CHAPTER 1

INTRODUCTION

BACKGROUND TO THE STUDY
Andrew: A Boy with a Future
Andrew was fourteen when I first met him. He had answered two questions on the comprehension test administered to all Year 8 students at the high school where I taught. Consequently, he came to my classroom so that I could administer an individual reading comprehension instrument to him. Andrew entered the room brash and cocky, irritated at being removed from his regular class and determined to do the test and get out as quickly as possible. His behaviour raised all sorts of questions in my mind, particularly why would someone as overtly confident as this young man do so poorly on a comprehension test? Was his boldness masking other emotions?

Testing commenced—first item, second item. Part way through the third item he stopped and said, “I’ve done this test before. I know all the answers”. Surprised because no student had ever admitted this, I ceased testing and asked him about his primary school literacy learning and testing history. As we talked the brashness melted away and Andrew began to sob, explaining the frustration and confusion of not learning to read at the same pace as his peers. He recounted episodes of exclusion and discrimination, verging on bullying, on the part of teachers. He did not understand why, in his perception, he could not read anything or why that meant that he was stupid, as teachers over the years had implied.

Cases like Andrew’s forced the support team of which I was a member to rethink our strategies for assisting high school students who were struggling with orthodox literacy. After twelve months of intense planning and preparation our new literacy-based social science program was ready for implementation. In the period that elapsed I had contact with Andrew in his regular classes but his literacy did not improve and his behaviour deteriorated. He was given two choices: join the literacy class or be expelled from school.
Forty weeks of intense instruction, averaging forty minutes each day, in socioculturally organised classes made a huge difference to Andrew and his literacy. The classes were sites of activity characterised by team support, tasks that incorporated student interests while satisfying the syllabus requirements and simultaneously developing a range of critical literacy skills. Each class, students and teacher, formed a co-operative learning team that focused on discussion, investigation, interpretation, praise, support and encouragement as well as decoding and encoding techniques.

With the other students Andrew learned reading, writing, listening, thinking, researching, debating and arguing strategies. More importantly he learned about his own capabilities as a learner and as a person. The last time I saw Andrew he was a personable young man completing Year 12 and preparing for further education at TAFE. Others in the literacy class had left school earlier and taken up apprenticeships or gone into paid employment.

Although I knew of the gains that had been made in the year Andrew attended classes, I believed that literacy would never be easy for him. It led me to ask how adults with literacy difficulties manage in the workforce of the early 21st century.

My Story
I grew up in the mid-twentieth century in a large Australian city where my father (and his father before him) owned a timber mill. As a youngster I used to ‘help out’ during school holidays and grew to know some of the men who worked for my father. Sometimes all the families joined together for social events. Over the years I became aware that some of these men could not read or write. My father was at pains to teach his children that ability to read and write did not define these men. Their value was in their craftsmanship, work skills, knowledge of the industry and loyalty to the company. Office staff assisted these men with literacy on the job. I remember the accountant, for example, sitting down with one man to explain leave loading and salary deductions.
Teaching Andrew and his cohort in the 1990s brought these men to mind. How would they have coped in an era of electronic banking, multi-skilling and digital messaging? What does it take for an employee not only to become proficient in one or more tasks but also to talk about, explain about and teach about those tasks? In the early 21st century how do employees learn the literacy of the skills my father valued in his workers? Are these skills valued as literacies at the beginning of a new century? I wondered if sociocultural theory that provided the structure for Andrew’s literacy development could explain the subtleties of learning on-the-job in a range of worksites. Pondering these questions always led to a central question that became the focal point for the research reported in this thesis.

*What are the issues of identity and social interaction that allow men who self-report literacy difficulties to access and engage in a range of workplace literacies?*

**Why Workers’ Literacy?**
Since the 1970s successive Australian Liberal and Labour governments attempted to address issues of literacy in the workforce. By the 1990s government policy focused on the adequacy of the literacy skills of school leavers and job seekers (Freedland, 2001a, 2001b, 2001c, 2001d; McKay, 1999), aiming to raise literacy rates to internationally competitive levels. Policy initiatives were based on the assumption that higher (national) productivity was linked to increased skills and knowledge gained through schooling. This human capital position was driven by the increasing globalisation of international commerce and trade. In an attempt to counteract their effect on the Australian economy, policies explicitly aimed at improving national economic productivity through demonstration of mandated levels of literacy were devised and implemented. For example, job seekers were required to demonstrate a specified level of literacy to enter the workforce.

The notions inherent in this official position were contested. Research by Hollenbeck (1993) and Levin (1998), for example, found no reliable link between
literacy training and enterprise (or national) productivity. In a review on the available evidence from the United States, Levin (1998: 4) found that:

| although the returns to investment in human capital are substantial, [The Panel on the Economics of Educational Reform] was not able to identify specific educational outcomes that could explain workplace productivity. |

Despite this, reports continued to support the notion that poor literacy has an impact on national productivity. Firstly, “there is substantial evidence to suggest that inadequate skills in English language, literacy and numeracy can be a major barrier to gaining employment” (DETYA, 2001: 4). The implication of this contention was that individuals who were not employed would receive unemployment benefits and thus be a drain on national resources. Secondly, literacy competence was a powerful factor in determining an individual’s prospects in life (OECD, 2000). This was also linked to individuals receiving social security payments, in particular the possibility that sometime in the future an individual with inadequate literacy would require benefits such as subsidised housing, childcare, health care and training, all of which are reflected in the national accounts. To confuse the issue other reports illustrated that employers were often not able to articulate a desirable entry-level literacy standard (ABS, 1997; Australian Parliament, 1997) for job seekers.

Debates around issues of workplace literacy demonised those with inadequate literacy and polarised the general, political and academic communities with regard to defining literacy. In essence this came down to a functional-economic discourse couched in terms of basic skills of reading and writing or a social practices discourse (Watson, Nicholson and Sharplin, 2001). The emphasis was on literacy as a product of social activity represented as ways of practising both basic skills and a range of literacies.
A Niche in the Debate
Provision of workplace literacy training in Australia was mandated in policy. As such it followed the functional-economic discourse that informed policy and thus constituted literacy “as a set of identifiable skills that can be measured and related to specific job tasks” (Castleton, 2001: 178). As a consequence, workplace literacy training revolved around the basic or lower level skills that enabled a worker to answer a set of questions to gain a new skills-based qualification (Brown, 1992), such as gas watching, traffic management or crane lifting. Reflecting deficit notions of learning, this approach assumed that literacy was a sequential set of skills that was best taught in school-like settings.

The social discourse approach assumed that learning occurs in all settings - formal or informal. Further, learners demonstrated a range of skills across the spectrum from lower to higher order thinking. Workplace studies of skill acquisition in the coal industry (Billet, 1999), Information Technology industry (Tuomi, 1998) and office practices (Dymock and Gerber, 1999; Kaur and Thiyagarajah, 2003) took a sociocultural perspective, focusing on developing knowledge in regard to new processes and procedures. None, however, examined the development of higher order literacy competence.

Learning by Experience
Aim
In an exploration of workplace activity this study aimed to answer the research question by collecting and systematically analysing data that showed that:

- there are workers who self-report literacy difficulties;
- workers demonstrate a range of literacies;
- some literacies are developed in the workplace;
- there is a link between personal perceptions of identity, social interaction and development of competence in a range of literacies.

Working from a sociocultural position this study documented the workplace literacy experiences of individuals who self-reported literacy difficulties.
Investigating this question the study challenges the nexus between the functional-economic discourse and workplace productivity in relation to literacy. In doing so it:

- explores the cultural, historical and social factors which impact on development of literacy competence in the course of everyday work activities; and
- relates these issues to theories of cognitive development in the adult years.

In the process the study:

- establishes the longevity of literacy difficulty and its impact on each individual’s attitude to literacy and learning;
- determines the aspects and stages of literacy competence at school or training; and
- ascertains the aspects and stages of literacy competence demonstrated at work.

**Scope**

This study records the memories of nine men who self-reported literacy difficulties. They lived and worked in two major Australian cities across five different industries. Importantly, none of the participants was required to undergo any form of commercial standardised literacy assessment. As such the study relied on each man’s subjective and personal responses to the literacy demands he had encountered throughout his life. This approach indicated the researcher’s confidence in the participants’ judgement, particularly as subjecting the participants to a norm-referenced assessment procedure would have created an atmosphere of distrust.

Participants were each interviewed five times and eight of them nominated one or more individuals who were each interviewed once for triangulation purposes. The principal interviews reflect the views of each participant in response to the questions asked. For the most part these views were substantiated. The major
categorical discrepancy here was the importance ‘being literate’ had for participants and their colleagues, friends or families.

One limitation to the study related to the types of data collected. Methodology theorists (Creswell, 1998; Lincoln and Guba, 1985; Merriam, 1990; Yin, 1994) recommend multiple data sources, including available documents. The majority of the participants in this study had never revealed their literacy difficulties to their respective employer. This being the case the act of the researcher seeking copies of documents (such as leave forms or meeting notes) from employers involved unacceptable and unwarranted risk to participants. Some participants chose to provide examples of their own written texts and one provided copies of school reports. All participants carried out four set literacy tasks as part of the interview process. Supporting documentary evidence consisted of these samples and the researcher’s field notes.

**Context of the Study**
The nine men whose stories were reported in this thesis are real people telling real stories. The “narrative descriptions of persons’ actions in an everyday context [provide] ‘hard’ evidence” (Valsiner, 1996: 297) of literacies and lessons learned over time. Interviews took place in homes, offices, worksites and even, on one occasion, in a hotel. Over the data collection period men changed jobs, moved houses, became fathers and developed new understandings of themselves as people and learners, replicating my experience with Andrew.

Most of the participants had never been the subject of research and the majority had never discussed literacy difficulties with a stranger. For some I was the first person, apart from their spouse, who had talked about the impact of poor literacy on their working lives. They were courageous, courteous and enthusiastic and this encouraged me to be respectful of my task and guard against any unnecessary intrusion into their lives. Although these men may be considered to be ‘unskilled’, none was actually ‘unskilled’. All of them are skilled and in some cases considered national experts, in specific aspects of their everyday occupations. None of them
has been immune to the dramatic changes that have engulfed all sectors of the Australian economy over the last twenty years, even though some were young enough to have worked for fewer than ten years, nor or were they oblivious to or unaffected by negative community perceptions of ‘illiterates’.

**Theoretical Framework**
Lev Vygotsky (1978), one of the originators of sociocultural theory, proposed that learning is a culturally and historically constructed practice. That is, learning is a product of individual and cultural history. He argued that learning or cognitive development is the process of transmitting culturally and historically determined psychological tools and signs from experts to novices. This transmission needs to take place in a social context of overt or covert instruction. When novices need assistance, they indicate that they have not mastered the particular skill required to complete a task. When novices can complete the task successfully and independently, they are demonstrating the transmission of new knowledge that they are able to appropriate for their own purposes.

Sociocultural principles guided the research reported in this thesis that sought to examine the complex interrelationship of people, places, objects and events that lead to higher mental functioning. For example, it explored the notion of tools and signs, in particular “the process of development” (van der Veer and Valsiner, 1991: 391) that occurs when physical tools become psychological tools.

Analysing the men’s literacy experiences from a sociocultural perspective allowed an examination of a teaching/mastery/appropriation process that is characteristic of socially situated learning. Implicit in this process is the way human agency seeks to negotiate “the relational interdependency of agent and worlds, activity, meaning, cognition, learning and knowing” (Lave and Wenger, 1996: 145). That is, this study investigated the ways adults with poor literacy negotiate, engage with or circumvent literacy requirements in the workplace. In addition it explored how workplaces construct workers and learning environments.
**Methodological Structure**
This was a qualitative study. Essentially, it developed an in-depth analysis of multiple cases, drawing extensively on the narratives of nine primary participants over several sites. In exploring “the meanings of behavior, language and interactions” (Creswell, 1998: 58) of individuals in social situations, the methodological approach of this study also appropriated some elements of the ethnographic tradition. In addition, the use of interpretive analysis of the narrative data is typical of the biographical tradition, allowing the researcher to use interview data to isolate and analyse particular critical moments in a person’s life to explain individual trajectories (Creswell, 1998).

Data for the study consisted of a series of audio-taped, open-ended interviews, resulting in narratives of workplace learning experiences, which were initially analysed on an individual case basis and then across cases. Supporting evidence for triangulation of these narratives was also in the form of open-ended interviews. Respondents in this aspect of the data collection were nominated by the principal participants in a snowballing fashion (Lincoln and Guba, 1985; Morton-Williams, 1993; Patton, 1980, 1987).

**Statement of the Thesis**
This study interpreted and analysed the narratives of nine individuals, responding to open-ended interviews focusing on the role of literacy in their working lives. Although the nine men were interviewed five times each the data were amalgamated into a single data pool for each man. After initial chapters setting the foundation for the study, the chapters report on an unfolding multi-phase analysis process.

**Structure of the Thesis**
**CHAPTER 1: INTRODUCTION**
This chapter establishes the direction and rationale for the study. By outlining my social, historical and cultural background it positions me, as a researcher, with respect of the nine men whose stories are the basis of this study. It provides the
historical, social and cultural contexts that resulted in the articulation of the research question.

CHAPTER 2: REVIEWING THE TENSIONS BETWEEN FUNCTIONAL-ECONOMIC AND SOCIAL PRACTICES DISCOURSES OF LITERACY

This review of the literature explores the impact of tensions between two different discourses on workplace literacy. It compares the two discourses, providing examples of contemporary conceptualisations of literacy. By investigating who defines literacy it identifies issues around literacy in policy and compared definitions of literacy in different contexts—school and work and defined learning difficulties in the Australian context. Literature around issues of literacy and identity is examined in terms of community attitudes and individual responses. While it identifies several studies about the identity and experiences of adults with literacy difficulties, it finds none that investigated the ways in which individuals develop literacy skills at work. At this point the review returns to the dual discourse theme in exploring definitions of disability. Turning to the ‘problem’ of workplace literacy it examines literature around human capital theory with respect of literacy and work. It then reviews literature about sociocultural approaches to literacy at work, identifying a gap in the development of on-the-job literacy competence. Drawing on literature framed within a sociocultural paradigm, it outlines elements of social interaction that occur in studies. Finally, it summarises the literature and locates this study as a new, divergent topic in the debate on workplace literacy discourses.

