.68$). This finding in relation to A3, that employees have limited opportunities to choose their own methods of working, together with the findings in relation to A9 (feel encouraged to experiment: $\bar{x} = 4.88$) and A10 (ideas for change welcomed: $\bar{x} = 4.78$), suggest employees perceive that they have limited autonomy in their jobs. This seems to be in harmony with Gray's (2004) assertion that the desire for personal independence is consistently the most commonly cited career-choice motive reported by small firm owners and has the effect of inhibiting effective delegation of responsibilities to subordinates and their associated skills development.

The results suggest that learning opportunities (A1-A4) in the sample firms are *enhanced* mainly by opportunities for employees to learn a number of different tasks (A1: $\bar{x} = 5.54$). This finding that employees perceive that they have access to a wide range of work activities (A1), is consistent with the view often encountered in the small business literature - that managers and employees in small firms are often multi-skilled, because small firms rely on fewer personnel resources for multiple activities (see, for example, Cameron & Massey, 1999; Ghobadian & Gallear, 1997). This finding also supports a finding of the qualitative component of the current study, that in the opinion of the respondents, managers make effective contributions to their employees' learning through providing access to a range of work activities (see Table 4.2).

The results in relation to A5 (training is arranged for you: $\bar{x} = 5.05$) and A6 (no informal training available: $\bar{x} = 4.98$) suggest respondents perceive that they have limited access to training. As noted in Chapter Two (Review of the Literature), other researchers have also

encountered an apparent lack of access to training in small businesses. For example, based on findings of their empirical research, Hill and Stewart (2000) conclude, "in many small organizations training does not take place at all" (p.108).

The relatively low means on A9 (feel encouraged to experiment: $\bar{x}$ = 4.88) and A10 (ideas for change welcomed: $\bar{x}$ = 4.78), compared to the means on A7 (managers tolerate mistakes: $\bar{x}$ = 5.42) and A8 (people take time to figure out ways to improve: $\bar{x}$ = 5.26), suggest conditions in the work environments of the firms are more conducive to an *adaptive* mode of learning, than a *developmental* (or innovative) mode of learning (Ellstrom, 2001). Items A7 and A8 are indicators of an *adaptive* mode of learning. According to Ellstrom (2001), in the adaptive mode of learning, the learner has to evaluate the outcomes and make minor corrections in the way the methods were used to solve the problem at hand. This would, for example, apply to a work setting where the workers have a responsibility for continuous improvements of formalised work procedures.

In contrast, items A9 and A10 speak of feeling 'encouraged to experiment' and managers welcoming 'ideas for change'. These two items (A9, A10) are indicators of a *developmental* mode of learning. According to Ellstrom (2001), in developmental learning, the learner has to engage in a more active process of knowledge-based problem solving through experimentation. This mode of learning becomes necessary when we encounter novel or unfamiliar situations for which no rules or procedural knowledge (know-how) is available from previous experience. This mode of learning also occurs when individuals and groups within an organisation begin to question established definitions of problems or objectives, and act to transform institutionalised ideologies, routines, structures or practices. Thus, developmental (or innovative) learning is associated with experimentation, search, risk taking, discovery, and creativity. Although both modes of learning distinguished here are deemed necessary and assumed to be complementary, according to Ellstrom, individuals and organisations tend to get caught in an *adaptive* mode of learning.

The results pertaining to encouragement to learn (A11: $\bar{x}$ = 4.77) and rewards for learning (A12: $\bar{x}$ = 3.86), suggest the respondents perceive that there is a lack of incentives to learn.

Establishing learning goals and making available rewards for learning are widely acknowledged by learning theorists (e.g., Dubin, 1990; Ellstrom, 2001; Knowles, 1990) as being important in facilitating learning. Managers can thus make important contributions to fostering employees' informal workplace learning by ensuring that rewards (and sanctions) are consistent with learning agendas.

Furthermore, apart from respondents apparently experiencing insufficient incentives, the findings in relation to A13 (managers often share their learning experiences with employees: $\bar{x} = 4.58$) also suggest managers are perceived by respondents to not provide modelling influences. As Tannebaum (1997), and others, have observed, managers who wish to encourage learning at and through work should serve as role models and demonstrate personal commitment to learning through modeling the behaviours they expect of others.

6.1.2   Supervisors' Proximate Support for Learning

The results in relation to supervisors' proximate support for learning suggest that, in general, workplace supervisors may not be effectively enacting their staff development role. The low means (all < 5.0) on items B1 (discusses my performance: $\bar{x} = 4.61$), B2 (asks what I need to learn: $\bar{x} = 4.44$) and B3 (provides constructive feedback: $\bar{x} = 4.78$) suggest workplace supervisors are perceived not to be adopting a proactive stance in fostering their subordinates' learning, and that they are providing only low levels of learning support. These findings also suggest that the potential to learn through feedback on performance from social sources (B3), specifically immediate supervisors, is not being fully realised in the firms.

These findings in relation to B1-B3 are also suggestive that formal performance appraisal systems may not be widely used in the sample firms. This is because B1-B3 are indicators of behaviours workplace supervisors would typically enact in performance appraisal meetings with staff. Similarly, a finding of the qualitative component of the current study was that fairly formal appraisals systems were being used in only four of the ten firms

studied. Together, these quantitative and qualitative findings provide support for the findings of other New Zealand research (e.g., Gilbert & Jones, 2000; Knuckey et al., 2002), which indicates that formal performance appraisal is uncommon in small firms.

The relatively larger means on B4 (is available to talk about problems: $\bar{x}$ = 5.58), B5 (works with me to solve problems: $\bar{x}$ = 5.30), and B7 (arranges help from others when something comes up that I do not know how to handle: $\bar{x}$ = 5.21), compared to the means on B1-B3 and the mean on B6 (provides on the job training: $\bar{x}$ = 5.02) suggests that the workplace supervisors' personal involvement in the learning of staff is mainly in relation to problem solving. By extension, it could be argued that work-related problems are important 'learning triggers' in these firms. Similarly, solving work-related problems was also identified as a significant area of learning in Boud and Middleton's (2003) study of learning in workplaces.

6.1.3 Outcomes of Employee Learning Experiences

Most respondents were moderately satisfied with their on-the-job learning experiences (C1: $\bar{x}$ =5.50; C2: $\bar{x}$ = 5.53). However, these near identical means are suggestive that respondents did not discriminate between their job-related learning experiences (C1: satisfied with what I have learned) and their personal development experiences (C2: satisfied with my personal development). Although respondents, in general, reported moderate satisfaction with their on-the-job learning experiences, they did not seem to rate organisation-provided initial training (C3: $\bar{x}$ = 4.84), or organisational support for personal growth and development (C4: $\bar{x}$ = 5.23), very highly.

The results in relation to self-rated competency indicate that most participants perceive themselves to be quite capable at their jobs (C8: $\bar{x}$ = 6.07). The higher mean for skill development (C6: $\bar{x}$ = 5.87) compared to conceptual development (C5: $\bar{x}$ = 5.78) is suggestive that skill development may take precedence over conceptual development in the firms. Also, in general, respondents appear to have a perceived need for further job related-training (C7: $\bar{x}$ = 5.14).

As reported in Chapter Five, in section D of the questionnaire (Work Group's Performance), large numbers of respondents selected the 'not sure' response option. In particular, it seems that respondents lacked access to information about: complaints by internal or external customers (D3, 72 respondents 'not sure'); actual performance in relation to production/performance targets (D4, 83 respondents 'not sure'); and costs (D5, 160 respondents 'not sure'). To gain access to these types of information, employees are likely to be very reliant on managers as sources of information. On the other hand, respondents seemed to have better access to information about quality improvement over time (D1, only 59 respondents 'not sure') and occurrences of serious quality errors in their group's work (D2, only 47 respondents 'not sure'). Employees may not be as reliant on managers as sources of information for access to these two types of information.

These findings are consistent with findings of an investigation into access to information experienced by staff within a New Zealand company (see Sligo, 1996). In Sligo's (1996) study, limitations also appeared more obviously with regard to formal information sources (with management having responsibility to provide access) than for informal sources (which the individual finds it easier to access). Sligo (1996) argues that any learning, whether individual, team or organisational, is to a degree dependent on sufficient access to information. Learning is intimately associated with adaptability and behaviour change (Senge, 1990a; Tannenbaum, 1997), but if staff access to information is constrained, then presumably their capacity to be adaptable and see alternative behavioural options are similarly impeded (Sligo, 1996).

6.1.4 Sources and Methods of Learning

Although managers were perceived as making significant contributions to their subordinates' learning, the respondents attributed more of their learning to workmates (E3: $\bar{x} = 3.77$), than to their supervisor (E1: $\bar{x} = 3.62$) or other managers (E2: $\bar{x} = 3.22$) in the organisation. (Note: Section E responses were recorded on a five-point scale.) Following Bandura (1977), the importance attributed to workmates as sources of learning is consistent with the finding of this study, that respondents attributed development of their

work-related knowledge and skills primarily to learning by observation (E6: $\bar{x}$ = 3.95). Bandura contends that most human behaviour is learned observationally through modelling, and four component processes govern that observational learning: (1) attentional processes; (2) retention processes; (3) motor reproduction processes; and (4) motivational processes.

According to Bandura (1977):

> Among the various attentional determinants, associational patterns are clearly of major importance. The people with whom one regularly associates, either through preference or imposition, delimit the types of behavior that will be repeatedly observed and hence learned most thoroughly (p.24).

In small manufacturing firms, factors such as the spatial working relationships and spans of management shape associational patterns. Because of these factors, there are likely to be more opportunities for interactions between co-workers, than opportunities for interactions between employees and their immediate supervisors.

The finding that respondents perceived their workmates (E3) as the most useful source of learning is consistent with the findings of Boud and Middleton (2003). In their study, workers in the sites examined tended in general to manage their learning needs to minimise their supervisors' involvement in their learning process. Similarly, Hughes (2002) has argued that employees may have difficulties in trusting their supervisors to facilitate their learning, because of supervisors' formal role in surveillance of their staff, and the need for staff to portray themselves as competent employees. On the other hand, as Bishop (1991) has noted, informal training by workmates, and learning by watching others do the job, appear to have a higher benefit cost ratio than the benefit cost ratio of employees receiving informal training by management.

Findings pertaining to the four methods of learning (E4-E7) suggest the learning environments in the firms are inquiry-based (E4, E6, E7), as opposed to transmission-based (E5) (Hay & Barab, 2001). In other words, the process of acquiring work-related

knowledge and skills seems to be mainly informal and self-directed. Of the four methods of learning, on-the-job training/direct instruction (E5: $\bar{x}$ = 3.5 on a 5-point scale) was perceived as the *least useful* method. These findings support Tannenbaum's (1997) contention that "it is imperative that organisations recognize that non-training options are the primary means by which their employees develop competence" (p. 448).

The findings in relation to the four methods of learning (E4-E7) also suggest that most work-related knowledge and skills that respondents acquired in their organisations is tacit. In a manufacturing environment, a great deal of behaviour patterns that employees need to learn, probably do not lend themselves readily to verbal coding. The findings suggest employees acquire this tacit knowledge and skills primarily through observation of knowledge embedded in actions of workplace models (E6: $\bar{x}$ = 3.95), and through direct experiences, of both everyday work activities (E4: $\bar{x}$ = 3.74) and trial and error (E7: $\bar{x}$ = 3.56). These findings are consistent with Bandura's (1977) assertion that "human thought, affect, and behavior can be markedly influenced by observation, as well as by direct experience" (p. vii).

6.2   RESULTS BY DEMOGRAPHIC VARIABLES

This section presents a discussion of the employee survey results for the various sub-samples within six demographic variables. These six demographic variables are: gender, ethnicity, tenure, nature of work, education, and age. The discussion that follows will help to reveal demographic variables that were particularly important in this study, and enable us to gain insights into how different groups of employees perceive their workplaces as learning environments.

6.2.1   Gender

The means of males and females on just four of the thirty-five (sections A, B, C and E) items were significantly different. The results suggest females perceived work environment

conditions more favourably than males did. However, the differences in means on just three of the measures of work environment conditions (A1, A5, A11) were statistically significant. Females also reported higher levels of satisfaction with their learning experiences, and they rated their job competency at higher levels. However, overall, males perceived that their immediate supervisors provided greater proximate support for learning. This, in part, may explain why females attributed more of their learning to trial-and-error (E7), than males did. (The means on E7 were significantly different.) If supervisors do not help staff learn, then staff may have to often learn through trial-and-error.

6.2.2 Ethnicity

The means of the two sub-samples of respondents (European/New Zealand European, and Māori and Pacific Peoples) on just three of the thirty-five items were significantly different. In general, Māori and Pacific Peoples perceived that their immediate supervisors provided greater proximate support for learning. Likewise, in general, Māori and Pacific Peoples reported greater satisfaction with their on-the-job learning experiences, and they rated their job competency more highly. However, Māori and Pacific Peoples were less satisfied with the initial training provided by the organisation (C3). (The difference in means on item C3 was significant.)

The results in relation to 'aids to learning' are suggestive the two sub-samples of respondents may each have learning style preferences (Mumford & Gold, 2004) that are different. Māori and Pacific Peoples attributed relatively more of their learning to E1 (my immediate supervisor), E2 (other managers), E3 (workmates), and E5 (on-the-job training). Each of these items is an indicator of learning through interaction with others. In contrast, Europeans/New Zealand Europeans attributed relatively more of their learning to E4 (everyday work activities), E6 (observing and listening), and E7 (trial-and-error). Each of these items is an indicator of learning processes that involve others to a lesser extent. (The means on E2 and E3 were significantly different.)

6.2.3 Tenure

As mentioned in Chapter 5, in presenting results relating to tenure, the focus was on the respondents most likely to be facing major learning challenges, that is, respondents with tenures of less than two years. Results for these respondents, who were newcomers to their organisations, were contrasted with results for respondents with significantly longer work experience in their organisations (six or more years). Thus, results of the t-tests were reported for these two (of three) sub-samples only.