CHAPTER 3: A SOCIOCULTURAL PERSPECTIVE ON LEARNING: THE THEORETICAL FRAMING OF THE RESEARCH PROCESS

This chapter defines and outlines the theoretical position of this thesis. Moving from a broad to a specific focus it first provides an overview of sociocultural theory before moving on to particular concepts such as the social origins of higher mental functions, tools and signs, mediation, mastery, internalisation and zones of proximal development. Each of these principles is discussed in terms of historical underpinnings, Vygotskian concepts and contemporary developments. In
conclusion the chapter discusses a sociocultural conceptual framework for data analysis.

**CHAPTER 4: CONSTRUCTING THE STUDY**
This seven-part chapter defines and explains the methodological approach to data collection and analysis. Importantly, it demonstrates how the conceptual framework introduced in Chapter 3 provides the structure for a multi-phase data analysis process.

**CHAPTER 5: NINE LIVES**
This chapter marks the commencement of the data analysis process. A series of pen portraits introduces the nine primary participants, describing their literacy experiences prior to starting work. Common themes that emerge from the introductory section are discussed and the participants’ notions of literacy are highlighted.

**CHAPTER 6: LOCATING ASPECTS OF COMPETENCE**
This phase of data analysis uses the conceptual framework to describe literacy practice prior to commencing work in terms of six aspects of competence. It establishes that all participants were demonstrating some literacy competence prior to entering the workforce.

**CHAPTER 7: LITERACY COMPETENCE AT SCHOOL AND THE YEARS BEFORE WORK**
Moving to the next phase of data analysis, this chapter analyses each man’s competence prior to commencing work to determine which of the three stages of competence he has reached. Organisationally, this chapter explores each stage of competence for each man.

**CHAPTER 8: MAKING MEANING: LIVES, WORK, LITERACY AND LEARNING**
This chapter follows the same pattern at Chapter 7. Its focus is on the varied opportunities the men had to engage with literacy in the workplace. It draws heavily on the data.
CHAPTER 9: LITERACY COMPETENCE ACROSS CASES
This chapter represents another phase of analysis. The nine cases were drawn together into one case through the device of comparing all cases in terms of stages of competence. For the first time variations in achievement of competence are articulated. Analysis in this chapter is of the types of literacy participants used at work and the reasons for their use.

CHAPTER 10: SOCIOCULTURAL FACTORS IN THE WORKPLACE
As the next phase of analysis this chapter returns to the principles of sociocultural theory outlined in Chapter 3 and examines the men’s performance. In concluding, this chapter draws out some features that are not well articulated in sociocultural theory. They are discussed in greater detail in the following chapter.

CHAPTER 11: INSIGHTS INTO LITERACY AND LEARNING
As the final phase of data analysis, Chapter 11 draws on other sociocultural studies to explain the divergences summarised at the end of the previous chapter. In doing so it demonstrates how a complex and long data analysis process reveals notions of literacy competence that develop in situations of social interaction and impact on the identity of individuals.

CHAPTER 12: MOVING ON
The concluding chapter discusses the research findings and their implications for sociocultural theory, adult literacy and school education practices. It discusses some limitations of the study and suggests avenues for further research.
CHAPTER 2

REVIEWING THE TENSIONS BETWEEN THE FUNCTIONAL-ECONOMIC AND SOCIAL PRACTICES DISCOURSES OF LITERACY

INTRODUCTION
This chapter reviews the literature and in particular the debates concerning definitions of literacy and the literate and the effects these have on individuals who struggle with literacy. In constructing a dualism a functionalist-economic and a social practices discourse is highlighted. The functionalist-economic discourse is apparent in themes of accountability, demonstrativeness and measurement that have emerged in education policy over the last decade in response to a perceived literacy ‘crisis’. These same themes recur in “the functional [adult] literacy discourse that predominates in contemporary understandings of the relationship between literacy and work” (Castleton, 1999: 11). The social practices discourse is apparent in the sociocultural perspectives of the New London Group’s (1996) concept of multiliteracies, the New Literacy Studies’ (Gee, 2000b) social languages and critical literacy.

The Context of This Study
As indicated in Chapter 1, the participants of this study were nine men who defined themselves as having inadequate literacy skills for workplace requirements. Rather than focus on what may be perceived as deficits, the study, working from a sociocultural position, asked: what are the issues of identity and social interaction that allow men who self-report literacy difficulties to access and engage in the workplace literacies?

In examining this research question this chapter discusses the literature around issues of literacy and sociocultural theory as a framework for investigating adult workplace literacy engagement. Any discussion of adult literacy should acknowledge the interlinking “broad fields of research” (Watson, Nicholson and Sharplin, 2001: 3) that provide a foundation for investigating literacy in the adult
years. This chapter draws on literature from a range of research fields to probe the research question with sub-questions including:

- What is literacy?
- Are school and workplace literacies the same?
- What are literacy difficulties?
- What are the issues around literacy and identity?
- What are the issues around social interaction and literacy?

As a consequence of the review, the chapter will conclude by responding to two questions that position this study as new, valuable and useful research within the field:

- What can the conceptual stance taken in this study add to the knowledge of sociocultural theory?
- What can this study add to the field of workplace literacy?

Reviewing the literature will aid in examining the diverse range of views about literacy expressed across fields such as research, policy, the media and in practice. In doing so it demonstrates the soundness of taking an explicitly sociocultural approach to the design of data collection and analysis in this thesis.

**Why a Sociocultural Position?**

Sociocultural theory draws together notions of development, interplaying social interaction and change over time. The latter has two strands—ontological growth (individual biological development) and phylogenetic development (the emergence of cultural schema over the history of human evolution, particularly the use of language). In terms of literacy this means that language use, which is possible because of ontogenetic development, is mediated by cultural structures, which have developed over time, in parallel with immediate social interactions, to guide and develop learning. The complexity of the “relationship between language, culture and human development or learning” (Gutierrez, 1999: 1) is a hallmark of sociocultural theory.
From a sociocultural perspective, literacy is a social construction that meshes and intertwines different facets of social (and historical) culture. Thus for the participants in the study reported in this thesis the complexity of sociocultural theories allowed language and literacy to take on a new character. Rather than being just targets of instruction, language and literacy also became “powerful tools for learning” (Gutierrez, 1999: 1) about oneself, one’s environment and one’s culture and about new ways of thinking. This was possible because sociocultural perspectives allow an examination of the ways individuals perceive, use and understand literacy as it relates to them in different contexts. Additionally, it allows contemplation of the cultural changes that impact on the learning, uses and understandings of what it means to be literate in a world where literacy demands change contextually. Literacy is a contested concept. The next section reviews literature that seeks to define literacy.

**WHAT IS LITERACY?**

Over recent decades debates around the nature of literacy have been significant (Gee, 2000a) and cyclic (Graff, 2001, 1987; Green, Hodgens and Luke, 1997). This section sets out to review literature around the contested term literacy. It does this by posing questions that arise from the research question.

- How is literacy defined?
- Who defines literacy?
- How is literacy referred to in policy?

**Defining Literacy**

Attempts to define literacy over the last several hundred years have aroused debate and discussion. These debates highlight the way definitions of literacy act to include and privilege some and exclude others, becoming a powerful tool of ideological and social manipulation. Rather than attempt the futile task of defining an abstract concept such as literacy most literature around the topic focuses on a particular or specific discourse of literacy (Watson, Nicholson and Sharplin, 2001). Using a discourse or set of conventions “enables the construction of reality in set ways, based on the values and assumptions of the … writer. It conveys ideology”
Thus literacy discourses are never context-free or objective. Rather they are broadly ranging and identify diverse orientations to literacy. Dominant amongst these discourses are two groups that Watson, Nicholson and Sharplin (2001: 5) categorise as functional-economic discourse and social practice discourse.

**FUNCTIONAL-ECONOMIC DISCOURSE**

The term *functional literacy* was introduced as component of the 1947 United States census at a time when the armed forces of that country wanted recruits who had a narrow specific range of literacy (reading and writing) skills. The term refers to the ability to read and write for a particular function, in this instance army basic training. Functional literacy places emphasis on encoding and decoding skills and regards “literacy as a general and self-contained ability to write and read English or some other language” (Gee, 2000a: 412). The notion that literacy should be functional assumes an immutable set of skills necessary for purposeful, day-to-day functioning. This set of skills always includes reading and writing integrated with speaking, listening and thinking (DEET, 1990, 1991).

The functional metaphor has been appropriated and extended by particular disciplines. For example, functional *health literacy* means to read medically focused text purposefully “to achieve a particular outcome … [and] to enact and maintain behaviour change” (Tooth, Clark and McKenna, 2000: 14). This perspective extends connotations of functional literacy by considering both the process of reading and writing (interacting with a range of text forms) and its consequences (achieving particular outcomes).

Over recent decades a link between functional literacy skills and national economic wellbeing has emerged. This link, termed function-economic literacy discourse, typically, supports the notion that “for a modern democratic society, high levels of literacy are crucial to the quality of civic, cultural and economic activity” (Australian Government, 2005: 1). In statements such as this and policy documents
literacy is represented “as a codeword for other concerns and anxieties in public debate” (Green, Hodgens and Luke, 1997: 13, emphasis added) such as unemployment, homelessness and low productivity—factors that are said to impact on national economic wellbeing. The presumed and assumed link between literacy and national productivity has been an ongoing feature of government reports and policy in the UK, USA and Australia since the early 1990s (Castleton, 2002).

**Critiquing the Functional-economic Discourse**

There are three main criticisms of the functional-economic discourse regarding literacy. These relate to the content and context of literacy, social influences on literacy and the link between literacy and national productivity. The New London Group (2000: 2) argues that defining literacy in terms of reading, using written information and writing appropriately seeks to entrench technical, “formalized, monolingual, monocultural and rule-governed forms of [English] language”. They contend that functional modes of literacy seek to maintain conventions such as text type (alphabetic), text direction (left to write, top to bottom in English) grammar and punctuation that are not immediately evident in digital literacies, such as Internet web pages. Further, literacy achievement from a functional perspective can be demonstrated only in specific, prescribed modes, generally involving skills including the mastery of letter-sound correspondence and reproduction of semantic or syntactic rules. Functional-economic discourse tends to narrow the context of literacy performance.

Another criticism of a functional-economic discourse is that in prescribing a set of literacy skills it does not recognise the way that individuals shape and are shaped by events, people and places. Rather it “alienates literacy from people, contexts, relationships, is utilitarian and relies on measurable/quantifiable educational and economic terms” (Watson, Nicholson and Sharplin, 2001: 6). Studies of computer-mediated communication (CMC) (Kanayama, 2003; Tuomi, 1998; Zucchermaglio and Talamo, 2003) demonstrate that a functional-economic approach places
limitations on electronic communications, inhibiting contact. Rather, in the “absence of social contextual cues” (Kanayama, 2003: 269) typical of face-to-face communication, virtual communities of practice (Zucchermaglio and Talamo, 2003) employ a range of contextually specific invented literacies, such as emoticons (Fahlman, 2005) and a tolerance for errors in traditional functional usage to broaden and develop knowledge about themselves and their community.

The most contentious issue around the functional-economic discourse is the assumed link between literacy and economic wellbeing. In the popular press and policy, for example, the term literacy is linked with “employment and training, technology and economic development, cultural and linguistic diversity and issues of gender” (Green, Hodgens and Luke, 1997: 7). The following discussion focuses on the link between literacy and economic development or national productivity.

From a functional-economic perspective, when workplaces are dominated by self-managing teams, “quality control and just-in-time production processes” (Hollenbeck, 1993: 3) effective functioning must necessarily “depend on the spoken and written language skills of its workforce” (Lee, 1995: 135). The implication of this argument is that “workers with poor literacy skills [can be] held accountable for poor economic performance at an industry or national level” (Castleton, 1999: 12). In response to this position there has been an imperative in recent years on the part of policy-makers to define, or redefine, adult literacy in terms of the demands of the “new work order” (Gee, Hull and Lankshear, 1996).

Counter arguments condemn purported links between literacy and national productivity (Bloome, 1997; Botterill, 1997; Brock, 1998; Graff, 2001; Reid, 1999) as fanciful and misleading. They do acknowledge that there is a symbiotic relationship between development and literacy with either influencing the other at different times throughout history. Graff (2001) claims the argument that literacy drives economic development is mythical. Scoffing at the “dizzying number and variety of … effects” (2001: 12) imputed to literacy he notes that these “notions rest
far more on expectations and faith than … on ambiguous evidence of complex, usually context-dependent relations and more complicated, oblique connections” (Graff, 2001: 12).

Empirical studies indicate that there is little reasonable evidence to support the claimed link between literacy as measured in attainment tests and productivity (Hollenbeck, 1993; Levin, 1998). Economists whose speciality is education conclude that:

almost nothing is known about the relationship between specific standards and economic productivity, even in a static economy with unchanging technology, markets, organizations and incentives. The predictive ability of specific educational standards for high economic performance in a future economy is even more obscure.

(Levin, 1998: 4)

Additionally, a study of small and medium-sized enterprises found that senior managers in service industries “did not perceive a strong relationship between basic [literacy] skills of workers and overall productivity of establishments” (Hollenbeck, 1993: 23). Others (Apple, 2001; Brock, 1998; Green, Hodgens and Luke, 1997) argue that sheeting home the ‘blame’ for poor national productivity to those with poor literacy skills represents attempts to “reintegrate education into an economic agenda … [diverting and subjugating debates about] class struggles and struggles over race, gender and sexuality” (Apple, 2001: 36).

From a socioeconomic perspective others (Langmore and Quiggin, 1994; Marginson, 1993; Merrifield, 1997; Peoples, 1998) argue that low national productivity, apparent in Australia in the 1990s, was probably more to do with “a slow-down in the demand for labour” (Langmore and Quiggin, 1994: 82; see also Marginson, 1993), as a consequence of “economic policy and corporate controls” (Merrifield, 1997: 277) than with levels of literacy skills. In a similar vein Castleton (1999: 16) contends that in the debate about literacy and national productivity “blame is located in individuals and explanations are framed in terms
of ethnicity, disposition and socioeconomic circumstances, not in institutional justifications of fiscal difficulties, organisational mismanagement or market declines”.

Hull’s (1997) critique of the assumed link between literacy and unemployment, as an indicator of economic prosperity, drew on an ethnographic study of students in a vocational course. The findings demonstrated that many factors including “short-term, narrowly focused vocational training; the lack of child care at work; part time work with no benefits; few rights; stressful tasks and low pay” are more important than literacy in precipitating unemployment (Hull, 1997: 27). Linking functional literacy skills to economic performance fails to recognise the social, cultural and economic influences inherent in everyday lives. Taking a functional-economic position does not explore “the multiple ways in which [people] use literacies … in their daily lives, including their work and community settings” (Schultz, 1997: 53). By taking an alternative, sociocultural approach Hull (1997), for example, explored issues beyond literacy achievement levels as factors that result in unemployment.

Even though there is “little evidence that … economic recession and declining competitiveness … [are] caused by a poorly educated labor force” (Levin, 1998: 4) the assumed link between literacy and national productivity has become an uncontested ‘fact’ (Black, 1995). Community connotations of literacy position it “as a smokescreen for debate over larger social, cultural and economic issues” (Green, Hodgens and Luke, 1997: 13). As fact it does not need to be substantiated “because it represents common sense; it has become universally accepted and therefore unchallenged because it is the ‘dominant’ discourse” (Black, 1995: 20). As a consequence literacy has been commodified and is advertised and purchased as a means of improving or enhancing individual or enterprise “cultural, social or economic capital” (Shannon, 2005: paragraph 13). The problem with those who settle for explanations that attempt “to formulate consistent and realistic definitions of literacy, [is that they] have little appreciation of the conceptual complications that the subject presents and ignore the vital role of sociohistorical context” (Graff,
1987: 3, emphasis in original). In negotiating those conceptual complications, new definitions that take account of the cultural antecedents and the socially situated nature of language and literacy have emerged in recent years.

**SOCIAL PRACTICE DISCOURSE**

Supporters of new literacy discourses argue that literacy is “an elaborate sociocultural process” (Meredith, Steele and Kikusová, 2001: 175) derived from the practices of earlier generations, dependent on social interaction and reflected in all aspects of contemporary life. *Social practice discourse* rejects functionalist-economic arguments on two grounds. Proponents argue “there cannot be one set of standards or skills that constitute the ends of literacy learning, however taught” (Cope and Kalantzis, 2000: 6). Historically, literacy has been defined to match a time, context and purpose in order to meet specific agendas. The New London Group argues, firstly, that the set of skills required to satisfy the agenda will always change because contexts and agendas change. Secondly, just as technical innovations change the forms (from pen and paper, to electronic mail, to SMS) of communication, the ways of designing and making meaning also change. The latter point is illustrated by research studies (Atewell, 2003: Lewis and Fabos, 2000) demonstrating how students, freed from the conventions of spelling and grammar, communicate willingly and voraciously via SMS.

From the perspective of *social practice discourse* literacy is subject to negotiation across a range of sites where it becomes a cultural construction. Thus what counts as literacy in one cultural context may have little or no recognition in another setting. Three contemporary concepts of literacy—Multiliteracies, New Literacy Studies and Critical Literacy—are characteristic of the *social practice discourse*. The next part of this chapter reviews how these three new literacies are defined.
**Multiliteracies and New Literacy Studies**

The term *Multiliteracies* was coined to define the unrestricted nature of literacy with its “multiplicity of discourses [and] plurality of texts” (The New London Group, 2000: 9). The concept of Multiliteracies rejects notions of a single fixed, standard, text-based literacy, acknowledging that the term *literacies* has a much broader application than decoding and encoding (Gowen, 2001; Hull, 1999, 2000). Invoking the term Multiliteracies recognises that “language and other modes of meaning are dynamic representational resources, constantly being remade by their users as they work to achieve various cultural purposes” (Cope and Kalantzis, 2000: 5).

New Literacy Studies (NLS) “are based on the view that reading and writing only make sense when studied in the context of social and cultural … practices” (Gee, 2000b: 180). Proponents of NLS dispute the notion that literacy is “ever general or self-contained” and Gee (2000: 412) has argued that individuals require a range of literacy skills. In addition to the decoding and encoding skills championed by functional literacy exponents, NLS advocates listening, viewing, thinking and composing alphabetic as well as iconic and visual texts that are mediated according to and by the social situation.

Literacy, defined by the NLS is “being able to actively recruit distinctive oral and written social languages for learning within socioculturally recognizable and meaningful academic Discourses [sic]” (Gee, 2000a: 413). Created from the grammatical resources of a range of languages, including English, “*social languages* … are distinctive in that they are used to enact, recognize and negotiate different socially situated activities” (Gee, 2000a: 413). Furthermore, literacy, as a tool for facilitating social languages “is instrumental in the construction of a particular form of knowledge relevant to culturally valued activities” (Rogoff, 1991: 53).
**Critical Literacy**

Concerns about the power of literacy to marginalise groups outside a construction of the mainstream have resulted in a refocusing of literacy discourses to recognise and redress the disadvantage perpetuated by the dominant, *functional-economic discourse*. Prominent amongst the new discourses, *critical literacy* challenges existing forms of power (Morgan, 2004). It does this through the “analysis of the relations and fields of social, cultural and economic power” (Luke, 2000: 450) as people engage with a range of text types. A key premise of critical literacy is, according to Freebody, Muspratt and Dwyer (2001: viii):

> that textual practices are not merely screens onto which are projected psychological processes, social relations, power structures, or the readily interpretable categories of the bureaucracies; rather, texts themselves serve actively to constitute, embody and transmit these dimensions of social and political experience.

From a critical literacy perspective, literacy does not represent individual skills. Rather it situates social practice in communities where “local economies of signs and symbols … translate into value and power in ways that are at once predictable and quite dynamic” (Luke, 2000: 451). *Critical literacy* challenges the hegemonic effects of functional literacy.

Underpinning *social practices discourse* of literacy are seminal studies in rural and urban communities (Heath, 1985; Taylor and Dorsey-Gaines, 1988), multilingual school communities (Moll and Greenberg, 1994; Tharp and Gallimore, 1988) and workplaces (Scribner, 1984) that demonstrated how (literacy) learning is bound to the cultural and social contexts of activity. Each of these contexts is an example of a site of socially situated activity. These sites provide opportunities for people to construct collaboratively their world “structured by decisions and inventions made by earlier generations” (Rogoff, 1991: 190) and appropriated and modified by the current generation. Social languages, as a product of socially situated activities, reflect the social and cultural contexts where they are generated and used.
In the context of workplaces, utilising social language skills enables workers to complete not only specific tasks that require “technical and interpersonal skills but also intellectual skills that give their companies/schools/colleges the ‘critical edge’ over their local and international competitors” (Castleton, 2002: 559). Armed with these literacy skills, promoters of social practices discourse (Gee, Hull and Lankshear, 1996; The New London Group, 2000) argue, workers are able to negotiate the political and institutional practices inherent in life and work in the 21st century.

Who Defines Literacy?
Providing a single, clear and undisputable definition of literacy is problematic, as the previous discussion indicates. Literacy is an intangible term that is defined in relation to time, place and purpose. Definitions range from narrow notions typical of a functional-economic discourse, mandating measurement and benchmarking, to new literacies characteristic of a social practices discourse which broaden the notion of text and engagement, or critical literacy that seek to overcome disadvantage by highlighting the hegemony of texts. While defining literacy is a topic of continuing debates, definers and determiners of literacy competence are now “increasingly monopolised, not by educationalists, but by government and those who represent industry” (McCulloch, 1997: 72). The definition most often appropriated by government and industry promotes individual, decontextualised functional skills (Dorrance and Hughes, 1996), indicative of a functional-economic approach. Additionally, there is a tendency, perpetuated in the popular press, to fail to recognise the existence of literacy beyond pen and paper tasks. Little effort or thought is given into considering or assessing other forms of literacy.

Literacy in Government Policy and the Media
Since the 1980s Australian governments, urged by industry, developed policy aimed at improving literacy attainment levels “to meet the demands of the changing economic and social situation” (Watson, Nicholson and Sharplin, 2001: 9). National literacy benchmarks in schools and skills competence in industry are examples of policy initiatives influenced by a particular connotation of school-
based literacy learning and also shaped by economic, social and political forces (Watson, Nicholson and Sharplin, 2001). Introduction of literacy benchmarking—derived directly from the notion of a fixed, measurable set of literacy skills (a functional-economic literacy discourse)—sought to establish structures to ensure that prescribed literacy levels were met through the school years.

Falk and Millar (2001: 9) document the link between compulsory schooling and adult literacy (and numeracy) learning and training, noting “the culture of schooling” is apparent in Australian adult literacy policy. Initially, this derived from a succession of reports commissioned by the federal government’s focusing on language and literacy. Most influential amongst these has been Australia’s language: The Australian Language and Literacy Policy (DEET, 1991). This report followed from “the emergence of literacy as an economic issue” (Watson, Nicholson and Sharplin, 2001: 9) during the International Year of Literacy and was designed to provide policy direction. Young People’s Participation in Post Compulsory Education (Finn 1991) linked school participation and vocational education and training in the light of the new work order, focusing attention on the literacy skills of young people leaving school. At the same time the Words at work: Literacy needs in the workplace inquiry (Australian Parliament, 1991a, 1991b) inquired into and reported on literacy needs in the workplace (the last such report in Australia). The culmination of these was Employment Related Key Competencies for Post Compulsory Education and Training (Mayer 1992) that introduced the concept of competency-based training (CBT) and identified and formulated performance levels for eight key competencies (Kell, 1998).

The American defence forces of the 1950s introduced the concept of CBT:

based on the view that standardised training outcomes can be achieved by all learners if a thorough analysis of the behaviour demonstrated by any competent performer is undertaken and then transposed into a set of standardised learning sequences.

(Chappell, Gonczi and Hager, 1995: 177)
Policy developments such as the introduction of CBT have repositioned literacy (and numeracy) from the periphery to the centre of the adult education and training agenda (Brown, 2004; Harreveld, 2004; Kell, 1998). The value of this is contested. The major criticism is that adult literacy teaching “centers on the economic imperatives for adult education while marginalizing its social imperatives” (Harreveld, 2004: 162), namely equity and social justice issues. Literacy has become associated with individual vocational achievement and advantage (Fenwick, 2004; Kell, 1998) conditional on a human capital approach. That is, adult workers acquire productive advantage or capital through formal education that has “measurable value in terms of economic and social outcomes” (OECD/Statistics Canada, 1997: 31).

A second criticism focuses on the concept of competence in relation to literacy. Marginson (1993: 145) argues that this concept is a behaviourist construct, a “generic approach [that defines] competence in terms of broad clusters of abilities or attributes”. Inherent in such an approach is the functional-economic assumption that literacy is a fixed set of transportable skills and knowledge that can be taught, measured and annotated sequentially, then used in a range of contexts. As a consequence teaching has become typified by the use of increased levels of text-based material in decontextualised settings. Learning, measured in outcomes, has been “defined as the ability to recognise the appropriate information and copy this into the appropriate space on the assessment sheet” (Brown, 1992: 41). This functionalist approach has little regard for the “multiplicity of literacies for different purposes in different contexts” (Watson, Nicholson and Sharplin, 2001: 16), typical of a social practices discourse, that some researchers argue are characteristic of contemporary workplaces (Cope and Kalantzis, 2000; Gee, 2000b; Gee, Hull and Lankshear, 1996; Hull, 1997, 2000).

Research suggests that literacy is often cited as a barrier to workplace participation (Hull, 1993, 1997, 1999, 2000). The integration of literacy into a competency-
based model was designed to link adult literacy training to workplace tasks. Since 1995 literacy skills have been included in the national training packages, the Australian framework for learning based on CBT for occupations and trades. Within each package “problem learners” (Childs, 2001: 299) are taught the explicit skills necessary to operate heavy machinery, such as cranes, backhoes or forklifts, or site-specific tasks such as gas measuring. Literacy, as a function of the competence required for demonstration of capability of the task, is embedded in each package on the assumption that the literacy skills taught could be transferred to other contexts.

The concept of transference of skills inherent in the CBT model is problematic. Falk and Millar (2001) argue that there is little research evidence that the basic skills, which are at the heart of a functional-economic approach to teaching, are successfully transferred. Simply gaining a vocational certification or ticket is no guarantee that the literacy necessary in learning and assessment for that ticket will be used in other, everyday contexts.

Yet community attitudes as enunciated by the popular press maintain faith in the restricted, functional-economic view, particularly the notion that drilling and skilling in basic literacy skills will teach adults to read and write. A prevailing view, that literacy is about reading, writing and spelling, is shaped by what the general public reads in the newspapers or increasingly on the web, sees on television and hears on the radio. In their articles journalists and media commentators frequently refer to literacy as reading and writing (Baird, 1999; Cummins and Cusworth, 1999; Editorial, 1999a, 1999b; Grattan, 1999; Jackman, 1999; Jones, 1999; Lane, 1999; McGuinness, 1999). Even though Green, Hodgens and Luke (1997: 15) caution that “media reports on literacy need to be recognised as ideological claims which extend into a range of public concerns” the discourse on the quality of literacy competence has resulted in a fundamental shift of stakeholder opinion towards notions of functional-economic literacy. At the heart
of this debate is a public conception that learning to read as a child and learning to read as an adult are the same.