There were significant differences between means of the two sub-samples (less than two years, six or more years) on sixteen of thirty-five items. Overall, respondents with short tenures (less than two years) viewed work environment conditions more favourably than respondents with relatively longer tenures did. Similarly, respondents with short tenures viewed their immediate supervisor's level of proximate support for learning more favourably than respondents with relatively longer tenures did. These findings are suggestive that managers in the organisations may be providing supportive leadership for newcomers who need to learn about, and adjust to, a new work context, and who may be relatively inexperienced and unskilled. Thus, socialisation processes, and initial on-the-job training, whereby newcomers learn their jobs from supervisors and workmates, in part by direct instruction, but also by observing them and using them as role models, may account for the largest share of informal workplace learning in the sample firms. Thereafter, the emphasis on employee learning seems to diminish. The results also suggest that managers in these firms may not foster continuous learning, and that employee perceptions and expectations of workplace learning environments change as their tenure increases.

Not surprisingly, in general, respondents with short tenures (less than two years) reported greater satisfaction with their learning experiences than respondents with relatively longer tenures did. On the other hand, respondents with relatively longer tenures generally rated their job competency more highly than respondents with relatively shorter tenures did. Except for learning through observation (E6), the perceived usefulness of the 'aids to

learning' generally diminished with increases in tenure. Thus, employee work-related learning seemed to be concentrated in the initial period of employment at the firm.

6.2.4   Nature of Work (Managerial/Non-Managerial)

There were significant differences between means of the two sub-samples (managers/non-managers) on just five of the thirty-five items. The results suggest managers perceived most work environment characteristics more favourably. Managers and non-managers differed significantly on item A2 (people are given opportunities to take on challenging tasks). This finding could be explained with reference to the job characteristics model (see Hackman & Oldham, 1980). In this model, managerial work would rate higher on core job dimensions such as skill variety and autonomy, than production work would. Thus, in a manufacturing environment, managerial work should provide more opportunities to take on challenging tasks, in comparison to production work.

The results also highlighted a significant difference between how managers and non-managers perceived organisational rewards for learning (A12). Non-managers, in particular, perceived links between knowledge and skill acquisition and organisational rewards as weak. Expectancy theory (Vroom, 1964) suggests that such perceptions would have negative effects on (non-managers') motivation to learn.

Overall, managers reported higher levels of satisfaction with their learning experiences. The difference in the means on item C4 (this organisation has helped me to grow and develop) was significant. This finding could be explained in terms of the greater learning potential of management work, compared to production work. On the other hand, Billett (2001a) argues that access to learning opportunities in the workplace is contestable. In the sample firms, managers may have privileged access to such opportunities.

Managers reported higher levels of job-related knowledge. There was a statistically significant difference between means of managers and non-managers on C5 (when it comes to my job, I am quite knowledgeable). This could be because, particularly in the context of

the organisations studied, management work requires an emphasis on conceptual learning ('know why'), whereas the work performed by non-managers (production staff) requires an emphasis on procedural learning ('know how') (Kim, 1993).

Managers and non-managers also differed significantly in their perceptions of workmates (E3) as sources of learning. Non-managers attributed more of their learning to their workmates. Numerous studies of how people learn at work (e.g., Boud & Middleton, 2003; Eraut et al., 1999; Hughes, 2004) emphasise that peer communication and interaction is an important influence on employee learning. Studies of how managers learn, on the other hand, suggest the challenge of the job itself is a key source of managerial learning (McCall, 1998).

6.2.5 Education

With regard to education, the two sub-samples of respondents (secondary/tertiary) differed significantly on seven of the thirty-five items. Respondents with tertiary qualifications perceived most work environment characteristics less favourably. Similarly, respondents with tertiary qualifications perceived their immediate supervisors' level of proximate support for learning less favourably. They also reported lower levels of satisfaction with their learning experiences. With the exception of job knowledge (C5), they also rated their job competency lower on all items. Thus, the two groups held differing views of work environment characteristics, supervisors' proximate support for learning, (dis)satisfaction with learning experiences, and their job competency.

This could, in part, be due to potential differences in growth needs of members of the two sub-samples of respondents (Alderfer, 1972). Growth needs – an intrinsic desire for personal development – may be stronger in respondents with tertiary qualifications. Their overall less favourable assessment of the workplace learning environments may be related to factors such as frustration of their growth needs, or their unmet expectations of organisational support for learning.

6.2.6   Age

As mentioned in Chapter Five, in presenting results relating to age, the focus was on respondents most likely to be facing major learning challenges, that is, respondents in the 18-24 age category. The results for respondents in the 18-24 age category, who were likely to be relatively unskilled and new to the workforce, were contrasted with results for respondents in the 35-44 age category, who were likely to have more work experience and be more skilled. Thus, results of the t-tests were reported for these two (of four) sub-samples only.

There were significant differences in means of the two sub-samples of respondents on fifteen of the thirty-five items. On the whole, respondents in the 18-24 age category viewed work environment conditions more favourably than older respondents did. (Five indicators of work environment conditions had mean differences that were significantly different.) Similarly, overall, respondents in the 18-24 age category viewed their immediate supervisor's level of proximate support for learning more favourably than older respondents did. (Five items related to supervisor's support for learning had mean differences that were statistically significant.) The results show that respondents in the 18-24 age category generally reported greater satisfaction with their learning experiences than older respondents did.

A possible explanation is that the younger respondents were more likely to be unskilled and new to the workforce. Therefore, they probably received high levels of learning support from socialisation agents, because they would have to learn about, and adjust to, the organisation's culture and simultaneously learn job specific skills. Older respondents, who were newcomers to their organisations, would also need such support from socialisation agents, but mainly support in adapting to the organisation culture.

Respondents in the 25-34, 35-44, and 45 and over age categories generally rated their job competency more highly than respondents in the 18-24 age category did. This seems logical since employees in the older age categories were more likely to have higher levels of job-related skills and knowledge, and more work experience.

Respondents in all four age categories seemed to agree that workmates (E3) were more useful than managers (E1, E2) as sources of learning. They also seemed to agree that learning through observation (E6) and everyday work activities (E4) had been more useful in developing their work-related knowledge and skills than on-the-job training (E5) and trial and error (E7) had been. However, respondents in the 18-24 age category perceived their supervisor (E1), workmates (E3), and on-the-job training (E5) as being (significantly) more useful 'aids to learning' than respondents in the 35-44 age category did. This suggests that employees in the 18-24 age category relied on close guidance from workplace models to a greater extent than employees in the 35-44 age category did.

6.3   RESULTS OF THE CORRELATION AND REGRESSION ANALYSIS

In Chapter Five, correlation analysis and multiple regression analysis were used to analyse associative relationships between the measures of work environment characteristics, supervisors' support for learning, and sources of learning on the one hand, and the measures of satisfaction with learning and self-rated competency on the other. This section presents a discussion of the results of the correlation analysis and multiple regression analysis. Factor analysis and reliability analysis were used in a complementary role to correlation analysis and multiple regression analysis. Results of the factor analysis and reliability analysis are briefly discussed.

Before correlation and regression analysis began, factor analysis was employed to identify optimal sets of measures, and to create a set of composite variables that were used in the subsequent correlation and multiple regression analysis. Factor analysis of the twenty-eight original variables developed an initial six-factor solution. Five of these factors displayed

logic and theoretical significance in the combinations of the original variables. These five factors accounted for an acceptable amount of the total variance (above 60 percent). The results of the factor analysis thus provide empirical support for the selection, on theoretical and conceptual grounds, of the variables used in the current study. The results of the factor analysis also showed that the 'learning opportunities' variables and 'support for learning' variables are indeed (factorially) distinct. After factor analysis was conducted, reliability analysis was used to assess the internal consistency reliability of the factor analysis constructs. The results of the reliability analysis indicated good internal consistency reliability for each of the constructs.

The results of correlation analysis confirmed that each composite and individual independent variable was significantly and positively correlated with both *satisfaction* and (self-rated) *competency*. The null hypothesis of no relationship between these independent and dependent variables could thus be rejected. Correlations between each of the independent variables and self-rated competency tended to be weak. On the other hand, correlations between each of the independent variables and satisfaction tended to be moderately strong. Although self-rated competency was found to be important in Tannenbaum's (1997) study, results of the correlation analysis showed there were only weak correlations with the independent variables in this research. Thus, only *satisfaction with on-the-job learning* was used as a dependent variable in the subsequent multiple regression analysis.

Results of the multiple regression analysis suggest that two of the four 'learning opportunities' variables were especially important in explaining variation in satisfaction (see Table 5.19). These were A1 (opportunities to learn different tasks) and A4 (opportunities to use skills and abilities). The finding in relation to opportunities to learn different tasks (A1) supports the notions that learning is embedded in goal directed work activities (Hill, 2004), and that the learning potential of a work system is enhanced by task variety (Ellstrom, 2001). The finding in relation to opportunities to use skills and abilities (A4) is consistent with the view that lack of opportunities to apply skills and abilities leads to atrophy of such skills and abilities (Noe, 2005). It could be argued that conceptual

overlap exists between opportunities to learn different tasks and opportunities to use skills and abilities. However, while these concepts are likely to be related, the correlation coefficient between the two was only moderate (0.528) and it therefore seems likely that two connected but distinct concepts were measured in this research.

In relation to the 'support for learning' variables, results of the regression analysis (see Table 5.19) indicate that three of the six variables were especially important in explaining variation in satisfaction with on-the-job learning. These were A9 (feel encouraged to experiment); A12 (learning new skills rewarded); and A13 (managers share learning experiences). These work environment characteristics have also been found to be important in other studies of workplace learning (e.g., Dubin, 1990; Tannenbaum, 1997). In this study, the regression results in relation to 'support for learning' suggest employee satisfaction with learning could be enhanced through managers in the sample firms providing: (1) encouragement to experiment to discover new and better work practices; (2) incentives to learn; and (3) modelling influences.

As mentioned previously, factor analysis was employed to create a set of composite variables that were used in the multiple regression analysis. The composite independent variables were: 'learning opportunities'; 'support of learning'; and 'supervisors' support for learning'. Results of the regression analysis using these composite independent variables (see Table 5.17), formed from the factor analysis constructs, suggest that 'supervisors' support for learning' was more important than both 'learning opportunities' and 'support for learning' in explaining variation in satisfaction with learning (the composite dependent variable).

Two of the seven supervisor support behaviours seemed to be particularly important in explaining variation in satisfaction with learning (see Table 5.19). These behaviours were providing on-the-job training when needed by subordinates (B6), or alternatively, arranging guidance from others when subordinates encounter work-related problems (B7). Thus, it seems that subordinates expect managers to be both learning resources and learning facilitators. Also, the finding in relation to B7 (arranges help from others) is consistent

with the finding of the qualitative component of this study, that in the opinion of the respondents, managers make effective contributions to the learning of staff by arranging access to close guidance from workplace models (see Table 4.2).

The means on E1, E2 and E3 (see Table 5.9) suggest that employees perceived their workmates (E3) to be more useful than their managers (E1, E2) as sources of learning. However, results of the regression analysis suggest that employee perceptions of managers as sources of learning were more important than employee perceptions of workmates as sources of learning in explaining variation in satisfaction with learning (see Table 5.19). This finding provides further empirical support (from this study) for the assertion made by some commentators (e.g., Hendry, Arthur & Jones, 1995; Sadler-Smith, Gardiner, Badger, Chaston & Stubberfield, 2000b) that managers in small firms could play an important role in fostering workplace learning.

This chapter discussed mail survey results reported in Chapter Five. In the discussion, the results were linked to existing theory. Also, links between the mail survey results and findings of the qualitative part of the current study were established. The next chapter (Chapter Seven) presents the main conclusions drawn from both the qualitative and quantitative components of the study, and the implications of the findings of both parts of the study.

CHAPTER SEVEN

CONCLUSIONS AND IMPLICATIONS

This chapter presents major conclusions drawn from the study, and summarises implications of the study's findings. Before the conclusions and implications are presented, relevant aspects of the study's design are briefly reiterated, with the aim of setting the stage for presentation of the conclusions and implications. Thereafter, the conclusions and implications are presented in sections 7.1 and 7.2 respectively.

The primary aim of this study was to contribute to the description of the effects of managers on employees' informal workplace learning processes in selected small manufacturing firms in New Zealand. Overall, the study sought to answer the question: In selected small manufacturing firms, what effects, if any, do managers have on employees' informal workplace learning? Figure 7.1 shows the conceptual framework (previously presented in Chapters One and Three) that guided this study, by focussing the researcher and providing boundaries for the study.
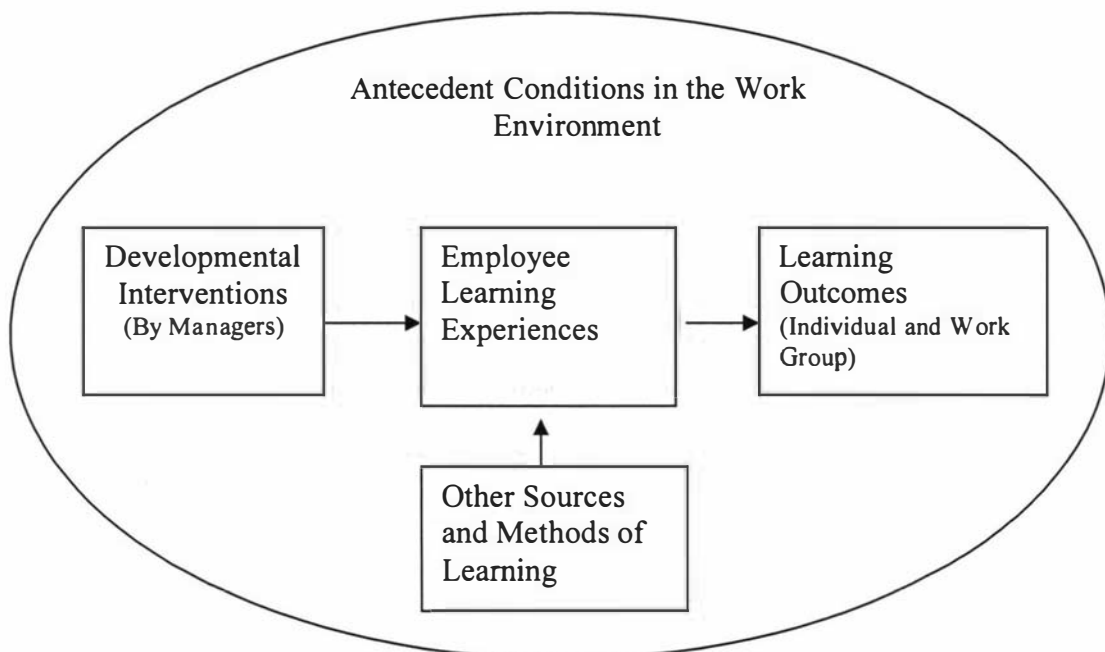
Figure 7.1

Research conceptual framework

The effects of managers on employees' informal workplace learning were studied within the boundaries furnished by this conceptual framework. Specifically, this included an investigation of:

- conditions in the work environments;
- employee development interventions used by managers;
- sources and methods of employees' learning; and
- outcomes associated with employees' learning experiences.