**SCHOOL AND WORKPLACE LITERACIES**

For most children, tasks in the early years of school are focused on learning the mechanics of reading and writing (including spelling), listening and thinking. Termed “the early alphabetic stage” (Konza, 2003: 17) children in these years learn skills in phonemic awareness (the sounds of letters), blending and sounding out sequences of phonemes. Activities are planned to teach and reinforce these skills. Over a period of time they experiment by testing out their oral skills in writing and spelling. The strategies teachers use are designed to match the stage of cognitive development of children. So while it is realistic to have young children engage in precise skill tasks, such as writing letters repeatedly, as in a handwriting exercise, this is not appropriate for adults.

Workplace literacy extends beyond the functional skills taught in the early years. While the skills inherent in reading and writing are valuable, it is their application in areas such as interpersonal interaction, discussion, team work, problem solving and calculation (Billett, 1998, 1999, 2001b; Dymock and Gerber, 1999; Hull, 1997; Kaur and Thiyagarajah, 2003; Merrifield, 1997; Schultz, 1997; Scribner, 1984) based on oral, iconic and gestural modes that sets workplace literacy apart from school literacy. In other words, rather than being confined to basic print-based tasks workplace literacy demonstrates the multiplicity of literacies typified in a social practices discourse.

A *functional-economic* approach to workplace literacy, however, requires individuals to learn “specialized vocabularies and concepts in order to be considered functionally literate” (Kaur and Thiyagarajah, 2003: 173), often in settings that are “based upon classroom strategies initially designed for children” (McHugh *and associates*, 2001: 183). When literacy at work is defined “purely as the individual skills necessary to complete particular tasks” (Castleton, 2002: 558)
workers who have not gained the prescribed literacy are viewed as inadequate for the task.

There are four reasons why adults have been unable to gain requisite literacy skills. Firstly, the language of their workplace may not be one with which they are fluent (Konza, 2003). Secondly, they may lack the background knowledge necessary to make the learning content meaningful (van Kraayenoord, 2002). Thirdly, they may be handicapped in the workplace owing to an intellectual or physical disability (van Kraayenoord, 2002). Fourthly, they may have a learning difficulty that manifests itself in literacy. In the next section empirical data on learning difficulties in children and adults were used to provide an outline of what is meant by learning difficulties and the long-term effects for individuals with persistent learning difficulties.

**What are Learning Difficulties?**
In the Australian context defining “learning difficulties is contentious because there is no commonly accepted definition” (Rohl and Rivalland, 2002: 36). There are different definitions from State to State and even from school to school (Elkins, 2002; Rohl and Rivalland, 2002). However the general picture emerging from the research indicates that learning difficulties, most often evident in the domain of literacy (Elkins, 2002; Rohl and Rivalland, 2002; van Krayenoord, 2002), impact on up to twenty percent of children (Louden, 2000) and persist into adulthood. Australian empirical studies of learning difficulties have a strong early and middle years focus and “comparatively little inquiry has taken place in literacy education which focuses on adults’ acquisition of literacy in their first language” (Falk and Millar, 2001: 7). Internationally, researchers in the UK found that there were no studies available “expressly on adult learners’ difficulties in reading” (Besser, Brooks, Burton, Parisella, Spare, Stratford and Wainwright, 2004). Despite this it is possible to discern from the literature a pattern of features of literacy acquisition for those with learning difficulties in literacy at primary school (Louden, Chan, Elkins and associates, 2000) and from the recalled experiences of adults in the UK (Besser and associates, 2004), the USA (Gerber and Reiff, 1991; Goldberg,
Higgins, Raskind and Herman, 2003; McNulty, 2003) and the Netherlands (Hellendoorn and Ruijssenaars, 2000).

Persistence of difficulties is the first common factor. Rohl and Rivalland (2002) found that, despite ongoing and appropriate intervention throughout the primary school years, some children needed continued assistance with literacy in high school. Studies of adults (Gerber and Reiff, 1991; McNulty, 2003) reported that literacy difficulties, first apparent in primary school, persisted into the post-adolescent years, “pervading all domains of adults life” (Hellendoorn and Ruijssenaars, 2000: 3).

Recognising the importance of the primary school years is the second common feature of empirical studies. Adults claim to have been aware at primary school that they were different from their peers because of the struggles they had with literacy (Gerber and Reiff, 1991; Goldberg and associates, 2003; Hellendoorn and Ruijssenaars, 2000; McNulty, 2003). Typically school tasks were “arduous” (Rohl and Rivalland, 2002: 39) and it took longer to do the same tasks as their peers (Gerber and Reiff, 1991; Hellendoorn and Ruijssenaars, 2000). Many adults with learning difficulties learn a habit of persistent hard work, seeking to prove their capabilities as a result of their struggles in primary school (McNulty, 2003). Further, the role and value of early intervention has been highlighted by recent school studies (Rohl and Rivalland, 2002: 39). Reports of school experiences by adults also cite stigmatisation, alienation or isolation and labelling—dumb, stupid or lazy—by teachers who did not seem to understand or care (Gerber and Reiff, 1991; Goldberg and associates, 2003; Hellendoorn and Ruijssenaars, 2000; McNulty, 2003). In addition, the propensity for children who have literacy difficulties to engage in antisocial behaviours is high, with some developing self-harming habits in their adolescent years (Gerber and Reiff, 1991; Goldberg and associates, 2003; Hellendoorn and Ruijssenaars, 2000; McNulty, 2003). Studies of recent provision of services to children with learning difficulties by teachers trained
to recognise learning difficulties conclude that the consequences outlined are dramatically reduced or ameliorated (Louden and associates, 2000),

Difficulties, emerging during the school years and carried into adulthood, were evident in all aspects of literacy, including “word identification, comprehension (explicit and implicit), phonological awareness, decoding and spelling” (Besser and associates, 2004: 8). These could be manifest in either oral or written literacy. The spiky profile of strengths in some aspects and weakness in others identified by Besser and associates (2004) was a common theme in all studies whether they be adults or children (Gerber and Reiff, 1991; Goldberg and associates, 2003; Hellendoorn and Ruijssenaars, 2000; Louden and associates; McNulty, 2003; Rohl and Rivalland, 2002). Some individuals with literacy difficulties develop interests and ability in sport, music or drama as a means of “connecting with other people” (Goldberg and associates, 2003: 368; Rohl and Rivalland, 2002). Children and adults with learning difficulties have a preference for learning that is practical and visual as opposed to theoretical and auditory (Gerber and Reiff, 1991; McNulty, 2003; Rohl and Rivalland, 2002).

Many adults reported that by the time they left school they could be characterised as having low self-esteem and poor self-perceptions. For these individuals, identity had become an issue. If, as the Board of Studies, NSW (2004: 7) argues, as the oral form of literacy “language shapes our understanding of ourselves and our world and is the primary means by which we relate to others” then being literate is important. Determining who is literate and to what degree they are literate has important social, personal and economic implications. The next section reviews debates around the hegemonic and catalytic functions of literacy definitions.

**Issues of Literacy and Identity**
Definitions of literacy are used to denote competing value positions, ideologies and power structures and determine the social distribution of knowledge (Aronwitz and Giroux, 1993; Black, 1995a; Botterill, 1997; Green, Hodgens and Luke, 1997:
Newman and Beverstock, 1990). *Functional-economic discourses* invest power and privilege in those who determine what skills are recognised as literacy while *social practices discourses* acknowledge the role of social, cultural and historical influences in communities of learning.

In workplaces power structures and the distribution of knowledge are represented by competence achievement. As noted previously, CBT customarily relies on the *functional-economic discourse* to explain literacy at work, allowing for “certain conceptualizations of worker identity that carry with them particular moral implications” (Castleton, 1999: 16). Importantly, demonstrable literacy skills serve to label and identify workers as, for example, skilled, semi-skilled or unskilled. As a consequence the pervasive presence or absence of literacy governs individuals’ responses to the range of social and cultural workplace contexts in which they move. That is, the way individuals perceive their own literacy abilities and the way the workplace acknowledges and values individual workers literacy abilities (Hull, 1999, 2000) determine the range of activities and social interactions they choose to engage in. Essentially this is because “failure to advance [in literacy] reflects overwhelmingly on that individual and on his or her race, ethnicity [and] class” (Graff, 2001: 19).

If individuals negotiate activities and social interactions as a function of their perceived literacy skills is it possible that they engage in an increasing repertoire of literacy skills by choosing different activities or new forms of social interaction? Hull (2000) demonstrated that workers sometimes manipulate the dominant workplace literacy paradigm to appropriate systemic culture (such as meetings formats) and challenge existing structures. Her research reinforces the argument that it is simplistic to hold on to notions of literacy as fixed and immutable. Additionally, accepting that acquiring literacy or any other learning is never a goal on its own (Graff, 2001) provides an avenue for investigating activities and social interactions as the basis for literacy engagement. Finally, Hull’s study demonstrates that the binary discourse on definitions of literacy and debates about
the effects of workplace (il)literacy fail to take into account the voices of the workers.

Arguments that privilege ‘professional’ workers and denounce frontline workers on the basis of functional literacy skills deny “credibility and validity to the experiences of others” (Castleton, 2002: 560) than the privileged. This positions workers whose work is repetitive and requires little engagement with pen and paper literacy tasks or who shun technology-driven activities such as telephone, Internet or electronic banking as deficient, unskilled and functioning in an environment free of social interaction.

According to Gowen (2001: 323) a “central theme” of workplace literacy research and policy focuses on determining a set of appropriate skills or conditions for either acquiring or demonstrating competence. Workers are seen as little more than sources of evidence that a theory or concept has succeeded. Very little thought is given to individuals who are “simultaneously the members of multiple lifeworlds” (Kalantzis, 2003: 4). Within each of these lifeworlds individuals who enact a socially situated identity … [in which] specific ways with words (social languages) are fully integrated with specific ways of thinking, believing, valuing and acting, interacting and, often, ways of coordinating and being coordinated by other semiotic systems, other people, various objects, tools settings and technologies.

(Gee, 2000a: 413)

The next section considers literature with respect of one of these identities – the non-literate person. In particular it questions how individuals who are recognised as having literacy difficulties respond to and negotiate their multi-layered identities (Kalantzis, 2003) of disability.

**Literate and Illiterate Identities**
The rhetoric of success and failure inherent in debates around literacy reverberate through the community, stigmatising individuals whose literacy skills fail to meet community expectations. Depictions of the **illiterate** “draw very particularly on a
deficit representation that assumes a causal relationship between such deficiencies and people’s ability to do a job” (Castleton, 1999: 11), with implications for national productivity. Community representations of literacy play an important part in creating identity.

COMMUNITY ATTITUDES

Literature reviewing public documents demonstrates that literate people represent all that is good, moral, civic-minded and responsible. Literacy is uncritically imbued with the power to

- crank economies to more productive levels, to eradicate ignorance, poverty and crime, to enhance democratic processes, to improve health, to stimulate logical and scientific thinking, to preserve endangered cultures and, generally, to redeem the peace and prosperity of global culture.

(Freebody, 1991: 1)

Following from this claim is the presumption that inadequate literacy or illiteracy is an unmitigated disaster. Adults whose literacy skills do not ‘measure up’ are characterised as people who are “refusing to learn how to read and write” (Howard, 1999) cited in McGregor and Henderson, 1999). The link between literacy and community good becomes a natural part of the rhetoric, as adults with poor literacy are cited as illustrations of “unwillingness to learn or act towards the good of society” (Howard, 1998: unpaginated). When people who speak with authority, such as a Prime Minister, convey messages such as this, the general public understands that individuals with a “deficiency of basic skills” (Howard, 1998: unpaginated) disadvantage the whole community. As these opinions are discussed indiscriminately, especially on talk-back radio, a “language of failure” (Stone, 1998: 15) invokes moral outrage and community shame towards adults who struggle with literacy.

An uncritical public begins to believe the pervasive link between literacy and work promulgated in the popular print and electronic media as “the straight-forward
representation of workers as possessing inadequate literacy skills for current and future jobs” (Castleton, 1999: 11; also see Brock, 1998; Hull, 1997). One of the central tenets of this discourse establishes:

a particular version of knowledge about the place of literacy in the workplace, that sees workers, in very particular ways, contributing to the nation’s inability to compete effectively in the international marketplace.

(Castleton, 1999: 14)

Over time the effect of perpetuating this notion is to condone marginalisation and reinforce “a dominant construction of adult illiterates as ineducable, unemployable and in human capital terms, unproductive” (Wickert, 1992: 32). An inevitable conclusion is that “those with poor literacy skills are at risk of being marginalised from mainstream societal activities” (Tooth, Clark and McKenna, 2000: 14).

Individual Responses

According to the comments cited above being literate is important. The dominant and prevailing popular view of those who have ‘failed’ to gain orthodox decoding and encoding skills is negative. Negative connotations of the ‘illiterate’ generated through cyclical debates about literacy are evidenced in consequences for those individuals who believe their literacy is inadequate. Little more than a decade ago during the International Year of Literacy an Australian government report drawing on a functional-economic discourse recognised that “anyone with low levels of literacy is effectively disenfranchised, shut out by incomprehension from the society in which he or she lives” (DEET, 1992: 21).

Having inadequate literacy, according to the dominant view, damns a person as a failure personally, socially and economically. Reflecting on his own early years of struggling with literacy, Yoder (2001: 5) noted that “when a person can’t read, others dismiss the person struggling with the printed word”. The emphasis is important here. While literacy may be a human skill, poor literacy reflects on the
whole person. Despite any other positive personal attributes, individuals with poor or inadequate literacy skills learn to believe they are failures.

The language of failure is powerful and may result in feelings of shame. The inevitable consequence is “a double threat: Fear of shame conceals and leads to other concealments as protection against it” (Stone, 1998: 20), resulting in internalised self-regulation, particularly in regard to social and personal interactions. The following extract from a submission to the *Words at Work: Literacy needs in the workplace inquiry* poignantly illustrates this sense of personal shame, overriding fear and internalised self-regulation:

> Literacy is like war and death … People who are not migrants will not admit they have a problem with literacy because of fear, fear of insults public humiliate and ridicule or loss of job. Who would do this? the boss, your workmates or anyone who would find out … fear runs your whole life. what you say. where you go. what you do. you believe the whole world is plotting against you. (Australian Parliament, 1991b: 478)

Empirical studies indicate that feelings of alienation and disenfranchisement are common for adults with poor literacy (Gerber and Reiff, 1994; Goldberg, Higgins, Raskind and Herman, 2003'; Hellendoorn and Ruijssenaars, 2000; McNulty, 2003). When people fear ridicule and humiliation, they need “to be permanently on guard against exposure” (Australian Parliament, 1991b: 476).

Failure and the shame that accompanies the knowledge of literacy failure, are not experienced only in adulthood. Children recognise and experience failure and shame. Children who fail to achieve a perceived conception of ‘being literate’ become disenchanted very quickly. At school these children can be bullied and humiliated, resulting in withdrawn or aggressive behaviour. Beatty (2000: 668), for example, recalls how he “tended to avoid academic activities [because] the school system had labelled [him] a poor reader” in the first grade. His family’s acceptance of this and their subsequent limited expectations of him exacerbated his “negative attitude concerning literacy” (Beatty, 2000: 668). As a primary school boy he had unwittingly and knowingly become a target of ideological and social manipulation.
Workers’ Voices

Castleton (2003) has argued that, since the voices of workers who have inadequate functional literacy are missing in accounts and debates about workplace literacy, it is important to consider why this might be. Beatty’s (2000) poignant account is part of the widely-ranging literature on children with learning difficulties. The literature on the life experiences of adults with learning difficulties, in particular diagnosed dyslexia (an umbrella term for a range of literacy difficulties), is skewed towards reports of “adaptations and personality characteristics” (McNulty, 2003: 363). While useful in identifying a set of characteristics that describe and define adults with learning difficulties in literacy, they do not record the lived experiences: “a void exists in the literature concerning the emotional experiences related to living with diagnosed dyslexia over the course of life” (McNulty, 2003: 363).

Relatively little is known about the experiences of failure and shame or the internalised self-regulation that results.

Qualitative studies of the adjustments of adults with diagnosed dyslexia (Gerber and Reiff, 1994; Goldberg and associates, 2003; Hellendoorn and Ruijssenaars, 2000; McNulty, 2003: 363) found similar emotions to those reported by Beatty (2000). Recollections of school were often negative because teachers were unaware of the child’s problem, or unable to provide adequate help and labelled the children “lazy or dumb” (Hellendoorn and Ruijssenaars, 2000: 232, 233). Some of the children who were bullied and abused by teachers and peers resorted eventually to avoidance strategies (Hellendoorn and Ruijssenaars, 2000). In another study some respondents reported “intense feelings of shame and humiliation” (McNulty, 2003: 371) dating from their years in primary school.

Avoidance techniques, initially associated with reading aloud (Hellendoorn and Ruijssenaars, 2000; McNulty, 2003), developed into lifelong coping mechanisms. Negative behaviours first exhibited in childhood sometimes continued into
adulthood where workers feared exposing their literacy difficulties for fear of ridicule or even loss of employment. Although this arose in response to a task that they could not achieve and felt ashamed about, many adults reported that they began to avoid social situations that would leave them open to ridicule. Many found that owing to a fear of failure “it was better not to reveal their learning problems to others” (Hellendoorn and Ruijssenaars, 2000: 232) and others reported feeling different and being socially awkward (Hellendoorn and Ruijssenaars, 2000; McNulty, 2003). In the first qualitative study of adults with literacy difficulties Gerber and Reiff (1994) found that some chose careers that enabled to work by themselves or in very small firms, thus ameliorating feelings of shame and social awkwardness.

**DEFINING DISABILITY**
Reflecting on the relationship between literate and work identities Hull (1999: 544) means questioning “how might we move beyond a simple assumption of deficiency and the tendency to label and mislabel individuals and groups”. The answer might be in the individuals themselves: “Despite their problems most participants [do not regard] themselves as losers, but rather as people who persist, endure and survive” (Hellendoorn and Ruijssenaars, 2000: 236). They demonstrate characteristics very much like those enunciated by Graff (2001) (referred to in an earlier section of this chapter) as typical of literate adults.

**A Functional Approach**
If this is the case, why are these people considered to have a disability? Oliver (1990) claims that models such as the *individual model of disability* construct disability within individuals. He argues that this allows an individual’s “functional limitations … which are assumed to arise from the disability” (Oliver, 1990:3) to be cited as the cause or the ‘problem’ of disability. This means that, when individuals are told they are dumb or stupid or humiliated by teachers because they struggle to become literate, not being able to read is a function of an inherent personal inability (Cunningham, 2001; Gerber and Reiff, 1994; Goldberg, Higgins, Raskind and Herman, 2003; Hellendoorn and Ruijssenaars, 2000; May, 2001; McNulty, 2003,
Pelkey, 2001). Individuals internalise this message and, as demonstrated from the cited studies, take on the identity of a disabled person.

**A Social Approach**

As an originator of the *social model of disability* (the social model) Oliver (1990: 3) argues that the problem of disability is located “squarely within society”. The social model does not deny the organic reality of disability. However, it asserts that the problem of disability does not lie in the individual’s physical or intellectual differences but in social structures that do not adequately provide the appropriate services to meet the needs of individuals who function outside the norm. From this perspective the norm in literacy terms is the person who has the reading and writing skills promoted by the dominant socio-political group. A consequence of the shift “toward mass literacy and the consequent negative connotations attached to being *illiterate*” (Riddick, 2001: 224, emphasis in original) has been the conceptualisation of Dyslexia or literacy difficulties as a problem or even a disability.

If, as McNulty (2003) argues, a void exists in research about the emotional experiences of adults with literacy difficulties, another void also exists. This is in examining the effects on adults who have literacy difficulties of social interaction (the everyday conversations, memos, safety signs or reports) inherent in the culture of the workplace as sites of situated learning. Studies recognise the trauma experienced at work when literacy is a problem (Gerber and Reiff, 1994; Hellendoorn and Ruijsseenaars, 2000; McNulty, 2003). It is noted that individuals who are reliant on “obvious patterns of functional compensation … to adapt [are] inherently more vulnerable than their peers to changes in their lives that might affect there ways of coping” (McNulty, 2003: 378).

However, these depictions of the lived experiences of adults with diagnosed dyslexia take no account of sociocultural factors in their work environments. Participants in the studies recall the barriers they have faced at work (Gerber and Reiff, 1994; Hellendoorn and Ruijsseenaars, 2000). Many people work at tasks that they find mundane and boring, fearful that they will fail tasks with higher literacy
components (Hellendoorn and Ruijsenaars, 2000; McNulty, 2003). Very few of their working environments evidence the social structure and assistance envisioned in either the social model or the new world of work (Gee, 2000a; Gee, Hull and Lankshear, 1996; Kalantzis, 2003). Working from an individual model of disability, the studies by Gerber and Reiff (1991) and Hellendoorn and Ruijsenaars (2000) allude to but do not detail the compensatory behaviours of adults with diagnosed dyslexia. The authors locate the problem in the individual, suggesting that the individual needs to find the solution. Although the value and importance of peer and family support is mentioned, there is no suggestion that the sociocultural environment plays a vital role in these individuals’ lives.

At a time of evolving and broadening workplace literacies a need exists to focus on “identifying and recognising the hidden culture of the workplace, including the workers’ own texts and the textual and contextual cues they employ in getting the work done” (Castleton, 1999: 23). This is particularly important for workers with literacy difficulties who feel that “their work [is] judged mainly on their disability and not on their strengths” (Hellendoorn and Ruijsenaars, 2000: 234). The evidence from empirical studies is that workers with literacy problems invest an inordinate amount of energy in managing the literacy demands of work (Hellendoorn and Ruijsenaars, 2000). The question that has not been addressed is: what, if any, are the sociocultural factors that support these tasks and scaffold the learning of new literacy skills?

In summary, depictions of the illiterate draw on a “deficit representation that assumes a causal relationship between such deficiencies and people’s ability to do a job” (Castleton, 1999: 11). The rhetoric of responsibility and blame with respect to literacy acquisition, deriving from an individual model of disability, is double–edged. Not only are individuals held responsible for their literacy difficulties, but also the popular conception is that their behaviour is deemed responsible for a plethora of society ills. Proponents of a social model refute this notion, claiming that literacy disability, represented as Dyslexia or literacy
difficulties, is a societal problem. This view is advanced by research demonstrating that literacy has been commodified and marketed as a means of counteracting other social and economic issues (Green, Hodgens and Luke, 1996; Shannon, 2005). Current studies investigating the emotional journey adults diagnosed with Dyslexia travel relies heavily on an individual model of disability. This is indicated in comments such as: “these adults are functioning successfully not because the learning disabilities have disappeared but because they have developed the means to cope” (Gerber and Reiff, 1991: 131, emphasis added). The added emphasis highlights the notion that the individual has to find ways of lessening the impact of poor literacy. From this perspective, the literacy problem and its solution are located within the individual, who is handicapped by society.

As a matter of course these studies do not explore how adults with literacy difficulties engage with the multiplicity of literacies inherent in a range of settings such as home, work and the community. For example, in discussing one respondent (S8), Gerber and Reiff (1991: 98) note that she finds many everyday tasks difficult including shopping, which involves calculating and writing cheques, reading aloud and interacting in social groups. Listing these difficulties may arouse awareness, empathy or sympathy in the reader but it does not reflect on the processes people with literacy difficulties undertake when challenged. In particular these studies (Gerber and Reiff, 1991; Hellendoorn and Ruijsenaars, 2000) do not pay significant attention to the sociocultural factors inherent in workplace cultures that support and scaffold workers. For example, how does S8 write a cheque? Does she write all but the amount at home by copying? Does someone at the supermarket help her? Has she considered an alternative to writing cheques? There is a gap in the research between recognising or listing the everyday difficulties and exploring the strategies and structures individuals use. This gap in the research is the focus of the study reported in this thesis.

In the literature Dyslexia or literacy difficulties is viewed from two different perspectives. From the functionalist perspective, the individual model of disability
locates the problem within the individual who has a deficit. On the other hand the social model of disability locates the problem in a society that chooses to handicap rather than provide appropriate supporting mechanisms for individuals whose skills place them outside a dominant socio-political norm. The same dichotomy is apparent in debates around theories of workplace literacy, which is the focus of the next section.

**Responses to the ‘Problem’ of Workplace Illiteracy**

From the dominant functional perspective literacy is attainment is regarded as vital in preparing individuals for the workplace (Australian Government, 2005; DEETYA, 2001) and civic life. That is, despite other skills or qualifications, those with benchmarked literacy achievement are considered literate and ready for work. On the other hand those who fail to gain that standard are considered deficient, illiterate and unemployable without further training (Dorrance and Hughes, 1996; OECD, 2000). A brief overview of the development of workers as human capital serves to contextualise the dual notions of literacy as applied to workplaces.

**Human Capital Theory**

The notion that entrants to the workforce should be work ready is consistent with a range of economic theories dating from the days of slavery when prospective owners purchased workers on the basis of the physical traits required for specific tasks (Marginson, 1993). Around 1691 Sir William Petty first placed “a monetary value on human beings … [and, in 1776] Adam Smith formulated the basis of what was later to become the science of human capital” (Marginson, 1993: 32). With the emergence of neo-classical economics, human capital theory developed into mathematical theory that was taken up by the Chicago school in the 1950s and 1960s. Resurfacing as a ‘second wave’ in the 1980s, this ‘science of education’ measures human beings in terms of their monetary value (Marginson, 1993: 149). “Human capital acquired through formal education has measurable value in terms of economic and social outcomes” (OECD/Statistics Canada, 1997: 31).
THE AUSTRALIAN CONTEXT
Changes to the value and importance of literacy, most recently adult and workplace literacy, have occurred in Australia “as a response … to macro developments … in particular the forces of globalisation” (McIntyre and Solomon, 2000: 85) that impact on social, economic and cultural institutions. Forces that influenced this response include: a breakdown in the geographic isolation of Australia through advances in communication technologies and the globalisation of capital; a refocusing of cultural affiliation from the UK to the USA, Asia and Pacific rim countries as a result of Britain’s entry into the European Economic Community (EEC); and a restructuring of cultural demographics as a result of successive waves of non-British migration since the end of the war (Green, Hodgens and Luke, 1997; Lo Bianco, 2001). These were the drivers of documents such as the National Policy on Languages (1987) and Australia’s Language: The Australian Language and Literacy Policy (1991), “the two main national [language and literacy] policy texts in Australia” (Lo Bianco, 2001: 28).

As Australia has moved from a resource to a manufacturing and then an information technology economy, the debate around literacy as an indicator of human capital has gained momentum (Lo Bianco, 2001). In response workplace literacy has evolved relatively recently from the field of adult literacy as a result of “the coupling of new discourses about work and workers’ skills with the functional literacy discourse” (Castleton, 1999: 17). From this perspective literacy is regarded as a set of individual, stand-alone, linear and sequential skills “necessary to complete particular tasks” (Castleton, 1999: 11) and vital in preparing individuals for the workforce or making them work ready.