The form of the general research question (and other considerations as detailed in Chapter Three) influenced the researcher's decision to use a descriptive survey design. To answer the general and related specific research questions, data were collected through in-depth semi-structured interviews and questionnaires which were administered by mail. Interviews were conducted with a total of seventeen people (owner-managers, managers, employees) in ten small manufacturing firms. The verbatim expressions of the interview participants were analysed using content analytic procedures. Satisfactorily completed questionnaires were received from 464 employees in 31 small manufacturing organisations. The data were analysed using the SPSS. The analysis included univariate analysis (descriptive statistics), bivariate analysis (correlation analysis), and multivariate analysis (multiple regression analysis).

The qualitative and quantitative data used in this study were gathered from participants in mostly *small batch manufacturing* firms that produce products designed to customer specifications, such as special-order machine tools, custom clothing and printing. It could reasonably be assumed that workplace learning is particularly important in such firms. Small batch manufacturing is close to traditional skilled-craft work, because people are a large part of the production process (Daft, 2000). Furthermore, employees are likely to often encounter novel work problems when products are made to customer specifications. Situations that prompted learning in these firms included the arrival of newcomers and their needs' to be socialised and trained, the need to comply with health and safety requirements, novel work problems, and continuous improvement efforts.

The preceding brief summary of relevant aspects of the study's design has provided a backdrop for presentation of the conclusions and implications. The conclusions that follow are presented according to the three research objectives and related research questions that guided the investigation (see Table 7.1 below). Thereafter, implications that this study has for (1) management practice, (2) policy development, (3) the small business literature and theory development, and (4) future research, are discussed.

7.1 CONCLUSIONS RELATING TO RESEARCH OBJECTIVES AND QUESTIONS

This section presents the major conclusions drawn from this study. The conclusions are presented according to the three research objectives and related research questions. Table 7.1 shows the relationships between the research objectives (as initially presented in Chapter One) and the research questions (as initially presented in Chapter Three).

Table 7.1

Research objectives and related research questions

Research Objectives	Related Research Questions
Objective 1: To establish if managers in selected small manufacturing firms affect employees' workplace learning.	1. To what sources and methods of learning do employees attribute development of their work-related knowledge and skills?
Objective 2: To determine in what ways managers foster employees' workplace learning.	2. Are managers perceived as creating conditions in the work environment that are favourable to employee learning? 3. What kinds of developmental interventions are managers using to foster employee learning? 4. Do workplace supervisors enact behaviours, in one-on-one settings, likely to foster employee learning?
Objective 3: To explore outcomes of workplace learning experiences for individuals and the organisation.	5. What are outcomes of employee learning experiences for the individual? 6. What are outcomes of employee learning experiences for the organisation?

7.1.1 Sources and Methods of Learning

Research objective 1: To establish if managers in selected small manufacturing firms affect employees' workplace learning.

Research question 1: To what sources and methods of learning do employees attribute development of their work-related knowledge and skills?

Findings of the current study suggest that managers in the small firms studied do make significant contributions to their employees' learning. For instance, from the perspective of the employees, workplace supervisors were useful sources of learning ($\bar{x}$ = 3.6, on a 5-point scale). Additionally, results of the regression analysis suggest that employee perceptions of managers as sources of learning were more important than employee perceptions of workmates as sources of learning in explaining variation in satisfaction with workplace learning (see Table 5.19). These results suggest managers are an important part of the employee's learning network. However, workmates were perceived by employees to be more useful sources of work-related learning than managers were. In other words, employees attributed more of their learning to their workmates, than to their current workplace supervisor, or to other managers in the organisation (see Table 5.9).

Respondents' perceptions of the *usefulness* of managers as sources of learning differed significantly between the sub-samples of respondents within some demographic variables. Younger respondents and respondents with short tenures perceived supervisors as significantly more useful sources of learning than older respondents and respondents with relatively longer tenures did. Also, Māori and Pacific Peoples and respondents with no post-school qualifications perceived other managers in their organisations as significantly more useful sources of learning than Europeans/New Zealand Europeans and respondents with post-school qualifications did (see Table 5.10).

These findings of the employee survey in relation to *sources of learning* are consistent with the views of Boud and Middleton (2003) on the role of the workplace supervisor: workplace supervisors are part of the networks of learning, but they are not necessarily the contacts of first resort. However, findings of the current study provide only partial support for the view of Hughes (2004). According to Hughes (2004, p. 286), "supervisors, in the exercise of normal supervisory functions, can motivate and shape learning projects, but their staff will look elsewhere for support and facilitation". In Hughes' study, the participants' supervisor had almost no direct involvement in the learning processes of the participants. On the other hand, in the study by Boud and Middleton, and in the current study, the supervisor's direct involvement in the employee learning processes did seem constrained, but not to the extent that Hughes suggests.

The findings of the employee survey in relation to *methods of learning* are suggestive that workplace supervisors and other managers have only a moderate level of direct personal involvement in fostering employee learning. The findings suggest the learning environments in the sample firms are inquiry-based, as opposed to transmission-based (as explained in Chapter Two). In other words, the process of acquiring work-related knowledge and skills seems to be mainly informal and self-directed. Respondents attributed most of their work-related learning to 'natural' learning processes, rather than to learning through receiving direct instruction (on-the-job training). The findings suggest employees acquire knowledge and skills primarily through observation of knowledge embedded in the actions of workplace models (more skilled co-workers), and through their direct experiences, of everyday goal directed work activities and trial and error (see Table 5.9). These findings in relation to methods of learning provide further support for findings of other studies of learning at work (e.g., Billett, 2001a; Tannenbaum, 1997; Boud & Middleton, 2003) which suggest that formal systematic learning is of less importance than informal learning.

In the review of the literature (in Chapter Two) it was noted that previous research suggests workplace supervisors play an important role in organising and delivering on-the-job training. In this study, overall, employees perceived on-the-job training as the least useful method of learning. However, respondents' perceptions of the usefulness of on-the-job training as a method of learning differed significantly between sub-samples of respondents within some demographic variables. Respondents who were younger (18-24 years), had short tenures, or no post-school formal qualifications, perceived on-the-job training as significantly more useful than their respective comparison groups did (see Table 5.10).

As noted previously, the general research question guiding this study asked: In selected small manufacturing firms, what effects, if any, do managers have on employees' informal workplace learning? Analysis of the interview data suggests the informal employee recruitment and selection practices used by managers in some of the firms studied, seem to have unintended positive 'side' effects on employees' informal workplace learning. Specifically, these managers encouraged their existing staff to recruit new employees from their familial and social milieu, and these managers used employee selection methods that required job candidates to demonstrate their skills on-the-job. The findings of the qualitative part of this study (as earlier reported in Chapter Four) suggest that when existing staff are involved in recruiting newcomers through social networks, they are also likely to take the initiative in supporting these newcomers on their pathways of work-related learning. Perry (1999) has made a similar observation in relation to staff recruitment in ethnic business communities. Furthermore, employee selection methods that require candidates to demonstrate their skills on-the-job, are likely to yield, as a by-product, information about their learning needs. Such information can assist those who will guide their learning to select tasks appropriate to the learners' level of development.

7.1.2 Work Environment Characteristics and Developmental Interventions

Research objective 2: To determine in what ways managers foster employees' workplace learning.

Research question 1: Are managers perceived as creating conditions in the work environment that are favourable to employee learning?

A major part of the work environment is in the hands of the owner-manager and other senior managers who, through their actions and the models they provide, create conditions in the work environment that either foster or constrain informal workplace learning (Knowles, 1990). Findings of the employee survey (as earlier reported in Chapter Five) relating to conditions in the work environments of the sample firms suggest that, in general, managers may (in all probability unintentionally) be failing to create some important facilitating conditions. These include opportunities for employees to choose their own methods of working (autonomy), access to training, incentives for learning, modelling influences, and conditions favourable to innovative learning (see Table 5.2). Additionally, findings in relation to work group performance suggest that employees lack sufficient access to information, about work group performance standards and actual performance in relation to standards, necessary for learning (see Chapter Five, section 5.5). The finding that employees lack sufficient access to information necessary for learning is consistent with the findings of Sligo's (1996) New Zealand study.

In general, respondents in the various demographic groups tended to agree that the above facilitating conditions were lacking. Nevertheless, respondents' perceptions of work environment conditions also varied markedly across the demographic groups. For instance, on the whole, younger respondents viewed work environment conditions more favourably than older respondents did (see Table 5.3).

The findings relating to conditions in the work environments also suggest that the learning potential of the work systems is enhanced primarily by managers providing opportunities for employees to access a wide range of workplace activities (see Table 5.2). Admittedly, this may be motivated by the owner-manager's desire to have a flexible workforce, rather than a desire to foster employee learning. Also, in small firms, it is likely that employees will be assigned to broadly defined roles (Ghobadian & Gallear, 1997), because there are insufficient economies of scale to assign them to specialised roles.

Through content analysis of the verbatim expressions of the interview participants, this study did uncover several other ways managers in the firms studied intentionally seek to foster employees' learning in an indirect manner. These are: supporting apprentice learning; sponsoring programmes that facilitate organisational socialisation; promoting communication in the workplace; facilitating access to direct guidance from models; designating learning facilitators; and providing resources for learning (see Table 4.2).

Research question 2: What kinds of developmental interventions are managers using to foster employee learning?

Findings of the qualitative part of the study (reported in Chapter Four) suggest low-level managers, such as supervisors and foremen, have a moderate level of personal involvement in the learning of staff through providing on-the-job training and coaching. On the other hand, more senior level managers, such as the owner-manager, appear to use delegation of developmental tasks and assignments more frequently than low-level managers do. Recipients of such 'stretch' tasks and assignments were usually a lower-level manager, such as the production manager, foreman, or supervisor, or a key member of the administration staff. The findings suggest that mentoring, in the context of career development, and formal performance appraisal, are both uncommon developmental interventions. Other New Zealand research (e.g., Gilbert & Jones, 2000; Knuckey, Leung-Wai & Meskill, 1999; Knuckey et al., 2002), also suggests that formal performance appraisal is uncommon in small firms.

Research question 3: Do workplace supervisors enact behaviours, in one-on-one settings, likely to foster employee learning?

Findings related to the workplace supervisors' proximate support for employees' learning suggest that there is considerable scope for improvements in the ways supervisors are enacting their staff development role (see Table 5.4). The employee survey findings suggest that, on the whole, workplace supervisors are perceived not to be adopting a proactive stance in supporting the learning of staff, and that they are providing only low levels of learning support. In particular, the potential to learn through feedback from social sources, specifically workplace supervisors, is not being realised in the sample firms. Workplace supervisors may lack motivation, or the required knowledge, skills and attributes, to effectively enact their staff development role.

Respondents' perceptions of the workplace supervisors' proximate support for learning differed significantly between sub-samples of respondents within demographic variables, especially age and tenure. In general, younger respondents, and respondents with short tenures, viewed their supervisor's proximate support for learning more favourably than relatively older respondents and respondents with relatively longer tenures did (see Table 5.5). This finding is consistent with the view that tension between learning and production is a feature of the manufacturing sector (Brooker & Butler, 1997). In other words, if a newcomer to the workforce or an organisation can acquire competence quickly, then his or her ability to contribute to productivity is accelerated. But once a newcomer becomes productive, the emphasis on learning may be diminished. Thus, managers in the firms studied may not be fostering continuous learning.

7.1.3 Outcomes of Learning

Research objective 3: To explore outcomes of learning experiences for individuals and the organisation.

Research question 1: What are outcomes of employee learning experiences for the individual?

In this study, two outcomes of employee learning experiences at the individual level were gauged. These outcomes were (1) satisfaction with on-the-job learning and (2) self-rated competency. As noted previously, 'satisfaction with on-the-job learning' and 'self-rated competency' correspond with 'reaction' and 'learning' respectively in Kirkpatrick's (1998) four-level evaluation framework.

The results of the employee survey in relation to satisfaction with on-the-job learning (see Table 5.6) suggest that, in general, the respondents are moderately satisfied with their informal workplace learning experiences. The respondents did not seem to discriminate between their job-related learning experiences and their personal development experiences. The results also suggest that only limited initial on-the-job training is provided in the firms that participated in the mail survey, and that only low levels of organisational support for personal growth and development are available.

Nonetheless, results related to self-rated competency (see Table 5.6) indicate most survey participants perceive themselves to be competent at their jobs. However, the four-item self-rated competency measures tended to have relatively high mean values, which could reflect social desirability bias (Zikmund, 2000). The results are suggestive that skills development may take precedence over conceptual development, and that many of the survey participants have a perceived need for further job-related training.

Respondents with long tenures generally reported lower-levels of satisfaction with their informal workplace learning experiences than respondents with relatively short tenures did

(see Table 5.7). This is suggestive that employees' learning may be more heavily concentrated at the beginning of their tenures. On the other hand, predictably, respondents with longer tenures generally rated their job competency more highly than respondents with relatively shorter tenures did.

Respondents with tertiary education qualifications also reported lower levels of satisfaction with their workplace learning experiences than respondents with only some secondary school education or 7th form did (see Table 5.7). Perceptual differences between these two groups of respondents with different levels of formal education could, in part, be due to potential differences in the strengths of their growth needs (Alderfer, 1972).

The results of the regression analysis also cast light on outcomes of employee learning experiences at the individual level. Perceptions of five work environment characteristics were significant in explaining variation in satisfaction with learning (see Table 5.19). These were, managers providing: (1) access to a variety of work activities; (2) opportunities to use skills and abilities; (3) encouragement to experiment to discover new and better work practices; (4) rewards for learning; and (5) modelling influences (i.e. demonstrating a personal commitment to learning).