LITERACY AND WORK
According to the dominant functional-economic discourse on the role of literacy at work, the workplace is regarded as unproblematic (Castleton, 1999). It is seen as the canvas on which actions are depicted. Inherent in this is a notion that teaching is a set of decontextualised skills designed to enhance literacy that will improve
productivity (Gowen, 2001). Such an approach “focuses only on job-related tasks
developed by management and outside experts” (Folinsbee, 1995: 64). It makes the
assumption that:

there is a portable toolbox of basic skills that is embedded in job
tasks and that can be uncovered, made explicit and then taught to all
employees – a universal set of skills that applies across jobs and
people and social structures.

(Gowen, 1992: 130)

Empirical studies of workplaces (Gowen, 1992; Hull, 2001) indicate that the pre-
packaged curriculum of universal skills is not appropriate and in some cases may
reduce trainees’ chances of obtaining work or promotion (Castellano, 1997; Gowen,
1992). Adult literacy teaching models, such as this, are generally skills-focused
and composed of a series of linear, sequential, isolated tasks that are demonstrable
and therefore measurable. Characteristically, they are often “based upon classroom
strategies initially designed for children” (McHugh, Nevard and Taylor, 2001:183;
see also Falk and Millar, 2000). The failure of high school students to complete
sorting and loading tasks at the same rate or accuracy as experienced truck drivers
in the milk processing factory (Scriber, 1984) illustrates the value of workplace
experience over generic mathematical skills taught at school.

Studies of workplace literacy programs reflect the mismatch between employer and
employee expectations (see Castellano, 1997; D'Amico and Schnee, 1997; Darrah,
1997; Gfeller, 1997; Gowen, 1992, 2001; Grubb, 1997; Hull, 1997b, 1999; Hull
and Schultz, 2001; Schultz, 1997) which occurs when employing authorities focus
on a *functional-economic discourse* that “falls back on traditional ways of teaching”
(Schultz, 1997: 62), replicating school-based techniques. These studies illustrate
the intersection of valence and expectancy that is often a correlating factor in
creating “barriers to the participation of initially poorly educated adults” (Tuijnman
and Van Der Kamp, 1992: 7) in workplace literacy programs. That is, workers
have low expectations of the value of the programs (valence) and low expectations
of their ability “to participate in and complete” (Tuijnman and Van Der Kamp,
1992: 7) such programs.
The functional-economic discourse around literacy does not reflect the needs of individuals or “the complex ways in which people perform work” (Folinsbee, 1995: 64), nor does it acknowledge that literacy demands differ across and within workplaces. Hull’s (2000) study of workers at an electric components plant illustrate the way workers’ literacy demands reflect “various [socially interactive] processes that are internal to the factory floor” (Castleton, 1999: 9). When workers are regarded as receivers of knowledge, little credence is given to issues of the generation and reproduction of texts in the workplace.

Failure to acknowledge these issues has effectively refocused workplace learning “away from curriculum to … qualifications and documentation of skills and units of competence” (McHugh, Nevard and Taylor, 2001: 181). Workplace learning and its associated workplace structure built around functionalist notions of literacy bring with them tensions around issues of the demonstration of competence and identity. Kell (2000: 3) argues that, as a result, workplace training programs serve only to reduce “broader notions of literacy, focussing on individual improvement”. This view is supported by Brown (2000: 5), who describes vocational education in Australia as “too narrowly conceived, instrumental, derived from technicist notions of work, corporate in a number of senses, hegemonic and undemocratic”. His argument here concerns the way workplace knowledge has been reduced to mastery of a narrow and specific set of decontextualised skills that need to be demonstrated to obtain the next ‘ticket’ and generate further status and recognition.

From a sociocultural perspective the functional discourse approach’s reliance on notions of deficit and incompetence emphasises skills and formally measured competence and negates notions of critical understanding or applied competence. Gowen (1992:17) argues that:
it is a model well-suited to industrial modes of production because it is driven by the same set of industrial and behavioristic assumptions about knowledge that separate skills into discrete categories and emphasize linearity and hierarchy of tasks involved in production.

Darrah (1997) sees another agenda in the functionalist view. He argues that “the apparent simplistic exercise of listing skill requirements for work” (Darrah, 1997: 267) is an act of power that places blame on individuals rather than organisational contexts. It “highlights an inherent unequal distribution of power” relationships within the workplace (Castleton, 2002: 558). This argument acknowledges the hegemonic status of functionalist literacy and accords with Oliver’s (1990, 1992) concerns about the individual model of disability. A transfer of focus from organisational mismatches to unrealistic expectations of the role of literacy at work is the result of this kind of thinking.

In summary, typically frontline workers are depicted as being incapable of doing particular tasks, poorly educated, used to and contented to continue working in low skilled jobs owing to inadequate literacy skills (Castleton, 2002; Hull, 2000). This depiction, generally from the perspective of supervisors or managers, “draws on a deficit representation of individuals” literacy skills that assumes a causal relationship between such deficiencies and the people’s ability to perform at work” (Castleton, 2002: 558). Characteristically, representing literacy as a functional skill, these depictions give little credence to the range of literacies that are demonstrated in how workers get the job done or the needs of workers (Brown, 2000; Castellano, 1997; Castleton, 2002) within and outside the workplace.

To summarise further, the workplace, as a site of contestation, has attracted researchers who utilise the words of workers and describe the literacy practices they observe in a range of worksites. Careful analysis of workers’ performance suggests that the kind of “everyday” knowledge that workers employ to perform their jobs is sophisticated and relies on oral communication, problem solving and social interaction in complex, ever-changing ways (Gowen, 2001: 332). From this
perspective work is a socially situated practice and workplace literacy encompasses not only the words workers may need to read and the instructions they may need to follow but also the cultural practices in and around specific work contexts that have developed over time. In the course of doing their jobs, workers load delivery trucks to match orders efficiently (Scribner, 1984), ascribe political motives to daily memos from managers (Gowen, 1992) and modify circuit boards within company guidelines (Hull, 1999).

LITERACY AT WORK THROUGH A SOCIOCULTURAL LENS
From a sociocultural perspective, learning is a function of culture and social processes that occur in specific contexts. The ways that individuals use print, for example, demonstrate “the workings of a social system and of the ways in which it can impede, constrain, or enhance … everyday lives” (Taylor and Dorsey-Gaines, 1988: 199). In this respect language, literacy and learning cannot be reduced to a set of specific skills. Nor can the uses of literacy be generalised across a variety of sites. Learning and literacy are “always and everywhere embedded in practice and are socially and culturally distributed” (Gee, 1997: 65). Workplaces allow workers to engage in a range of context-specific literacy and learning activities that are “embedded in the social and physical” circumstances (Billett, 1993: 3) representative of that site. In his study of coalminers Billett, (1993) found that workers engage in a learning process when they are challenged to solve problems as part of their goal-directed working day. This on-the-job learning allows workers to “construct their knowledge and skills on the basis of their prior – informal as well as formal – knowledge and through interaction with their environments” (DeCorte, 1992: 97). In other words, workers “test and appraise” (Billett, 2001: 75) solutions to problems that occur in goal-related tasks on the basis of prior learning and knowledge of their working environment. Sociocultural theory allows an examination of the formal and informal processes that occur as workers learn on-the-job. Chapter 3 explains this theoretical perspective in more detail. In the following section elements of sociocultural theory that are identified in the research
literature about workplace literacy and have also been used to analyse data reported in this study are reviewed.

**Social Interaction**
A central theme of sociocultural theory is the concept of *social interaction*. For the most part, interpersonal contact, verbal or non-verbal, is universal. In general, people meet, chat and share ideas in reality or virtually on a daily basis. The concept of *social interaction* extends the concept of casual or planned meetings. It refers to interpersonal exchange that directs learning. Therefore social interaction could be as quick and informal as chatting with a colleague in the lunchroom or attending a planned meeting. In the course of any interaction, learning occurs as the result of a process of mediation. When an object, thought or signal comes between a stimulus and its response, mediation is said to have occurred. Mediation in the course of social interaction is governed by the use of psychological tools and signs.

**Psychological Tools and Signs**
A key concept of sociocultural theory is the use of psychological tools and signs (see Chapter 3 for a definition). In essence psychological tools are “symbolic artefacts – [safety] signs, symbols, texts, formulae, graphic organizers – that when internalized help individuals master their own natural psychological functions of perception, memory, attention and so on” (Kozulin, 2003: 15). The role of psychological tools is to change these functions. Within workplaces psychological tools could include “the hidden culture of the workplace [defined over a period of time], including the workers’ own texts and the textual and contextual cues they employ in getting the work done” (Castleton, 1999: 23). When individuals commence work at a new site they need to start learning the culture of the workplace so that they can interact appropriately. Dymock and Gerber’s (1999) study of vocational certificate graduates entering the workforce demonstrated the need for new workers to learn the culture of their workplace. Psychological signs control thought processes. While psychological tools might, for example, add
something new to an individual’s store of memories, psychological signs bring that memory to the fore.

One of the most powerful of psychological tools is “literacy in its different forms” (Kozulin, 2003: 16). From a sociocultural perspective literacy engagement - like other workplace tasks - is “an active and constructive process” (De Corte, 1992: 95) governed and shaped by the context and the sociocultural underpinnings of the participants. While much of the attention in sociocultural literature is on the novice/expert relationship and contexts of learning, Valsiner (2003) argues that focus needs to be directed to the way attitudes of acceptance, rejection or resistance influence the mediational role of psychological tools and signs. Studies showing how workers’ identities, shaped by previous experiences of acceptance or rejection, govern the uses of literacy in workplaces suggest that individual affective responses are important mediators of literacy engagement (Castellano, 1997; Darrah, 1997; Hull, 1999, 2000).

**Higher Mental Functioning**
A sociocultural perspective on the development of higher mental functioning explains how the different types of symbolic tools, evolved throughout history, affect the kinds of mediation favoured (Vygotsky, 1978). The ability to solve unique or novel problems, transfer knowledge from one context to another and think in abstract terms are all indicators of higher mental functioning. However, the degree of development of thinking skills depends on the availability, quality and use of symbolic tools in the learner’s environment (Kozulin, 2003).

Sociocultural theory also explores the types of thinking that are valued and privileged by cultures, such as the impact of artefacts like “numeracy, literacy and computers on thinking” (Lantolf, 2000: 3). For adults who struggle with literacy the notion of privileged psychological tools, such as a particular conception of what it is to be literate, is important. Being locked out of other cultural activities by an inability to achieve prescribed levels of literacy impacts negatively on self-concept
and reduces opportunities for social interaction (Kegan, 2001; Pelkey, 2001). On the other hand empirical studies of adults with literacy difficulties who have achieved at an advanced level in professional occupations illustrate the role of positive self-concept in developing higher mental functions (Fink, 1998; Gerber and Reiff, 1991; Hellendoorn and Ruijssenaars, 2000). In other words self-concept is one of the key mediators enabling social interaction and consequently the development of higher mental functions.

While orthodox literacy skills may be difficult for some adults, higher mental functions can be demonstrated in other literacies. For example, in heavy industry a novice operator may not recognise the signs, sounds or vibrations emitted by a particular machine. An operator who knows and understands the machine will recognise signs that are beyond the usual and know how to initiate remediation strategies. This is in contrast to workers who need constant direction and perform a narrow, regulated set of tasks (Kalantzis and Cope, 1997). Where a functional-economic perspective labels workers with lower level skills, a sociocultural perspective on workplace literacy takes a broader perspective, regarding both literacy and the notion of the literate person as ongoing projects. Implicit in a sociocultural stance is the notion that it is not possible to fix a set of literacy skills or define who is literate because social and cultural conditions of the workplace are in a constant state of flux. If both identity, as a function of self-concept and notions of literacy are constantly being remade contextually, how can the issues of identity and social interaction of literacy engagement be identified, made explicit and assessed?

A Sociocultural Perspective on Data Collection and Analysis
As previously stated the research literature on adults with literacy difficulties is scant. Those studies that replicate or build on Gerber and Reiff’s (1991) investigation rely on similar measures of orthodox literacy skills in describing the experience of being learning disabled (Goldberg and associates, 2003; Hellendoorn and Ruijssenaars, 2000; McNulty, 2003). The life narratives in Learning
disabilities and life stories (Rodis, Garrod and Boscardin, 2001), although representative of a sociocultural perspective, focus on life trajectories as a consequence of learning difficulties in reading. While individual contributors/authors may mention literacy strategies, there is no analysis of the factors that influenced engagement with a range of literacies (Jackson, 2001; Kegan, 2001; Marshall, 2001; May, 2001; Miskell, 2001; O'Connor, 2001; Pelkey, 2001; Piziali, 2001; Queen, 2001). One study investigated the kinds of problems adults have with the mechanics of reading such as word reading and comprehension, phonological awareness, decoding and spelling (Besser and associates, 2004). There is no recent empirical evidence reporting on sociocultural work practices that contribute to or influence literacy competence or acquisition, the focus of the study reported in this thesis.

Communication, collaboration and culture: the national framework of adult English language, literacy and numeracy competence (Cope, Kalantzis, Luke, McCormack, Morgan, Slade, Solomon and Veal, 1995) (hereafter referred to as the Framework) was used to collect and analyse the data for the study. The Framework, based on the concept of activity in social contexts, conforms to a social practices discourse, broadening the definition of literacy to include the multiplicity of literacies inherent in everyday workplace tasks. Broadening the definition of literacies accounts for the many ways that workers communicate and allows those who might otherwise be deemed illiterate in terms of orthodox literacy to demonstrate other literacy modes, such as problem solving, negotiating, debating, designing, team building and critical thinking, all skills in demand in contemporary workplaces. The way the Framework was incorporated into the research design is described in Chapter 4.

SUMMARY: THE IMPORTANCE OF THIS STUDY
Issues around definitions of literacy and the changing nature of work raised in the early parts of this chapter have impacted on those seeking to enter the workforce. As a result of the functional-economic discourse literacy at school and work
literacy have taken on an unprecedented prominence, fuelled by periodic alarms about a crisis. The “discourse of a literacy crisis among adult workers” (Castleton, 2002: 163) underpins government initiatives such as mandating literacy and numeracy tuition for job seekers who have been assessed as having inadequate literacy.