When the composite variables were used in the regression analysis, the results showed that workplace supervisors' proximate support for learning was statistically significant, and more important than 'learning opportunities', 'support for learning', and 'sources of learning', in explaining variation in satisfaction with informal workplace learning (see Table 5.17). Furthermore, employee perceptions of the usefulness of managers as sources of learning were more important than their perceptions of the usefulness of co-workers as sources of learning in explaining variation in satisfaction (see Table 5.19). Two supervisor behaviours seem to be especially important in explaining variation in satisfaction with informal workplace learning. These behaviours are providing on-the-job training when needed by subordinates, or alternatively, arranging guidance from others when subordinates encounter work-related problems (see Table 5.19).

Research question 2: What are outcomes of employee learning experiences for the organisation?

In this study, outcomes of employee learning experiences at the organisational level were gauged in terms of typical 'results' measures of work group performance: quality, complaints from internal or external customers, quantity, and costs. As noted previously, these measures of work group performance correspond with the 'results' level in Kirkpatrick's (1998) four-level evaluation framework.

Results of the employee survey relating to work group performance suggest that managers in the sample firms are not providing sufficient staff access to information related to work group 'results' measures (see Chapter Five, section 5.5). Access to such information would help work groups to monitor their performance and progress, and this may foster learning at the individual and team levels (Sligo, 1996). The apparent lack of staff access to information, relating to 'results' measures, is also suggestive that employees in these firms may not be empowered. The finding of this study that employees perceive that they have limited autonomy supports this contention. On the other hand, the use of simple organisation structures, as opposed to team-based structures, may be widespread in the sample firms. Thus, notions of work teams (groups) and team learning may be rare in such small-sized firms.

7.2   IMPLICATIONS

As previously noted in Chapter One, despite wide agreement amongst commentators that learning should be a central concern in the workplace, because of rapid changes in business environments and the need to leverage learning for competitive advantage, there has been a lack of field research on informal learning in small firms. This study contributes knowledge on the effects of managers on employees' learning in small firms in New Zealand. The following sub-sections present and discuss implications of the study's findings for management practice, policy development, small business literature and theory development, and future research.

7.2.1   Implications for Management Practice

At the outset it is important to note that the quality and quantity of workplace learning is not solely the responsibility of management.   Factors such as the employees' willingness and capacity to learn will also be key determinants of both the quality and quantity of learning.   Nevertheless, as noted earlier, managers do have a vital role in managing learning.

This study offers evidence that managers in small firms do have significant effects on employees' informal workplace learning.   Findings of the content analysis of the verbatim expressions of the interview participants (reported in Chapter Four) revealed a variety of implementation strategies that managers use to promote learning at and through work. These strategies include: supporting apprentice learning; sponsoring programmes that facilitate organisational socialisation; promoting communication in the workplace; facilitating access to direct guidance from models; designating learning facilitators; and providing resources for learning.

However, results of the employee survey suggest that there is considerable scope for improvement in managing the workplaces as sites for learning.   Rather than offer tight prescriptions of 'best practice', evidence from this part of the study is used to propose broadly how managers can improve both the quality and quantity of learning at and through work.   There are eight main implications for management practice.

Implication 1: Overall, the results highlight the importance of managers examining characteristics of work environments and ensuring that these characteristics support informal learning.

The results presented in this study suggest that in order to foster learning, managers need to attend to those factors in the work environments that appear to be constraining learning. Managers could use the questionnaire developed for the current study to identify such factors.   In this study, these factors included, lack of: (1) opportunities for employees to

determine how work should be performed; (2) access to training; (3) conditions favourable to innovative learning; (4) incentives to learn; and (5) modelling influences (see Table 5.2).

Implication 2: Managers may require practical advice and behavioural guidelines to help them strengthen informal learning at work. Also, performance of their people development role should be managed.

The results in relation to workplace supervisors' proximate support for employees' learning (see Table 5.4) suggest that many of the supervisors may lack the required knowledge, skills and personal attributes to effectively perform their employee development role. The results are also suggestive that they do not view fostering employee learning as a priority.

Implication 3: Specific managerial actions and behaviours have the potential to increase employee satisfaction with informal workplace learning.

This study identified specific managerial actions and behaviours that were associated with employee satisfaction with informal workplace learning. In the literature on organisational learning and the 'learning organisation', managers have been offered rather *generalised prescriptions* for fostering employee learning (Dixon, 1993; Ellinger, 1997). But as Stajkovic and Luthans (2001) argue, "in this era of renewed interest in gaining competitive advantage through people, management scholars are being challenged to make their theories and research findings more understandable, practical, and useful" (p.589). This study would seem to help meet this challenge.

This study provides empirical evidence that employee satisfaction with informal workplace learning could be enhanced through managers taking action to create specific conditions in work environments, and through workplace supervisors adopting specific support behaviours. In the firms studied, perceptions of five work environment characteristics were statistically significant in explaining variation in satisfaction with workplace learning (see Table 5.19). These were managers providing: (1) access to a variety of work activities; (2)

opportunities to use skills and abilities; (3) encouragement to experiment to discover new and better work practices; (4) rewards for learning; and (5) modelling influences.

Also, perceptions of two supervisor 'support behaviours' were statistically significant in explaining variation in employee satisfaction with informal workplace learning. These behaviours were providing on-the-job training when needed by subordinates, or alternatively, arranging guidance from others when subordinates encounter work-related problems (see Table 5.19).

Implication 4: Managers in small firms may need help in managing the learning of diverse groups more effectively.

The results by demographic groups reported in this study might have practical implications for managing learning in small firms. The results clearly show that how employees perceived both work environment characteristics and supervisor support behaviours differed markedly across demographic groups. For instance, employees who had recently entered the workforce (younger respondents) and employees who were relative newcomers to their organisation (respondents with short tenures) seemed to perceive their work environments as being more facilitative of learning, when compared to relatively older respondents and respondents with relatively longer tenures. The different effects that managers may have on different groups of employees, suggest that managers in small firms may need help in managing the learning of diverse groups of employees more effectively.

Implication 5: Managers need to be aware of limitations of workplaces as sites for learning.

Two findings in relation to self-rated competency highlight the importance of managers being aware of potential limitations of workplaces as sites for learning. One finding suggests that skill development may take precedence over conceptual development (see Table 5.6). This finding is consistent with Billett's (1995) contention that wide-ranging

neglect in developing conceptual knowledge is a factor limiting the efficacy of workplace learning.

Another finding in relation to self-rated competency is suggestive that employees in the firms studied have a perceived need for training, which is more formal than purely informal workplace learning processes. When asked to rate their job competency, many respondents indicated a (perceived) need for further job related-training (see Table 5.6). Thus, many respondents seem to have unmet expectations in relation to organisation provided training. This may be because, as Rowden (1995) found in his study of human resource development in small manufacturing firms, the participants did not view on-the-job training and coaching, and the other types of informal learning processes, as forms of training.

Implication 6: Managers should be urged to put in place effective performance measurement systems.

As noted previously, any learning, whether individual, team or organisational, is to a degree dependent on sufficient access to information (Sligo, 1996). Results in relation to work group performance suggest large numbers of employees lack access to information about typical 'results' measures such as costs, actual performance in relation to production/performance targets, and complaints by internal or external customers (see Chapter Five, section 5.5). To gain access to these types of information, employees are reliant on managers. Managers need to design performance measurement systems, and managers need to act as sources of information about actual performance in relation to measures.

Implication 7: Management development programmes aimed at managers in small firms should embody elements that reflect the importance of the manager's people development role.

The findings of this study suggest that there is vast potential for improving the context to support informal workplace learning, and that managers may be neglecting their people

development role. Specifically, respondents perceived managers as not creating some important facilitating conditions in the work environments (see Table 5.2). Furthermore, workplace supervisors were perceived by respondents as providing only low levels of proximate support for learning (see Table 5.4). Therefore, there seems to be inconsistency between management practice in the small firms studied, and what the literature prescribes.

To illustrate, according to Pfeffer and Veiga (1999, p. 37), "there is a substantial and rapidly expanding body of evidence, some of it quite methodologically sophisticated, that speaks to the strong connection between how firms manage their people and the economic results achieved". Similarly, in discussing the manager's people development role, Quinn, Faerman, Thompson and McGrath (2003) note, "social science research has clearly demonstrated the importance of this role in overall managerial effectiveness" (p.30).

Thus, management development programmes aimed at managers in small firms should embody elements that reflect the importance of the manager's people development role. For example, principles of adult learning and the skills of facilitating learning could be built into management development programmes.

Implication 8: Managers need to create and maintain an environment that fosters peer communication and interaction, in which people seek guidance and help each other learn quite naturally.

The results in relation to sources of learning emphasise that peers (workmates) are perceived as a key source of learning (see Table 5.9). Also, the results in relation to methods of learning suggest that employees learn primarily by observing other persons (models) with whom they regularly associate in the workplace (see Table 5.9). Moreover, in Chapter Two it was noted that the concept of *tacit knowledge* is particularly useful for understanding learning processes in small firms (Abbott, 1995; Walton, 1999). The communication of tacit knowledge requires personal communications through discussions and demonstrations (Noe, 2005). Thus, managers need to create and maintain conditions in

the work environment that encourage peer communication and interaction, in which people seek guidance and help each other learn quite naturally.

7.2.2   Implications for Policy Development

Policy implications do emerge from this research. For instance, at the national level, the debate about developing New Zealand's human capital endowment tends to focus on the role that investment in formal education and training plays in improving firm performance. However, findings of this study, and other research (e.g., Boud & Middleton, 2003; Tannebaum, 1997), emphasise that informal workplace learning is a prime source of tacit knowledge and skills, which normally cannot be obtained through formal education and training courses. In New Zealand, the recent introduction of accreditation of work-based learning through the award of national qualifications suggests that, to a degree, informal learning is being recognised and encouraged by policy makers. Still, there remains an important need for policies aimed at further raising the profile of informal workplace learning.

Thus, given the centrality of workplaces as sites for engaging in learning in small business sectors (Billett, Hernon-Tinning & Ehrich, 2003) there may be a role for public policy to take in trying to ensure that the value of informal workplace learning is not depreciated, and in generally encouraging informal workplace learning. Such a policy direction may assist in accelerating productivity growth and, with other policy initiatives aimed at economic growth, enable New Zealand's economy to catch up with the leading OECD economies. As noted previously, Pfeffer and Veiga (1999) assert that there is a substantial and growing body of evidence derived from rigorous studies that point to a strong direct relationship between how organisations manage their people and the economic results achieved. Employee learning and development is a key element of people management.

Unfortunately, results of this study suggest that workplace supervisors do not view supporting the learning of staff as a priority, and/or lack the required knowledge, skills and personal attributes to effectively perform this role. Also, the results suggest that there is considerable scope for improving the context to support informal workplace learning. Furthermore, the findings, particularly in relation to tenure and age, are suggestive that managers may hold a somewhat limited view on learning. It seems learning is typically regarded as merely a mechanism for 'doing the job properly' (Boud & Middleton, 2003). Therefore, special efforts need to be made to promulgate a broader vision of workplace learning, and to develop the capacity and willingness of managers in New Zealand's small firms to foster employees' informal workplace learning.

7.2.3   Implications for Small Business Literature and Theory Development

The results of this study make a contribution to the small business literature. As noted previously, the focus in much of the literature on learning in small firms links learning to individual owner-managers (Taylor & Thorpe, 2004). This study, on the other hand, contributes knowledge to understanding *employee* learning processes in small firms. For instance, the study clearly identified specific work environment variables that were statistically significant in explaining variation in employee (dis)satisfaction with informal workplace learning. Additionally, specific supervisor support behaviours that were significantly associated with employee (dis)satisfaction with informal workplace learning in a small firm context were identified.

Findings of this study have also cast light on *who* is involved in employees' learning in small firms, and the *ways* in which members of work groups in small firms learn as part of their normal work. The people who are expected by organisations to support the learning of staff – the employee's workplace supervisor and other managers in the firm - are useful parts of the employees' learning network. However, workmates are clearly the main source of employees' learning. The findings show that employees acquire work-related knowledge and skills in a variety of ways. The contributions of on-the-job training (direct instruction) to processes of knowledge and skills acquisition are minimal in relation to the

contributions made by informal interactions with workmates and 'natural' learning processes. Learning through observation is the predominant mode of learning in the current research context of primarily small batch manufacturing.

This study also contributes to the body of knowledge in the fields of management and human resource management in the small firm context, by making a synthesis and interpretation of the findings. On closer examination of the qualitative and quantitative findings, a pattern emerged which showed that the effects of managers on employees' learning could be classified on two dimensions: (1) the manager's probable level of intention (unintended/intended); and (2) the likely nature of effects on learning (constraining/fostering). Generally, it is unlikely that managers will intentionally act to constrain workplace learning, and no evidence of this was found in the current study. (There may be some exceptions, for example, managers may be reluctant to invest in employee learning and development because they have concerns about competing firms 'poaching' their staff.) Thus, there appear to be three possible combinations of conceptualising the twin issues of *probable level of intention* and *likely effects* on informal workplace learning. These are illustrated in Figure 7.2, and each of the three combinations is discussed below.

Likely Effects on Learning

	Constraining	Fostering
Intended	(No intentional constraints on employee learning were found in this study.)	**Quadrant Three:** Intended/ Fostering (Managing Learning)
Unintended	**Quadrant One:** Unintended/ Constraining (Unrealised Potential)	**Quadrant Two:** Unintended/ Fostering (Small Firm Characteristics)

Probable Level of Intention

Figure 7.2

Conceptual framework for analysing effects of managers

Figure 7.2 shows the conceptual framework that was synthesised from the qualitative and quantitative findings of this study. (Reflecting on a tentative model of how small business operatives learnt [see Ehrich, Billett & Hernon-Tinning, 2003] how to implement a new practice [Australian Government mandated Goods and Service Tax] was beneficial in developing the conceptual framework.) This framework can be used for interpreting and analysing the effects of managers on employees' informal workplace learning in small firms. The framework can also help to evaluate the current state of research in the field, and where gaps remain – that is, where more research is needed. (See the discussion in sub-section 7.2.5 below.) In the discussion that follows, the three possible combinations of

conceptualising the twin issues of *probable level of intention* and *likely effects on learning* are explained using findings of the current study as illustrations.

Quadrant One: Unintended/Constraining

In the opinion of the researcher, of the three combinations, unintended/constraining represents the most problematic learning situation for those seeking to increase the quantity and quality of workplace learning and is described here as 'unrealised potential'. It is problematic because the potential of these workplaces as sites for learning is not being fully realised. The owner-managers and other senior managers, through their actions and the models they provide are omitting to create conditions in the work environments that foster informal workplace learning, in all probability unintentionally.

In the current study, these work environment conditions included, lack of: (1) supervisor support for learning; (2) incentives for learning; (3) modelling influences; (4) sufficient access to information necessary for learning; and (5) conditions favourable to innovative learning. Possible reasons for these omissions on the part of managers are numerous and varied. Reasons include the possibility that managers: lack knowledge and skill in fostering informal learning; place more emphasis on performance than learning; are not recognised and rewarded for their people development efforts; believe that employees are primarily responsible for their own learning and development.

Quadrant Two: Unintended/Fostering

The category unintended/fostering reflects two small firm characteristics that, in this study, seemed to have significant unintended positive 'side' effects on informal workplace learning. These two small firm characteristics are low levels of specialisation and formalisation. In regard to a low level of specialisation, the findings suggest that employees have broadly defined task roles (high task variety), because they perceive that they have access to a wide range of workplace activities. Also, results of the regression analysis showed that variation in the survey respondents' perceptions of task variety was statistically significant in explaining variation in self-reported satisfaction with on-the-job learning.

In regard to a low level of formalisation, findings of the qualitative phase of this study, and findings of other New Zealand studies (see, for example, Gilbert & Jones, 2000), suggest that informal staff recruitment and selection processes are common in small firms. In small firms, managers tend to use 'word of mouth' recruitment and encourage their existing staff to recruit new employees from their familial and social milieu. Workers hired tend to share characteristics of those who recommend them, and are thus likely to 'fit in' with the organisational culture. The sponsor also seems to play important roles in socialisation of the newcomer, especially pre-employment socialisation, and in the initial on-the-job training of the new recruit. Also, as noted previously, employee selection practices, used by managers in some of the firms studied, require candidates to demonstrate their skills on-the-job, and yield, as a by-product, information about the new recruits learning needs. Such information can assist those who will guide the new recruit's learning, to select tasks appropriate to the learner's level of development.

Quadrant Three: Intended/Fostering

This combination was reflected in the findings of primarily the qualitative phase of the study and is described here as 'managing learning'. This phase of the study uncovered several ways managers intentionally seek to foster employees' learning, in both a direct and indirect manner. For example, low-level managers in particular had a direct hand in providing on-the-job training and coaching. In more indirect ways, owner-managers and other senior managers made significant contributions to employees' learning by supporting apprentice learning, sponsoring programmes that facilitate organisational socialisation, promoting communication in the workplace, facilitating access to direct guidance from models, designating learning facilitators, and providing resources for learning.

Given the centrality of workplaces as sites for engaging in learning in the small business sector, at least two important issues emerge from the above conceptualisation. These are: (1) on the whole, small firms have intrinsic characteristics that have the potential to enhance (or constrain) informal workplace learning; and (2) managers have a critical role in augmenting such learning by managing learning. If managers neglect this role, the potential of workplaces as sites for learning will not be fully realised.

7.2.4   Overview of the Theoretical and Practical Contributions of the Thesis

Within the small business literature there has been a steady accumulation of knowledge on formal training practices in smaller firms.   The research evidence has consistently shown that smaller firms provide less training which can be described as 'formal training' than larger firms.   Despite the efforts made by governments in countries such as the United Kingdom (e.g. Kitching & Blackburn, 2002) and New Zealand (e.g. Massey, 2004) to encourage greater take-up of formal training initiatives, the propensity to provide formal training in smaller firms remains low.   And, according to Patton (2005, p.84), "it is not possible to overestimate the difficulties in developing a set of policies and structures that could improve the current situation."

However, the extent to which there is a 'problem' of limited training in smaller firms may be related to definitions and measures of training that are commonly used by small business researchers.   The claim, often made in the small business literature, that training provision is positively correlated with firm size is based on a narrow definition of training.   There seems to be increasing recognition amongst commentators that widening the definition of training activity to include less formal ways of work-related learning may reduce the 'training gap' between small and larger businesses.   Related to this, there also appears to have been recognition that comparing large and small firms' training practices with the same 'yardsticks' (e.g. type of training, frequency of training, duration of training, cost of training) can be misleading.   However, the reliance upon informal training within smaller firms makes the documentation and analysis of such activity more problematic (Patton, 2005).

The seemingly persistent focus of small business researchers on formal approaches to learning, and their apparent strong preference towards 'snapshot' quantitative surveys of training practices as a research method, has meant that our understanding of informal learning processes in small firms has been underdeveloped.   The more recent shift of focus from 'training' to 'learning' (e.g. Gibb, 1997) and the increasing use of case study approaches is to be welcomed (see, for example, Field, 1998; Hill & Stewart, 2000).   Thus,

there appears to be a growing awareness amongst commentators (see, for example, Curran et al, 1996; Kitchen & Blackburn, 2002) that the role and importance of informal learning processes in small firms needs to be recognised. For instance, Kitchen and Blackburn (2002) promote the suitability and benefits of a more informal approach to the training process in smaller firms, and identify the limited relevance and disproportionate costs of formal training approaches to the small firm community. As a consequence of these recent developments, the empirical literature on informal learning processes in smaller firms has moved slowly forward. The current doctoral study of the effects of managers on employees' learning was initiated with the aim of making a contribution to continuing this steady progress in developing the body of knowledge on informal learning processes in smaller firms.

The initial qualitative study contributes to an understanding of the ways managers intentionally seek to foster employee learning. More specifically, the study unveils: (1) the effects of managers on elements of the work environment that have the potential to influence workplace learning, and (2) the kinds of one-on-one developmental interventions managers use to support the learning of staff. The qualitative study also contributes to an understanding of how certain management practices that seems to be common in small firms, have the potential to affect employees' learning. In particular, the study uncovers positive 'side effects' of managers: (1) using informal recruitment and selection practices (low formalisation), and (2) providing access to a wide range of workplace activities (low specialisation).

The quantitative study contributes to an understanding of contextual factors that support learning in smaller firms through identifying specific work environment conditions and workplace supervisor behaviours associated with employee satisfaction with workplace learning. The quantitative study also contributes to an understanding of learning processes in small firms by casting light on: (1) who is involved in employees' learning (sources of learning), and (2) ways in which employees learn at and through work (methods of learning).

As mentioned previously, on closer examination of the qualitative and quantitative findings a pattern emerged. This pattern is portrayed in a conceptual framework (see figure 7.2). This emergent conceptual framework can be used to: (1) move beyond the confines of the data and the study context through extrapolating the findings to similar situations (in general, small firms that employ staff); (2) analyse effects of managers on employees' learning in small firms; and (3) evaluate the current state of research in the field.

In addition to the theoretical implications, findings of this study also have important practical implications for providers of programmes designed to build management capability amongst small firms. As initially noted in Chapter One, previous New Zealand research (see, for example, Massey, 2003) suggests that employee practices in smaller firms are under-developed, particularly in the manufacturing sector. Additionally, findings of the current study suggest that there is considerable scope for improvement in managing the workplaces as sites for employee learning in the small firms studied. One obvious policy implication of these findings is that management development programmes aimed at managers in small firms should embody elements that reflect the importance of the manager's people development role. For example, principles of adult learning and the skills of facilitating learning could be built into such management development programmes.

However, the provision of such enterprise assistance appears to be inherently problematic (Massey, 2004). For instance, Tweed and Massey (2001, p. 381) assert that "there is no single recipe for successful enterprise assistance, and those with responsibility for designing and delivering programmes are in many instances working blind". Similarly, after reviewing the evidence from research in the United Kingdom, Patton (2005) concludes that engaging smaller firms in the training agenda has proven difficult for successive governments. He argues that even though smaller firms may require special assistance, there has been a limited take-up of formal training interventions, especially those offered by government. While SMEs in general may appear reluctant to use the available enterprise assistance services, findings of some studies in the United Kingdom (e.g. Kitching & Blackburn, 2002) and New Zealand (e.g. Tweed & Massey, 2001) suggest

that those who do use such services express general satisfaction with the interventions. Enterprise assistance that is customised (through mentoring and coaching, for example) seems to be particularly well received by SMEs (Patton, 2005; Tweed & Massey, 2001).

7.2.5   Limitations of the Study: Implications for Policy and Future Research

As mentioned previously, policy implications do emerge from this research. Policy implications of the findings are most relevant to firms that employ staff. Given that the majority of New Zealand firms do not employ staff (Ministry of Economic Development, 2004), application of the findings is to some extent limited in the New Zealand context.

The literature that discusses measurement in organisational behaviour research emphasises that studies, such as the current study, which rely on self-report data are prone to social desirability bias (see, for example, Donaldson & Grant-Vallone, 2002). In general, this means that some research participants may have a propensity to respond in a way that creates a favourable impression. Respondents may also give social desirable responses if they believe there is at least a remote possibility that their employer could gain access to their responses. Social desirability bias is also likely when the nature of the construct of interest is potentially sensitive. In this study, the four-item self-rated competency measures tended to have relatively high mean values, which could reflect social desirability bias (Zikmund, 2000).

In the quantitative part of the study, the independent and dependent variables were measured using an identical seven-point scale response format (strongly disagree – strongly agree). The use of a common response format when a single rater measures two or more constructs has been shown to introduce common methods variance and cause discrepancies between the measured and 'true' relationships between variables (Gardner, Cummings, Dunham & Pierce, 1998). Common methods variance is defined as the overlap in variance between two variables attributable to the type of measurement instrument used rather than due to a relationship between the underlying constructs (Avolio, Yammarino & Bass, 1991). According to Gardner et al, this is because some respondents, for a variety of

reasons (e.g. self-consistency motives), will produce spurious correlations between measurement scales in an attempt to be consistent, 'make sense', and perhaps even 'help' the researcher find what it is the respondent thinks the researcher is looking for. Obviously, such respondent behaviour may distort the empirical relationship obtained between different measured constructs. However, it should be noted that the extent to which common methods variance actually affects research conclusions is still hotly debated in the literature on social research methodology (Donaldson & Grant-Vallone, 2002).

In addition to the above limitations, this study has some other limitations that have implications for future research. First, the study reported here did not adopt complete published scales to measure the variables of interest, as suitable scales were not available. However, careful attention was paid to existing theory, prior research in the area, and the individual items used in published scales, when developing the items and scales that were used in this study. Furthermore, the performance of each scale was good. In each case, the measure of internal consistency reliability of the scale items was satisfactory and exceeded the generally agreed upon lower limit for Cronbach's alpha (.70). Also, before the regression analysis began, each scale underwent principal component analysis with 'varimax' rotation. For each scale, these analyses indicated the presence of only a single factor and only slight increases in scale reliability from dropping any item. In future studies using these scales, further scale-development work could enhance the scales presented here.

Second, most measures used were perceptual rather than objective. While this approach was appropriate for exploratory/descriptive research, in future explanatory research, outcomes of employee learning experiences should be measured more objectively. For instance, more objective work group results measures would enable researchers to explore intra- and inter-firm associative relationships between employee perceptions of learning environments and objective measures of the small firm's results.

A third limitation was that most (approximately 73%) of the managers/supervisors in the present study were men. There is some evidence that male and female managers may use

different styles of management (see, for example, Appelbaum & Shapiro, 1993). Thus, an area for future research is examination of whether male and female managers have different effects on employees' learning.

Fourth, the study was limited by weaknesses that are inherent in the methods employed. A useful addition to the present study's methods would be to include multiple methods for assessing the effects of managers on employees' learning. Researchers could develop a better sense of the effects of managers by using the critical incident technique, and by observing live interactions between managers and their subordinates.

7.2.6   Implications of the Study's Focus and Findings for Future Research

The present study's *focus* and *findings* also have several implications for future research into informal workplace learning in small firms. Several opportunities exist to build upon the study's focus. First, future research could examine the ability to generalise the findings by replicating the study in different contexts to rule out sector as an important contingency factor.   Second, the current study used Kirkpatrick's (1998) four-level evaluation framework to measure outcomes of employee learning experiences at three levels: (1) reaction (satisfaction with on-the-job learning); (2) learning (self-rated competency); and (3) results (work group performance). Future research also might examine how work environment characteristics and supervisors' support for learning affect other outcomes, including organisational commitment and job satisfaction. Third, the current study may not have included all the work environment characteristics and supervisor behaviours that could support informal workplace learning. Further studies might include omitted variables, if any. Fourth, it would also be worthwhile to broaden the sample of this study to include owner-managers' perceptions of the workplace learning environments.

Another avenue for future research involves confirming and extending *findings* of this study. As noted earlier in the sub-section titled 'Implications for small business literature and theory development', the findings suggest a framework (see Figure 7.2) that can be used for interpreting and analysing the effects of managers on employees' informal

workplace learning in small firms. This framework can also help to evaluate the current state of research in the field, and where gaps remain – that is, where more research is needed. As can be seen in Figure 7.2, the effects of managers can be grouped in terms of *probable level of intention* and *likely effects on learning,* and analysed in terms of three major aspects: (1) unrealised potential; (2) small firm characteristics; and (3) managing learning.

In regard to *unrealised potential*, results of the mail survey are suggestive that the effects of managers on employees' learning may not generalise across employees from different demographic groups. There appear to be different effects for employees from different groups. For example, respondents' perceptions of supervisors' proximate support for learning varied markedly across the demographic groups. To illustrate, on the whole, younger respondents, and respondents with short tenures, viewed work environment conditions and their supervisor's proximate support for learning more favourably than relatively older respondents and respondents with relatively longer tenures did (see Tables 5.3 and 5.5). Hence, researchers need to be cautious about assuming that employees will interpret work environment conditions and manager 'support behaviours' similarly.

For the small business literature, the findings of the current study in regard to *small firm characteristics* suggest several specific questions that are in need of further investigation. (1) What are the effects, if any, on employees' learning of informal human resource management practices? The findings of the current study suggest that informal (low formalisation) employee recruitment and selection practices used by managers in some of the small firms studied may have significant unintended positive 'side' effects. (2) What are the effects, if any, on newcomers' learning of pre-employment socialisation agents? This question is related to 'word of mouth' recruitment, which seems to be common in small firms. Findings of the content analysis of the verbatim expressions of the interview participants suggest the newcomer's sponsor seems to play important roles in both socialisation of the newcomer, especially pre-employment socialisation, and the initial on-the-job training of the new recruit. (3) What are the effects, if any, on employees' learning of low specialisation? Learning is embedded in work, and findings of this study suggest

that managers in small firms tend to provide access to a wide range of workplace activities. Future research might investigate other small firm characteristics that also have the potential to either foster or constrain learning.