This study investigated a group of adult workers who are characteristic of this discourse. Traditionally, these individuals found employment as “unskilled” workers in medium or light industry. However, over the last two decades, they, as members of the Australian workforce, have had to “demonstrate more and different skills and competencies” (Hull, 2000: 26) in the context of “rapidly changing, highly technologised and globalised workplaces” (Castleton, 2001: 163).

Arguing against the categorisation of workers based on their literacy skills, Castleton (2001) notes that the perpetuation of binary notions, such as the dualism in definitions of literacy outlined earlier in this chapter, “allows one term to be privileged over the other, highlighting how other kinds of possibilities or potentialities are made invisible” (Castleton, 2001: 172). The value of this study lies in the attempt to make visible some of the possibilities and potentialities of learning literacy on-the-job.

There are two aspects to this claim of value. First, workplace learning is well researched in terms of training requirements (Cornford, 1999; Dymock and Gerber, 1999; Kaur and Thiyagarajah, 2003) and text use (Gowen, 2001; Hull, 2000; Kibby, 2002). Studies emanating from the vocational education sector focus on the role of the teacher or student in formal workplace education settings (Billett, 2001; Hollenbeck, 1993; Kalman, 1997). However, there are no studies of the sociocultural influences on literacy engagement by adult workers with literacy difficulties (Wertsch, 2000: private correspondence).
The second aspect of a claim to value in this study is the use of the Framework as a tool for data collection and analysis. Since data for this study consist largely of sets of interviews it was important to use an analytic tool that could investigate the way factors within sites of situated learning influence ways of doing, ways of acting and ways of thinking in multiple sites. Designed as a broadly based assessment instrument that needs to be customised to individual situations (Cope and associates, 1995), the Framework allows an examination of modes of literacy engagement from a sociocultural perspective. The Framework has not been used as a tool of analysis in this matter previously (Kalantzis, 10 June, 2002: private conversation).

Analysis of data collected for this study also contributes to the debates around literacy or literacies. Analysing reported performance (that is, ways of doing) demonstrates that the higher mental functioning that is often attributed to orthodox literacy (Dorrance and Hughes, 1996; Howard, 1999) is also manifest in tasks that involve verbal or non-verbal communication. In doing so it urges reconsideration of the notional privilege awarded to individuals who can pass the test or write the correct words on the line (Brown, 2000).

Finally, this thesis challenges some commonly and widely accepted ‘truths’ of sociocultural theory. In particular it considers the role of the expert other in relation to the subservient position of the novice to be pre-eminent. It argues that sociocultural concepts need to account for human agency on the part of novice learners, particularly in regard to social interaction, the mediation of psychological tools and signs and the construction of zones of proximal development. These latter points are best understood in the context of the multiple, intersecting concepts that are known as sociocultural theory. The next chapter looks at these theoretical concepts in greater depth before Chapter 4 describes the research design, data collection and data analysis processes.
CHAPTER 3

A SOCIOCULTURAL PERSPECTIVE ON LEARNING: THE THEORETICAL FRAMING OF THE RESEARCH PROCESS

INTRODUCTION
Sociocultural theories of learning are premised on the recognition of “human cognition and learning as social and cultural rather than an individual phenomena” (Kozulin, Gindis, Ageyev and Miller 2003: 1). The term cultural refers to both long-term, intergenerational development of specific stimuli and the unfolding of actions or events over a shorter space of time (ontogeny) for specific individuals. The affix socio refers both to the social origins of these stimuli and the conditions of social interaction necessary for their transmission, appropriation and transformation.

Notions of cognitive development (learning) as a function of specific sociocultural contexts began to emerge at the end of the nineteenth century parallelling, the rise of psychology as a separate science rather than a series of competing schools. In Russia at the turn of the nineteenth century, for example, there were separate schools such as “behaviorism, reflexology, psychoanalysis [and] Gestalt psychology” (Kozulin, 1986: xvii). Since that time cultural psychology theories proposing a social-cultural basis for the development of higher mental functions have appeared episodically in a number of countries. Tracing the evolution of cultural psychology, Valsiner and Van der Veer (2000) reviewed the work of scholars from the USA (James Mark Baldwin and George Herbert Mead), Germany (Georg Simmel) and Russia (Lev Vygotsky and Mikhail Bakhtin). Even though these scholars emerged from different academic fields such as psychology, sociology, literature and art they were “forerunners of … cultural psychology” (Valsiner, 2000: 28). In turn they have contributed to contemporary theories of sociocultural development.

Sociocultural theory is now widely used in educational research and pedagogy. Examples include second language learning (Donato, 2001; Ohta, 2001), learning
disabilities (Gintis, 2001), Authentic Pedagogy (Newmann *and associates*, 1996); Productive Pedagogy (Education Queensland, 2001; Lingard, Hayes, Martin and Christie, 2003) and Effective Pedagogy (NSW Department of Education and Training, 2003). Learning, from a sociocultural perspective, is “not simply the internalisation of knowledge and skills by an isolated mind” (Erickson, 1996: 29). It involves complex social and semiotic interactions. It is these interactions that were the focus of this thesis, namely, what are the issues of identity and social interaction that allow men who self-report literacy difficulties to access and engage in workplace literacies, examining the sociocultural factors that influence skill acquisition.

This chapter reviews the basic principles of sociocultural theory, particularly those developed by Lev Vygotsky in the 1920s and 1930s and extended by neo-Vygotskian scholars of the late twentieth century. The chapter commences by discussing the genesis of the sociocultural approach. Then it examines several key points of sociocultural theory. The next section draws these concepts together by reviewing the concept of the zone of proximal development as an instructional structure. The chapter then turns its focus to adult learners and sociocultural studies of workplaces. It outlines current thinking in terms of adult learning and the applicability of key concepts of sociocultural theory to the field. In considering the implications of a sociocultural approach to data collection and analysis in a study of adult workplace learning it proposes questions that could be asked to elucidate the social, cultural and historical factors embedded in the workplace literacy tasks and the skills necessary to complete them. Finally, it nominates a conceptual framework for data collection and analysis that appropriately meets the requirements of a sociocultural study of workplace literacy learning.

**General Outline of Sociocultural Theory**

Studies of Lev Vygotsky’s (1896-1934) work have revealed “an intricate web of *intellectual interdependency*” (Valsiner and Van der Veer, 2000: 19, emphasis in original), both Russian and Western (Kozulin, 1990). Vygotsky integrated
concepts proposed by his contemporaries and his predecessors from fields as
diverse as linguistics, biology, philosophy and the schools from the newly emerging
science of psychology. The influence of others is explicit in his work. Many of the
key principles he propounded are derived directly from his reading of other
scholars’ writings. Consequently, his theoretical concepts “should be seen as a
synthesis of more or less known ideas from different sources” (Valsiner and Van
der Veer, 2000: 373). However, in seeking his own solution to the difference
between biological and psychological development in humans, Vygotsky adopted
and later rejected some theories that originally had been fundamental to his thinking
(Kozulin, 1986; Valsiner and Van der Veer, 2000; Van der Veer and Valsiner,
1991; Veresov, 1999; Vygotsky, 1934, 1978a; Wertsch, 1994). Some later
Vygotskian scholars claim that the way he constructed new ideas through the
transformation of old ones was a response to political pressures of the time
(Joravsky 1989). Others reject this notion (Bakhurst, 1996; Newman and Holzman,
1993). The development of Vygotsky's ideas is important in two respects. First,
they were constantly changing, moving on and reflecting old and new thinking
from a range of perspectives. In works such as *Mind in Society* (1978) he explicitly
demonstrates how his thinking is guided by emerging ideas from other disciplines.
His work is a product of an evolving scientific culture. Second, the development of
his hypotheses was not finished before his death, leaving many avenues of inquiry
open.

The influence of Vygotsky's ideas still prompts “us to inquire into the nature of
knowledge” (Kozulin and associates, 2003:1). This is apparent in 21st century
curriculum initiatives (noted above). Teachers using these curricula are encouraged
to ask: Am I teaching a set of facts, a group of skills that can be impartially
measured or the ability to use current skills with environmentally situated social
and cultural artefacts to form new concepts? The latter Vygotskian position
refocuses attention from the learner as an individual defined by age and IQ to
highlight the socially situated nature of learning or knowledge generation. While
these current pedagogical approaches recognise the importance of the social and
cultural aspects of learning Van der Veer and Valsiner (1994) contend that they do not reflect *culture* to the extent proposed by Vygotsky. Their claim is that sociocultural descriptions of knowledge and learning may reflect the intergenerational history of culture but do not pay enough attention to the moment-to-moment events that shape “the individual developing person” (Van der Veer and Valsiner, 1994: 6, emphasis in original). The every day and every night situated development of the individual is captured in Vygotsky's use of the term “*geneticheskii*” (Kozulin, 1986, 1998; Wertsch, 1985).

Implicit in the term *geneticheskii* is interconnectedness among ontogenetic (individual organic), phylogenetic (evolutionary) and cultural development. That is, human development is the product of individual biological factors, human evolution and the transmission and transformation of cultural artefacts. Transmission and transformation are achieved in social contexts. The emphasis here is on the processes of development rather than on the product or final result, i.e., what are the transmissions and transformations that occur to achieve a final result? Vygotsky “assumed that the form of a phenomenon reflects the transformation it has undergone and the various factors that have entered into its development” (Wertsch, 1985: 18).

However, there is no master plan for such a developmental trajectory. An individual’s ability to develop higher mental functions is shaped by his or her genetic codes, biological development and sociocultural influences and the individual’s engagement with prevailing circumstances. So that, for instance, infants who have access to cultural symbols such as books, story telling and models for speech and language development may be expected to achieve well in these areas (Vygotsky, 1978a). A contemporary example is the m-Learning project which has established that *at risk* young adults who have access to mobile technologies (phones, games or PDAs), the cultural tools of the new century, voluntarily engage in activities that develop a range of literacy skills, skills as yet
not accessed, engaged with or fully internalised by schools (Attewell, 2003; Mitchell and Doherty, 2003).

The social, historical and cultural conditions for the developing higher mental functions hold true for able learners as well as those with disabilities. Vygotsky studied children and adults with disabilities, calling for “the identification of a disability in a child from the perspective of strengths, not weakness” (Gindis, 2003: 203). He regarded lack of natural functioning in one or more areas as a means of focusing development in other areas. However, he disapproved of sensorimotor training that provided only biological compensation, such as enhancing auditory skills in individuals who are blind. He reasoned that the loss or lack of natural function could be compensated most efficiently through the development of skills representing higher mental functions, such as abstract reasoning, logical memory, voluntary attention and goal-directed behaviour (Gindis, 2003).

Development, Vygotsky (1978a) argued, has its basis in the social nature of the evolution and transmission of cultural traditions and symbols (tools and signs). Lower (elementary) mental functions are transformed into higher mental functions through the mediation of tools and meaningful signs (semiotics) in conjunction with social interaction. Learning, then, is a process of the individual moving from lower to higher mental functioning by means of the mediation of culturally constructed psychological tools and signs in social contexts (Cole, 1990; Wertsch, 1985; Van der Veer and Valsiner, 1991; Vygotsky, 1978a). Borrowing from Pierre Janet (Kozulin, 1990; Valsiner, 2000), Vygotsky demonstrated that mediation occurs twice. First, it is largely an oral and interpersonal process, involving small groups (usually dyads or pairs) (Valsiner and Van der Veer, 2000; Wertsch, 1985). Second, as the individual acquires greater mastery and control of new skills, knowledge of those skills mediation are internalised and appropriated, so that it becomes an intrapersonal process.
Both phylogenetic and ontogenetic development need to occur for acculturation to take place. Vygotsky was dismissive of Piaget’s notion that development precedes the teaching of new concepts (Van der Veer and Valsiner, 1991; Vygotsky, 1978a; Wertsch, 1994). Based on empirical evidence, Vygotsky argued that teaching encouraged and advanced development (Van der Veer and Valsiner, 1991). Further, all instruction and teaching is framed in history. All cultural tools and signs evolve over time and when passed on to succeeding generations can reflect the strengths and limitations only of what was learnt by proceeding generations (Vygotsky, 1929).

The interconnectedness of social, biological and cultural factors is reflected in the work of contemporary researchers. Seminal studies of the way tailors’ apprentices (Rogoff 1990) or milk delivery truck loaders (Scribner 1984) learn to work effectively demonstrate that learning or knowledge development is a function of a number of different, site specific, factors. In the milk factory, for example, Scribner (1984) was able to show that the workers loading milk orders into delivery vans had developed a schema that allowed them to work effectively and efficiently. The seemingly simple task of assembling orders into crates and loading them into delivery vans was, on close observation, quite complex. Apart from the physical strength to lift and carry crates of milk, the workers had to do sophisticated mathematical calculations involving variables and fractions. All calculations were performed mentally. When Scribner observed clerical staff from the same company and students from a local high school doing the same loading operation it was evident that none had the same physical strength, nor were they able to calculate and pack individual orders as fast or as efficiently as the men who had developed a schema for doing this work (Scribner, 1984).

**Themes in Sociocultural Theory**
The next portion of this chapter outlines important sociocultural themes that result in the development of higher mental functions. These are: firstly, a reliance on a genetic or developmental method; secondly, the claim that mental processes in the
individual have their origin in social processes; and thirdly, the claim that higher mental processes can be understood only if we understand the tools and signs that mediate them (Wertsch, 1985: 14-15). While these are interdependent concepts they will be teased apart in this instance in order to examine their relevance with respect to the study reported in this thesis. The section on tools and signs also examines speech as a psychological tool. It continues by outlining the mediation, mastery and internalisation of tools and signs. The overview of these concepts concludes with an examination of the concept of the zone of proximal development that incorporates all the central themes. Each of these key concepts is now discussed in terms of its historical underpinning, its Vygotskian concept (that is, how Vygotsky framed it) and its adaptations by late twentieth century and early 21st century scholars.