The findings in relation to *managing learning* invite small business researchers to further explore the several ways managers in the sample firms intentionally seek to foster employees' learning, in both a direct and indirect manner. Future research may productively address such questions as: (1) What is the nature and extent of mentoring in small firms? The findings of this study suggest that mentoring, in the context of career development, is an uncommon developmental intervention. (2) How do managers intentionally seek to indirectly foster employees' learning? The qualitative component of this study uncovered several ways managers intentionally seek to indirectly foster employees' learning. Managers indirectly foster employees' learning by managing salient elements of the organisational, social and physical work environment that influence employee learning. Future work could confirm these findings, and further enhance understanding of these multiple ways of fostering employees' learning.

Clearly, more empirical studies are needed to further enhance understanding the effects of managers on employees' learning in small firms. In such future work, management theory and small business theory will need to be complemented by insights from adult learning theory. In regard to adult learning theory, situated learning (Lave & Wenger, 1991), informal and incidental learning (Marsick & Watkins, 1990), experiential learning (Kolb, 1984) and social learning (Bandura, 1977) may be especially helpful in arriving at a better understanding of the research topic. Obviously, much work remains to be done.

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APPENDICES

APPENDIX A

SAMPLE LETTER INVITING OWNER/MANAGER AND EMPLOYEE TO
PARTICIPATE IN INTERVIEWS

Dear Sir or Madam

How do your employees learn in their work? What can managers in your organisation do to create a climate favourable to continuous learning at work? How can managers in your organisation become more effective staff developers?

Most business leaders agree that skilled employees who are committed to business goals are a firm's most valuable asset. While most other assets depreciate soon after they are acquired, a firm's employees are its only appreciating asset. But the changing work environment means that employees must continuously be learning to perform new and changing tasks. Employee learning and development has thus become more and more important for the survival and competitive advantage of present-day organisations. Managers play the key role in enhancing or hindering continuous learning. My research is dedicated to helping people like you who are managers of small firms become more effective staff developers through answering questions such as those listed above.

I am a doctoral student at Massey University, and am engaged in the first phase of data collection for my dissertation that is being guided by Dr Claire Massey and Associate Professor Frank Sligo. My interest in employee development has encouraged me to pursue a research study that investigates the effects of the manager on employees' work-related learning in small firms. It would be especially insightful for me to speak with you and at least one of your employees about the topic of my study. I have enclosed copies of an Information Sheet that describes my study, and sample interview questions.

If you and one of your employees are willing to participate in this study, this is what I envision we will need to do together. I will contact you and the employee to schedule the interviews. With your permission, and that of the employee, I will conduct separate tape-recorded interviews that explore the topic of my study. Each interview will be completed within 30 minutes, and all data collected will be strictly confidential. Following completion of the interview phase of data collection I will share the results of my preliminary data analysis with you and your employee. In addition, all research participants will be invited to a presentation of a summary of the research findings.

Participation by you and an employee is extremely important because your combined insights will help me to develop an in-depth understanding of the effects of the manager on employees' work-related learning in small firms. The findings of this research could provide valuable information for managers in small firms who wish to perform their employee development responsibilities more effectively. Please contact me on 04-801 2794 extension 6485 or A.J.Coetzer@massey.ac.nz if you and one of your employees are willing to participate in this study. I will also contact you within the next few days to discuss participation in my study. Your consideration is greatly appreciated.

Alan Coetzer
Doctoral Student

Research Supervisors:
Dr Claire Massey
Department of Management
and Enterprise Development

Associate Professor Frank Sligo
Department of Communication
and Journalism

APPENDIX B

INFORMATION SHEET AND SAMPLE INTERVIEW QUESTIONS
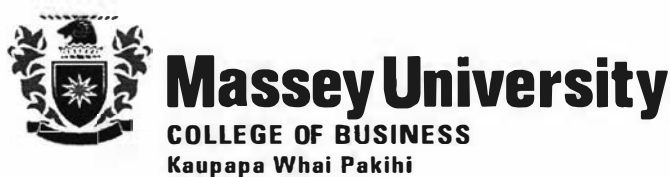
Massey University
COLLEGE OF BUSINESS
Kaupapa Whai Pakihi

The Effects of Managers on Employees' Learning in Small Manufacturing Firms.

INFORMATION SHEET

1. *The identity of the researcher*
   Alan Coetzer, Senior Lecturer in the Department of Management and Enterprise Development, Massey University at Wellington.

2. *How to contact the researcher or research supervisors*
   Alan Coetzer: A.J.Coetzer@massey.ac.nz or (04) 801 2794 extension 6485

   The research is being supervised by:

   Dr Claire Massey: C.L.Massey@massey.ac.nz or (04) 801 2794 extension 6508
   Associate Professor Frank Sligo: F.Sligo@massey.ac.nz or (06) 356 9099 extension 2386

3. *The nature and purpose of the study*
   The purpose of this exploratory qualitative study is to investigate the effects of managers on employees' work-related learning in small manufacturing firms.

4. *What will be asked of the participants, including time involved*
   You will be asked to take part in a single semi-structured interview at a location of your choice. It is expected that the time required for the interview should not exceed 30 minutes.

5. *How the researcher obtained their name to ask them to consider participating in the project*
   Managers were identified through their organisation. The organisation was selected through the process of sampling from a list. A list of small manufacturing firms and contact details was obtained from a commercial database supplier. Employees volunteered to participate in the study after they were introduced to the research through their managers.

6. *How the information will be used*

The information from this study will be used to publish articles in academic and practitioner journals and present conference papers. It will also be used to develop a questionnaire for a mail survey. Both the initial qualitative study, and the planned quantitative study, will be used towards the researcher's PhD. The outcomes of this research could provide valuable information for managers of small firms, small business development agencies, and providers of management development programmes. Such research-based information is necessary before these stakeholder groups can give informed consideration to strategies for improving managerial performance, and seek to improve learning processes in small firms.

7. *What will happen to the information when it is obtained*

Interview data will be transcribed and then analysed to identify emergent themes. The methodology, summarised findings, and conclusions, will be written up as articles and submitted for publication and presented at conferences.

8. *How confidentiality and anonymity will be protected*

All paper copies of raw data, floppy disks and audio-tapes will be stored in locked cabinets in the researcher's office at Massey University. Data in electronic format stored on the Massey University server will be accessible only by the researcher. Reported results will be summarised in a manner that will preserve the confidentiality and anonymity of the respondents. The transcriber will be required to sign a confidentiality agreement.

9. *What will happen to the data on completion of the project*

Once the results of the study have been published, audio-tapes will be erased, paper copies of raw data shredded, and electronic files used to store raw data deleted.

10. *You have the right to:*

- decline to participate;
- refuse to answer any particular questions;
- withdraw from the study at any time;
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used unless you give permission to the researcher;
- be given access to a summary of the findings of the study when it is concluded.

This project has been reviewed and approved by the Massey University Human Ethics Committee, WGTN Protocol 02/104. If you have any concerns about the conduct of this research, please contact Dr Pushpa Wood, Chair, Massey University Human Ethics Committee: Wellington, telephone 04 801 2794 ext 6723, email P.Wood@massey.ac.nz.

The Effects of Managers on Employees' Learning in Small Manufacturing Firms.

SAMPLE QUESTIONS FOR THE MANAGER

1. How important is learning on the job in this organisation?

2. Would you describe employee learning in this organisation as being formal or informal?

3. What happens in a typical one-on-one employee development session?

4. Looking back on one-on-one employee development sessions, what would you say you got out of the experience?

5. What do you do to create a climate that encourages your employees to learn?

6. What kinds of changes in organisational performance have you seen as a result of employee learning and development?

SAMPLE QUESTIONS FOR THE EMPLOYEE

1. How do people around here generally learn to perform their tasks?

2. What do you think are the most important sources of learning in your job?

3. Who has helped you most to improve your ability to perform your tasks?

4. What do people think about staff development in this organisation?

5. What kinds of changes in yourself do you see or feel as a result of job-related learning in this organisation?

6. How has what people have learnt affected the organisation's performance?

APPENDIX C

INTERVIEW GUIDE AND QUESTIONS

Interview Guide and Questions

The research questions guiding this part of the study are:

1. Are managers perceived as creating conditions in the work environments favourable to learning?
2. What kinds of developmental interventions are managers using to foster learning?

Pre-Interview Procedures

Send a letter to organisations in the sample frame inviting the owner-manager and at least one of his/her employees to participate in separate semi-structured interviews. Attach copies of the Information Sheet to the letter.

Wait for owner-managers to reply to the invitation, but a follow-up telephone call may be necessary.

A personal interview appointment with the owner-manager and his/her employee(s), in a location of their choice, is then scheduled by telephone, and confirmed in writing.

Interview Preparation Procedures

Bring the following material to the interview:
- Complete file of correspondence with the owner-manager
- Interview guide
- Copies of the Information Sheet and Consent Form
- Tape recorder, batteries, cassette tapes
- Business cards
- Note pad, post-it notes and pens

The Interview Protocol

Begin the interview by thanking the interviewee for his/her willingness to participate, and give an overview of the interview process:

- Review the Information Sheet and ask the interviewee if there are any issues that need clarification
- Confirm permission to tape record the interview and take notes
- Confirm the researcher's commitment to confidentiality of the interview
- Get the interviewee to sign the Consent Form

Briefly explain the nature and purpose of the study.

Begin the interview. Get the interviewee into an 'interview mode' by asking 'warm-up' questions.

Aim to complete the interview within 30 - 40 minutes.

Post Interview Procedures

Thank the interviewee for allowing the researcher to interview him/her.

Inform the interviewee that the cassette (or interview notes) will be transcribed verbatim and a follow-up telephone call may be needed to clarify portions of the interview.

Send a formal thank you note.

Edit the transcript as necessary, based upon the interviewee's clarification.

INTERVIEW QUESTIONS FOR MANAGERS

'Warm up' Questions

Can you tell me what your job involves?

How do you view the staff development part of your job?

Nature and Importance of Employee Learning

How important is learning on the job in this organisation?

Is employee learning more a formal or an informal process?

If both, which is more important?

What are examples of this?

The Learning Environment

Apart from one-on-one employee development sessions, what else do you do to encourage employee learning and development?

What do you do to create a climate that encourages your employees to learn?

Kinds of Developmental Interventions

Suppose that I was a new employee. What might you do to help me learn the tasks in my job?

And how might you help more experienced employees to learn and develop in their jobs?

What happens in a typical one-on-one employee development session?

QUESTIONS FOR NON-MANAGERS

'Warm-up' Question

Can you tell me what your job involves?

What do people think about staff development in this organisation?

Sources of Learning

How do people around here generally learn to perform their tasks?

What do you think are the most important sources of learning in your job?

Who has helped you most to improve your ability to perform your tasks?

Do people have easy access to useful on-the-job training?

If people need formal training is it arranged for them?

Learning Environment

What incentives are there for people here to learn new things relevant to their work?

Do people here feel encouraged to learn new things relevant to their work?

Do people get rewarded for learning new things here?

How do managers encourage work-related learning?

Are people generally satisfied with what they have learnt since joining this organisation?

APPENDIX D

CONSENT FORM

Massey University
COLLEGE OF BUSINESS
Kaupapa Whai Pakihi

The Effects of Managers on Employees' Learning in Small Manufacturing Firms.

CONSENT FORM

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

I understand I have the right to withdraw from the study at any time and to decline to answer any particular questions.

I agree to provide information to the researcher on the understanding that my name will not be used without my permission. (The information will be used only for this research and publications arising from this research project.)

I agree/do not agree to the interview being audio taped.

I also understand that I have the right to ask for the audio-tape to be turned off at any time during the interview.

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

Signed: ....

Name: ....

Date: ....

APPENDIX E

SAMPLE PRE-NOTICE LETTER

Dear

Your firm has been included in a random sample of small manufacturing firms to participate in a survey of staff perceptions about on-the-job learning. Will you please consider distributing questionnaires and pre-addressed postage-paid returns envelopes to your staff? A copy of the questionnaire and an information sheet has been enclosed for your information.

A few days from now I will contact you by telephone to discuss your firm's possible involvement in the survey and suitable arrangements for conducting the survey, if you agree to allow your staff to participate. If you agree, questionnaires and returns envelopes will be mailed to you later. The questionnaires can be completed outside work time.

This study, that is being guided by Dr Claire Massey and Associate Professor Frank Sligo, is an important one that will help develop a better understanding of how people learn at work. This in turn could help managers in small firms become more effective staff developers.

It will take only about 10 minutes to answer the straightforward questions on the enclosed questionnaire. If 50% or more of your employees complete the questionnaire, then we will provide you with summary results. This information can help you identify areas for improvement in employee practices.

We appreciate your willingness to consider our request. It's only with the generous help of people like you that this research can be successful.

Alan Coetzer
Doctoral Student
Email: A.J.Coetzer@massey.ac.nz
Phone: 04 801 2794 extn 6485

Research Supervisors:
Dr Claire Massey   Associate Professor Frank Sligo
Department of Management   Department of Communication
and Enterprise Development   and Journalism

Enclosed: Copy of survey questionnaire and information sheet for employees.

APPENDIX F

MAIL SURVEY INFORMATION SHEET

Massey University
COLLEGE OF BUSINESS
Kaupapa Whai Pakihi

The Effects of Managers on Employees' Learning in Small Manufacturing Firms

INFORMATION SHEET

My name is Alan Coetzer, and I am a Senior Lecturer in the Department of Management and Enterprise Development at the Wellington campus of Massey University. I am also a doctoral student at Massey University. My interest in on-the-job learning has encouraged me to research the effects of managers on employees' work-related learning in small firms. This research aims to develop understanding of learning at work, and may help managers in small firms become more effective staff developers. Dr Claire Massey and Associate Professor Frank Sligo are supervising this research.

It will take only about 10 minutes to complete the survey. Completion and return of this anonymous survey implies consent. You have the right to decline to answer any particular question. The answers you give are strictly confidential, and will be released only as summaries in which no individual's answers can be identified.

The information from this study will be used towards my doctoral studies. It will also be used to publish articles in academic and practitioner journals, and present conference papers. We are happy to provide you with a summary of the results of this study. If you would like a summary of results, please write "copy of results requested" on the back of the returns envelope, and print your name and address below it. Please do not put this information on your survey form itself.

If you have any questions or comments about this study, we would be pleased to talk with you.

Alan Coetzer
Doctoral Student
Email: A.J.Coetzer@massey.ac.nz
Phone: 04 801 2794 extn 6485

Research Supervisors:
Claire Massey
Email: C.L.Massey@massey.ac.nz
Phone: 04 801 2794 extn 6508

Frank Sligo
Email: F.Sligo@massey.ac.nz
Phone: 06 3505 799 extn 2386

APPENDIX G

MAIL SURVEY QUESTIONNAIRE

○ Massey University

On-the-Job Learning Survey

Dear Sir or Madam

We are keen to find out what you think about on-the-job learning in your workplace.

Your answers will help develop a better understanding of how people learn at work, and this in turn could help supervisors and other managers become more effective staff developers.

This survey will take only about 10 minutes to answer. Please complete the survey now, and return it in the reply paid envelope enclosed. Your answers are strictly confidential, and will be released only as summaries in which no individual's answers can be identified.

We are happy to provide you with a summary of the results of this study. If you would like a summary of results, please write "copy of results requested" on the back of the returns envelope, and print your name and address below it. Please do not put this information on your survey form itself.

If you have any questions or comments about the survey, please contact me (telephone 04 801 2794 extension 6485, email A.J.Coetzer@massey.ac.nz).

Thank you very much for your help with this important study.

Alan Coetzer
Doctoral Student

Research Supervisors:
Claire Massey
Email: C.L.Massey@massey.ac.nz
Phone: 04 801 2794 extn 6508

Frank Sligo
Email: F.Sligo@massey.ac.nz
Phone: 06 3505 799 extn 2386

Section A: Learning Opportunities and Support for Learning

Here are some statements that describe how people at work might feel about on-the-job *learning opportunities and support for learning.*

Please consider your own workplace and tick the appropriate box to show your level of agreement or disagreement with the statements:

In my workplace:	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
A1 People are given opportunities to learn a number of different tasks	☒	☐	☐	☐	☐	☐	☐
A2 People are given opportunities to take on challenging tasks	☐	☐	☐	☐	☐	☐	☐
A3 People are given opportunities to choose their own methods of working	☒	☐	☐	☐	☐	☐	☐
A4 People are given opportunities to use their skills and abilities	☐	☐	☐	☐	☐	☐	☐
A5 If you need training it is arranged for you	☐	☐	☐	☐	☐	☐	☐
A6 There is no coaching or informal training available	☐	☐	☐	☐	☐	☐	☐
A7 Managers tolerate mistakes when someone is learning a new task or skill	☐	☐	☐	☐	☐	☐	☐
A8 People often take time to figure out ways to improve how work is done	☐	☐	☐	☐	☐	☐	☐
A9 People feel encouraged to experiment to learn new ways of doing old tasks	☒	☐	☐	☐	☐	☐	☐
A10 Our ideas for change are welcomed by management	☒	☐	☐	☐	☐	☐	☐
A11 There is little encouragement to learn new skills	☐	☐	☐	☐	☐	☐	☐
A12 People who learn new skills are rewarded	☐	☐	☐	☐	☐	☐	☐
A13 Managers often share their learning experiences with employees	☐	☐	☐	☐	☐	☐	☐

Section B: Supervisors' Support for Learning

Here are some statements that describe how people at work might feel about their *supervisors' support for learning.*

Please consider your own immediate supervisor and tick the appropriate box to show your level of agreement or disagreement with the statements:

My immediate supervisor:	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
B1 Meets me to discuss my performance	☐	☐	☐	☐	☐	☐	☐
B2 Asks me what I feel I need to learn to do my job more effectively	☐	☐	☐	☐	☐	☐	☐
B3 Provides constructive feedback on my performance	☐	☐	☐	☐	☐	☐	☐
B4 Is available to talk about problems	☐	☐	☐	☐	☐	☐	☐
B5 Works with me to solve problems	☐	☐	☐	☐	☐	☐	☐
B6 Provides on-the-job training when I need it	☐	☐	☐	☐	☐	☐	☐
B7 Arranges help from others when something comes up that I do not know how to handle	☐	☐	☐	☐	☐	☐	☐

Section C: (Dis)Satisfaction with On-the-Job Learning / Job Competency

Here are some statements that describe how people at work might feel about their *(dis)satisfaction with on-the-job learning* and their *job competency.*

Please consider your own workplace and tick the appropriate box to show your level of agreement or disagreement with the statements:

		Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
C1	I am satisfied with what I have learned since joining this organisation	☐	☐	☐	☐	☐	☐	☐
C2	I am satisfied with my personal development since joining this organisation	☐	☐	☐	☐	☐	☐	☐
C3	My training in this organisation didn't cover the basics I need to know	☐	☐	☐	☐	☐	☐	☐
C4	This organisation has helped me to grow and develop	☐	☐	☐	☐	☐	☐	☐
C5	When it comes to my job, I am quite knowledgeable	☐	☐	☐	☐	☐	☐	☐
C6	I have the skills I need to perform my job quite effectively	☐	☐	☐	☐	☐	☐	☐
C7	I have enough training for my job	☐	☐	☐	☐	☐	☐	☐
C8	I am quite capable at my job	☐	☐	☐	☐	☐	☐	☐

Section D: Work Group's Performance

Here are some statements that describe how members of a work group might feel about their *work group's performance.*

Please consider your own work group and indicate your level of agreement or disagreement in regard to the statements by ticking the appropriate box:

		Strongly Disagree	Disagree	Somewhat Disagree	Not Sure	Somewhat Agree	Agree	Strongly Agree
D1	The quality of work provided by my group is improving over time	☐	☐	☐	☐	☐	☐	☐
D2	Serious quality errors seldom occur in my group's work	☐	☑	☐	☐	☐	☐	☐
D3	Those who receive or use my group's work, often have complaints about our work	☐	☐	☐	☐	☐	☐	☐
D4	My work group regularly meets or exceeds its production/performance targets	☐	☐	☐	☐	☐	☐	☐
D5	My work group is good at keeping costs down	☐	☐	☐	☐	☐	☐	☐

Section E: Aids to Learning

Please tick the appropriate box to show how useful each of the following *aids to learning* has been in developing your work-related knowledge and skills in your present organisation:

		Not At All Useful	Not So Useful	Fairly Useful	Very Useful	Extremely Useful	Not Sure
E1	My immediate supervisor	☐	☐	☐	☐	☐	☐
E2	Other managers in my organisation	☐	☐	☐	☐	☐	☐
E3	My work mates	☐	☐	☐	☑	☐	☐
E4	Everyday work activities	☐	☐	☐	☐	☑	☐
E5	On-the-job training (Direct instruction)	☐	☐	☐	☐	☐	☐
E6	Observing and listening	☐	☐	☐	☐	☐	☐
E7	Trial and error	☐	☐	☐	☐	☐	☐

Section F: General Information *Please tick the appropriate box*

F1   Sex

Female (1)		Male (2)

F2   Which ethnic group(s) do you belong to?

(You can tick more than one box)

European / NZ European (1)	Other Asian (5)
NZ Maori (2)	Indian (6)
Pacific Peoples (3)	Other (please state) (7)
Chinese (4)	

F3   What is the status of your current employment?

Full Time (1)		Part Time (2)

F4   Is the status of your current employment:

Continuing / Confirmed (1)		Temporary / Casual (2)

F5   How long have you worked at this organisation?

Less than 2 years (1)
2 - 5 years (2)
6 – 10 years (3)
More than 10 years (4)

F6   What is the primary nature of your work?

Please select one from the list below:

Production (1)
Maintenance/Service (2)
Production and staff supervision (3)
Management (4)
Other (please state) (5)

F7   Please indicate your highest level of education from the list below:

Some College (1)	Diploma (4)
7th Form (2)	Degree (5)
Trade Certificate (3)	Other (please state) (6)

F8   What is your age group?

18-24 years (1)
25-34 years (2)
35-44 years (3)
45-54 years (4)
55-64 years (5)
Over 65 years (6)

APPENDIX H

FIRMS THAT PARTICPATED IN THE MAIL SURVEY
AND RESPONSE RATES

Table H1
Firms that participated in the mail survey and response rates

Type of manufacturing	Number of Employees (in Operating Core)	Number of (Useable) Responses	Response Rate (%)
Architectural aluminum products	31	22	71
Canvas and inflatable products	12	12	100
Cardigans and pullovers	11	5	45
Clothing	40	10	25
Clothing	15	15	100
Commercial display and joinery	15	10	67
Confectionery	15	12	80
Digital maps	22	22	100
Food	13	13	100
Food	18	9	50
Food	12	12	100
Food	14	8	57
Food products for catering	15	13	87
Fruit processing	19	15	79
Fruit processing	28	26	93
Furniture	19	5	26
Heating and cooling equipment	27	5	19
Industrial machinery and equipment	15	11	73
Industrial machinery and equipment	27	13	48
Jam	19	14	74
Kayaks	28	24	86
Metal coating and finishing	24	23	96
Outdoor clothing	30	30	100
Printing	21	5	24
Printing	25	25	100
Printing	31	26	84
Printing and publishing	12	9	75
Printing requirements	12	7	58
Safety equipment	37	37	100
Sheet metal products	16	13	81
Shoes	13	13	100
Totals	636	464	(Average = 73%)

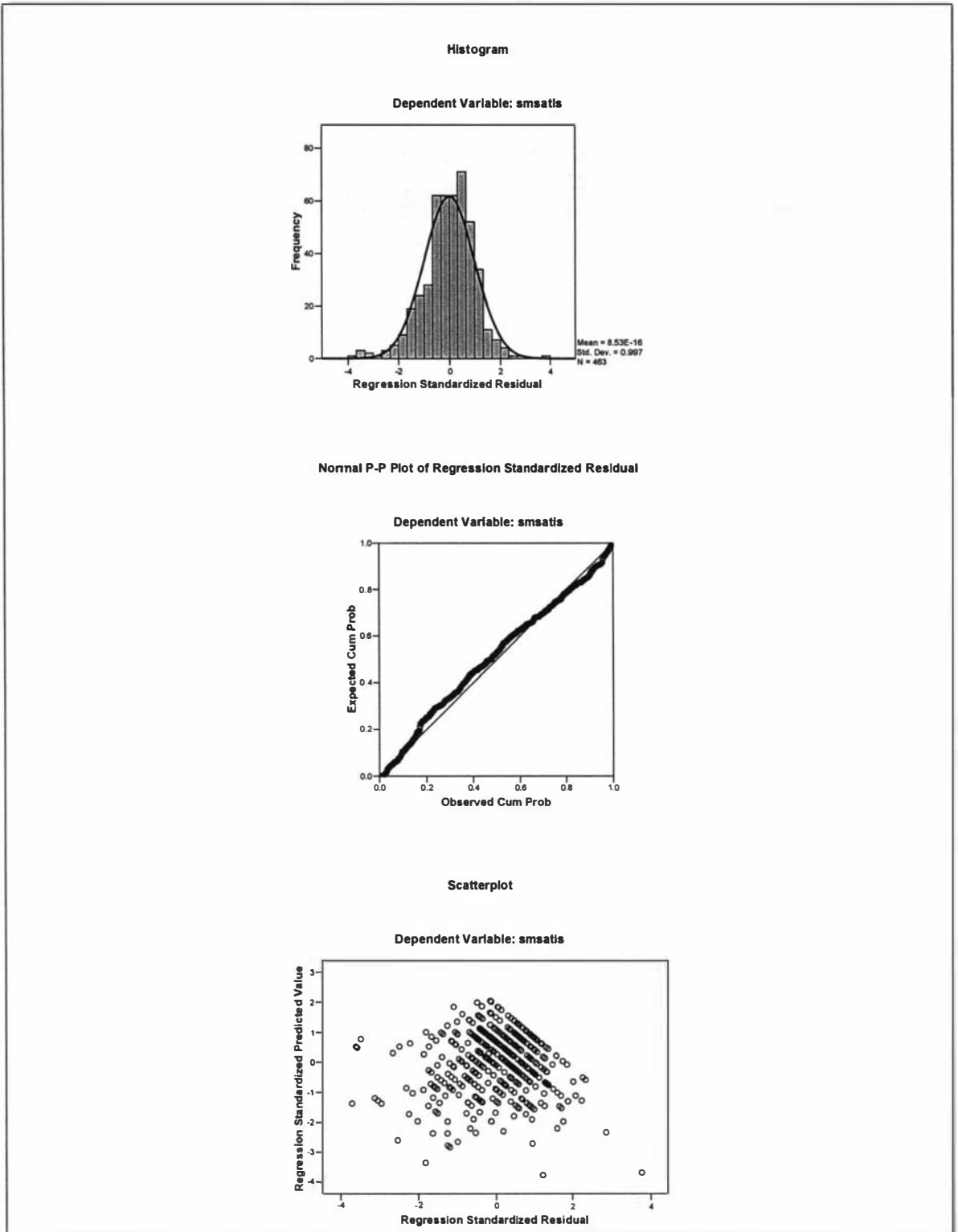**APPENDIX I**

GRAPHICAL PLOTS OF RESIDUALS

Figure I1
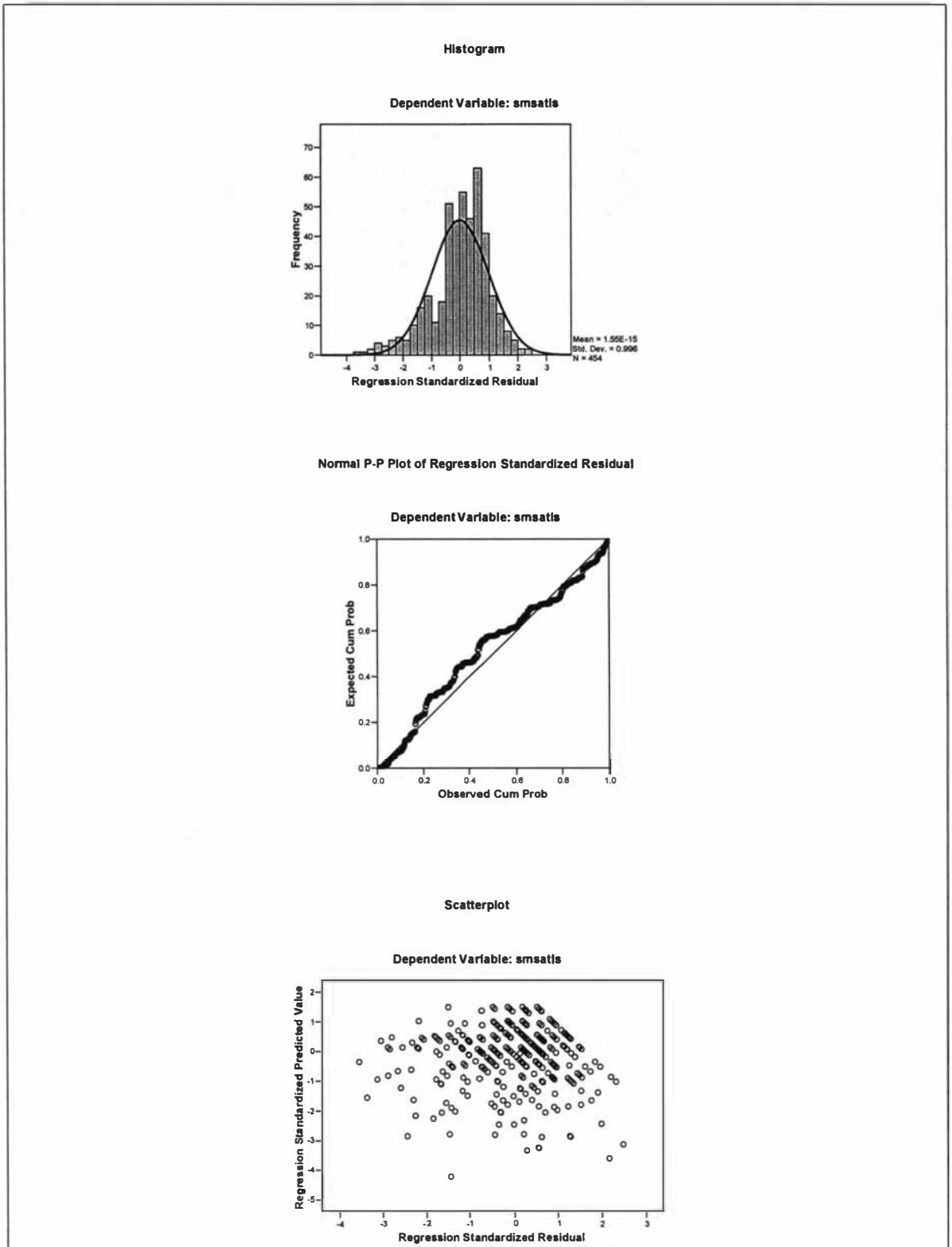Graphical plots of residuals: Composite variables/satisfaction

Figure I 2
Graphical plots o f residuals: 'Learning opportunities' variables /satisfaction
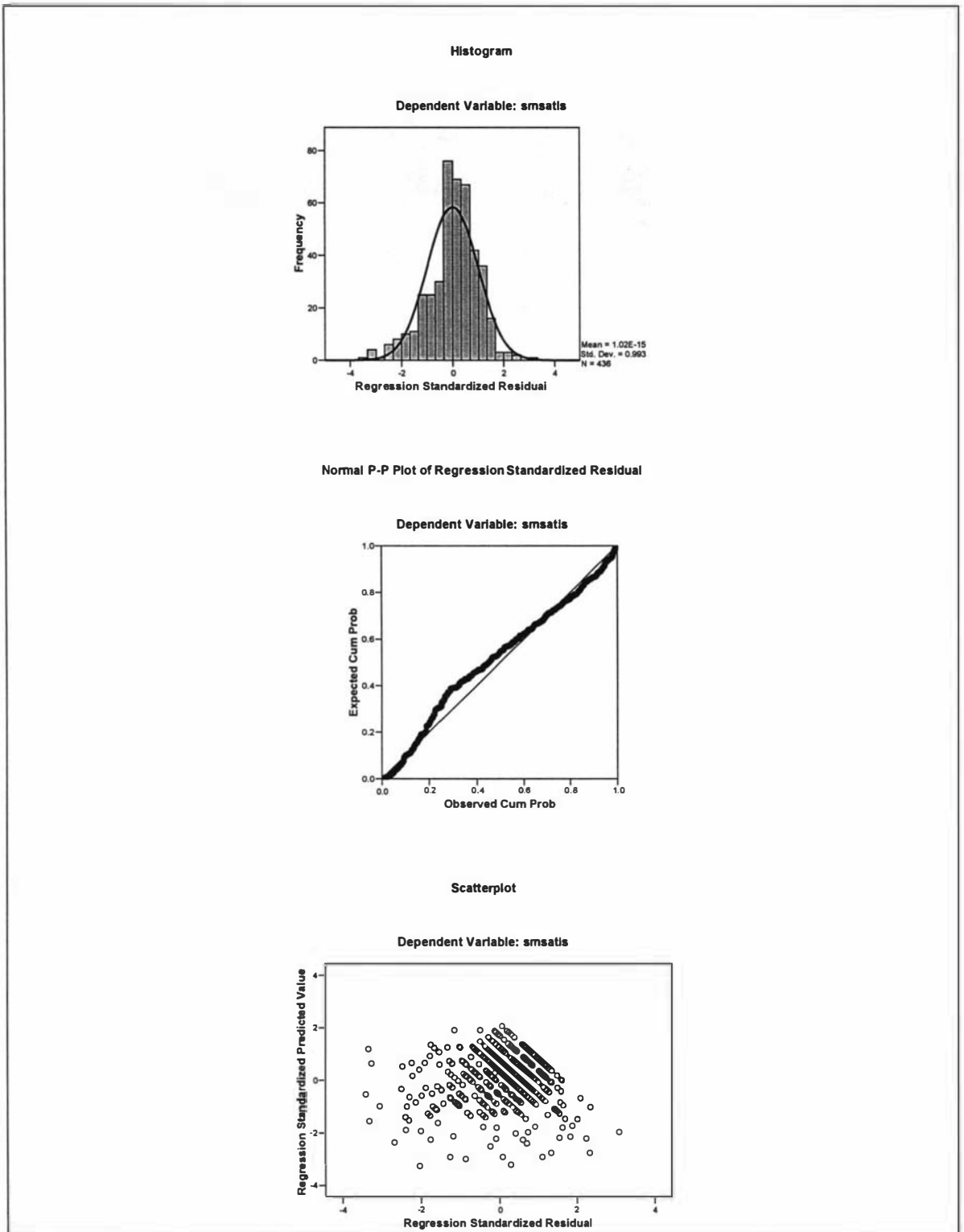
Figure 13
Graphical plots of residuals: 'Support for learning' variables/satisfaction
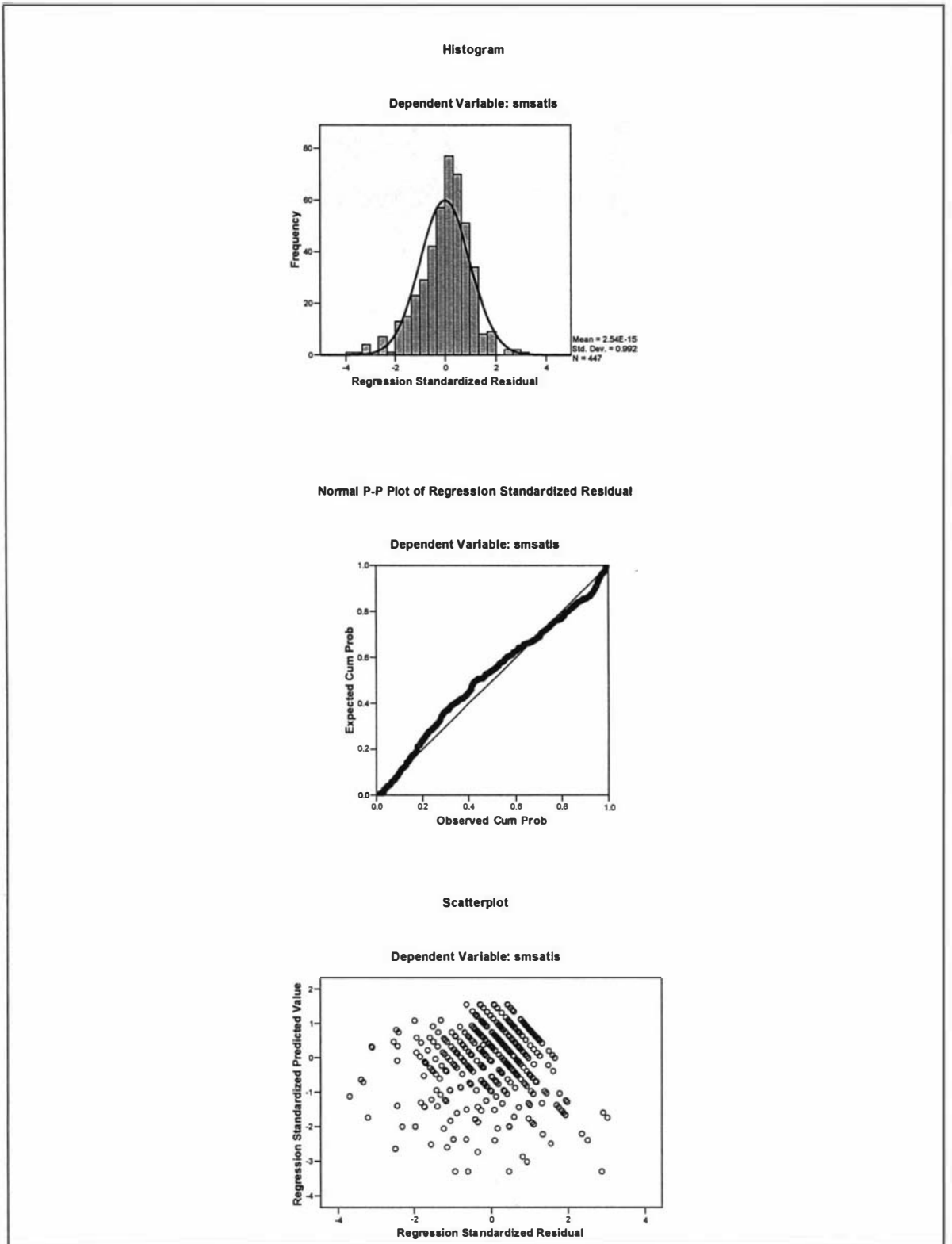
Figure I4
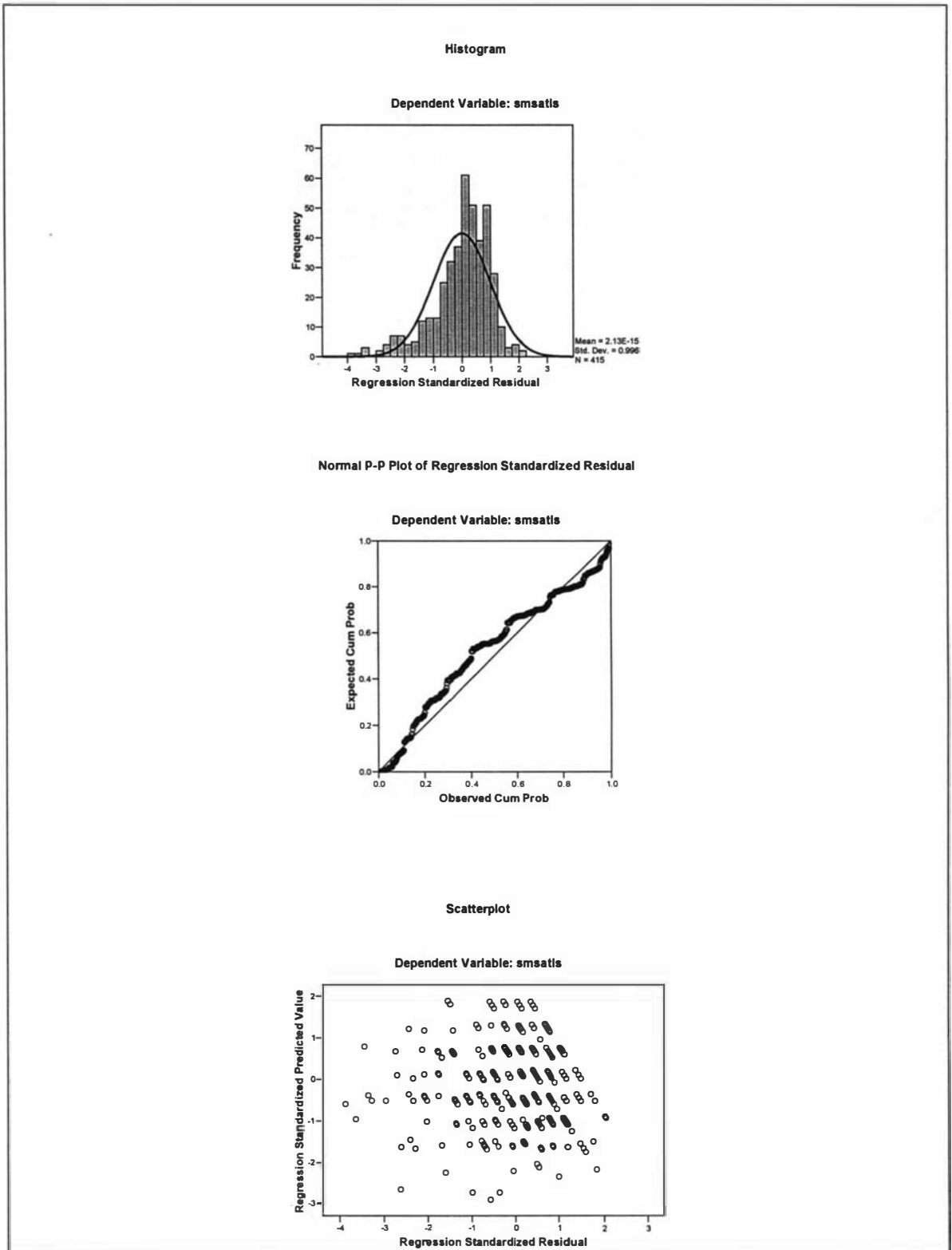Graphical plots of residuals: 'Supervisor support for learning' variables/satisfaction

Figure I5
Graphical plots of residuals: 'Sources of learning' variables/satisfaction