**A Genetic or Developmental Approach**

When scholars of the early twentieth century spoke of a genetic approach the term *genetic* did not have the biological connotations it has today. It conveyed instead the sense of a path of development (Ageyev, 2003). This section reviews some key points of this developmental trajectory from their original conception to their current manifestations, focusing on literacy development. In addition to a general outline, the section on the key concept of tools and signs reviews speech, arguably the most prominent tool and sign. It also explores issues of semiotic transmission, specifically mediation, mastery and internalisation.

**Historical Underpinnings**

By the turn of the twentieth century Darwin’s theory of evolution had resulted in “many fascinating ethnographic, sociological and psychological studies” (Van der Veer and Valsiner, 1991: 189) of animal and human behaviour. Vygotsky reasoned that Darwin had identified the mechanisms that governed the development of innate behaviours in species and Pavlov had identified the mechanisms that control individual development (Minick, 1996). He argued, however, that neither of these mechanisms explained the development of higher mental functions. His writings in this area are littered with numerous references to theorists from many fields
including brain anatomy (Edinger), circular reaction (Baldwin), zoopsychology (Vagner) and Gesalt psychology (particularly Köhler). Vygotsky's work on the development of higher mental functions is evidence of the importance of his intellectual interdependence. He did not simply make reference to other theorists but overtly used their work to develop his concepts or argue against their findings.

**Vygotsky’s Concept**

A characteristic feature of sociocultural theory is the notion that psychological phenomena are the manifestation of development over time. Vygotsky's genetic method aimed to investigate how the cyclic and uneven process of change “from birth to death” (Vygotsky, 1978a: 64) establishes higher mental functioning. From his empirical data he argued that development is a multidimensional process: “He believed that without genetic analysis one can only describe certain aspects of psychological phenomena and cannot understand inner workings and causal dynamics” (Wertsch, 1985: 18).

Vygotsky aimed to demonstrate a *genetic* or developmental path in his experiments. To do this he created a methodology that focused on the development process rather than the result. He utilised a five-phase process to demonstrate the developmental profile of any given learning event.

- **Phase 1:** the given phenomenon does not manifest itself yet;
- **Phase 2:** the phenomenon’s initial phases seem to appear for the first time, always with corresponding analysis of the psychological tools and social forces that bring that phenomenon to life;
- **Phase 3:** the phenomenon reaches its climax, always linked to social interaction and usage of tools;
- **Phase 4:** gradual “interiorization” of the phenomenon;
- **Phase 5:** it appears that the phenomenon in question has always been there, quite naturally, in our heads, resembling
inherited individual property that was just waiting its time to be realised and activated.

(Ageyev, 2003: 436)

In order to investigate the inner workings of the development of the mind (learning), Vygotsky and his colleagues studied normal development processes in children and also the effects of disrupted psychological development in children and adults with sensory and intellectual impairments, learning difficulties and schizophrenia. His “experimental-development approach” (Vygotsky, 1978a: 61) to scientific investigation attempted to simulate the types of disruptions he had found, allowing him to observe how such interventions affect the course of development. He concluded that “the development of the mind is the interweaving of the biological development of the human body and the appropriation of the cultural/ideal/material heritage that exists in the present to coordinate people with each other and the physical world” (Cole and Wertsch, 1996: 252). It is worth noting, as Shotter (2004, unpaginated) emphasises, that the concept of history in sociocultural experimental design refers less to the distant past as to “behaviors occurring now, in terms of … historically informed sensibilit [ies] …as they unfold before our very eyes”. History, in this sense, can refer to periods as short as the “few seconds or even fractions of seconds (as in the case of normal perception)” (Vygotsky, 1978a: 61) it takes for change to occur.

**Contemporary Adaptations**

Post-Vygotskian sociocultural investigations of the development of higher mental functions in human subjects have aimed to trace the historically-based inner workings, such as trains of thought, responses and reactions that constitute the process of learning (see Cole, 1990; Rogoff, 1991; Scribner, 1984). Relatively recent studies focusing on literacy acquisition and specifically written language development, for example, have used a sociocultural framework to expand on the work of Vygotsky and related Soviet/Russian investigators (Cole and Scribner, 1991; Cole, 1996; Rueda, 1990; Tharp and Gallimore, 1988; Wertsch, 1985). These studies emphasise the role of expert others and also the influence of a range
of cultural and contextual factors, such as first language, settings or teacher experience.

In one of the more frequently cited experiments of the post-Vygotsky era, Cole and Scribner (1981, cited in Cole, 1996: 227-235) investigated the literacy practices of the Vai, an indigenous ethnic group of Liberia. A theme underpinning the study was the historical approach of “the Russians [who] saw literacy as a transformer of human experience and promoted its potential to transform mind and society” (Cole, 1996: 245). Claims such as these, citing literacy as the most significant factor in accumulating systematic knowledge, transforming human thought and developing cultures, resonate with late twentieth century literacy debates (Freebody, 1999; Graff, 1987, 2001; Green, Hodgens and Luke, 1997).

Cole and Scribner’s (1996) findings with respect of this theme led them to argue that literacy itself cannot be considered to be a general transformer towards higher mental functions because other historically derived cultural and contextual factors strongly influence and impact on literacy acquisition and practices. These include opportunities to learn and use literacy forms in a variety of contexts and a range of technologies. Twenty years later similar conclusions are being drawn about at risk young adults learning through mobile technologies (Mitchell and Doherty, 2003).

While Vygotsky's notion that development over time is still valid, contemporary research indicates an equally important role for the here and now (Attewell, 2003; Beatty, 2000; Mahiri, 2004; Mitchell and Doherty, 2003). This is not to dispute Vygotsky's premise that interaction with others in concert with historical factors develops higher mental functions. The difference suggests that in accessing a complex set of theoretical principles contemporary researchers initially focused on aspects that were perhaps relatively easy to comprehend (Joravsky, 1989). Amongst the principles that are least understood is the notion that history has a bi-temporal quality (Shotter, 2004). The next section discusses the role of social
interaction in development, one of the more frequently investigated sociocultural concepts.

**Social Origin of Higher Mental Functions**
This focuses on the second key concept of sociocultural theory: the claim that the development of higher mental functions has its origin in social processes. Discussion falls under three headings – Historical Underpinnings, Vygotsky's Concept and Contemporary Adaptations.

**HISTORICAL UNDERPINNINGS**
The social origin of higher mental functions is important in sociocultural theory “because cultural mediation is placed at the center of adult cognition and the process of cognitive development” (Cole and Wertsch, 1996: 253). It was the French clinical psychologist Pierre Janet who first claimed - based on his studies of hysteria and multiple personalities - that “individual higher mental processes originate in social interaction” (Valsiner and Van der Veer, 2000: 120). Referring occasionally to clinical findings, he claimed that all higher mental functions could be traced back to social interaction. Although he did not clearly define the concept of social interaction, he linked it to imitation. Further, he implied that higher mental skills are initially apparent as external, overt actions, such as sounding out words and are then internalised (Valsiner and Van der Veer, 2000). This line of argument would be reiterated in Vygotsky's work as he attempted to demonstrate that development involved more than simple reactions or reflexes.

**VYGOTSKY'S CONCEPT**
In considering the features of social interaction, Vygotsky drew on Janet’s work on imitation. Vygotsky argued that imitation was not a sufficient stimulus for developing higher mental functions unless the genetic, that is, the cultural and historical underpinnings of the task, create the “possibility of moving from what I can do to what I cannot” (Vygotsky, 1987b: 209). He argued that everyday objects (tools and signs) are vital in the transition process from lower to higher mental functions. Central to Vygotsky's thinking was the concept that the “individual
development of higher mental processes cannot be understood without considering the social roots of the tools for thinking that [learners are using] and the social interactions that guide [learners] in their use” (Rogoff, 1990: 35). The implication of this is that human development is dependent on the mediating role of tools and signs that have both a cultural and a social history.

Vygotsky explained that there are two lines of development of the mind. The first, the biological line, is apparent in our first elementary acts. Actions, such as a baby responding to the sight of his or her mother’s face or the sound of her voice, are determined by “the retention of actual experiences [that] form the basis of mnemonic (memory) traces” (Vygotsky, 1978a: 38). Vygotsky stated that such acts are “totally and directly determined by stimulation from the environment” (Vygotsky, 1978a: 39). The behaviour deriving from this stimulation is indicative of lower mental functioning.

While acknowledging that the biological factors determining physical development continue to operate throughout a person’s life, Vygotsky argued that another line of development is apparent in cognitive growth and development. This second line of development is sociocultural in origin and is dependent on the culture around us. “We literally live [and learn] in the experiences of others” (Kozulin, 1990: 81) who pass on that experience through demonstration, discussion and problem solving. By way of active participation in socially constructed activities individuals establish links to other memory modes. Importantly, while social interaction is initially external, individual responses and behaviour derived from collective behaviour have to be internalised for individuals to demonstrate knowledge of a particular skill (Wertsch, 1985).

**CONTEMPORARY ADAPTATIONS**

The value and importance of face-to-face social interaction were demonstrated in a study of adults learning in “distributed collaboration environments” (Tuomi, 1998: 68, emphasis in original) that investigated collaborative online learning where
participants were located in different sites. The study found that when basic new concepts were being taught most learners learnt quickly. However, when concepts became increasingly complex, learning fell away. Some collaborators grew frustrated, interacted less and eventually ceased collaborating. The study concluded that the mediated use of the socio-historical tool (written word) was insufficient for learning new concepts. Tuomi (1998: 74) argues that the “the social construction of shared worlds and related languages is a process that requires physical presence” with its implied function of social interaction to develop trust. Tuomi’s study suggests that affective responses generated through face-to-face social interaction, such as trust, are important elements in learning. Her findings illustrate the sociocultural position that the “development of mind is impossible” (Cole and Wertsch, 1996: 253) without taking into account society, the bearer of the cultural heritage (Cole and Wertsch, 1996: 253) in all its forms.

There are two points about Tuomi’s study that have relevance to the study reported in this thesis. First, it examined adult learning from a Vygotskian perspective whereas since the 1970s the majority of neo-Vygotskian studies have focused on children. In comparison to the large volume of studies of children, relatively few studies of adults in workplaces have incorporated a Vygotskian lens. These studies include research by Billett (1993, 1994, 1998, 1999, 2001a, 2001b), Billett and Rose (1997), Hart-Lansberg and Reder (1997), Scribner (1984) and Stasz, Ramsey, Eden, Melamid and Kaganoff (1996). Tuomi’s study (1998: 72) made an important contribution to sociocultural theories by providing data that demonstrate that “learning does not end in adolescence”. From a sociocultural perspective she has been able to show how teams of adults create and share new concepts, using technologies not invented in Vygotsky's time. Her data also illustrate that more complicated concepts are difficult to develop in distributed online settings. Adults need to share non-verbal tools and signs (facial expressions, gestures) to develop knowledge of complex concepts. Tuomi’s (1998) study focuses on a specific area of study, namely, concept development. That is, it specifically examines formal
learning while the study reported in this thesis explores informal workplace learning.

Second, Tuomi’s (1998) study recorded the literacy practices of workers learning new concepts that they needed in their work. The learners’ online conversations illustrate the role of social interaction in the development of some concepts. The study reported in this thesis uses an insider perspective to describe the kinds of social interactions that were more or less beneficial in developing literacy skills.

Any investigation of social interaction should include a discussion of the psychological tools and signs that are inherent in human communication processes. In the next section the focus falls on the sociocultural claim that understanding the development of higher mental processes is conditional on understanding the tools and signs mediating them.

**Tools and Signs**

From a sociocultural perspective the term *tools and signs* refers to the psychological instruments that guide and change thinking. Just as physical or material tools help in physical labour, psychological tools are the cultural elements that assist thinking. Where material signs are physical objects intended to guide behaviour, psychological signs are instrumental acts intended to control the psyche and behaviour of others and oneself (Van der Veer and Valsiner, 1991).

The concept that humans use tools and signs that have cultural value to change not only their physical environment but also their ways of thinking is central to sociocultural theory (Vygotsky, 1978a). Scientists during the early twentieth century observed animals using elements of nature to construct their environment (for example, birds building nests) or to satisfy their needs (for example, animals of prey hunting). It was recognised that animals use tools to interact with their environments. Working from evolutionary principles scientists then needed to
explain how humans used tools and signs to change their environment while animals used tools and signs to live in their environment.

**HISTORICAL UNDERPINNINGS**
The concept of psychological tools and signs was not original to Vygotsky or his contemporaries. It had its “roots in the Hegelian idea that work, together with the transformation of the world of things, brings about the transformation of human consciousness” (Kozulin, 1990: 18). Vygotsky was very familiar with Hegel’s work on tools and signs. He also noted that Marx cited Hegel when “speaking of working tools [as a means of affecting] other objects to fulfil personal goals” (Vygotsky, 1978a: 54). He also replicated Köhler’s experiments of tool use by animals with his own daughter (Valsiner and Van der Veer, 2000). Additionally, he knew that Engels advocated tools as the instrumental means of enhancing the capacity of labour to transform nature (Wertsch, 1985) through the production process. Finally, he was also aware that Dewey viewed physical tools as restructured natural objects used to change behaviour (Cole, 1996a).

**VYGOTSKY'S CONCEPT**
Vygotsky's ideas on tools and signs emerged in his earliest work (1924 -1927) in the field of defectology (disability studies) and fitted with and elaborated on his theory of human development (Van der Veer and Valsiner, 1994). By their nature, he argued, both material tools and psychological tools are social and form an intermediate link between object and operation, between object and subject (Vygotsky, 1978a). He proposed that tools or signs represent the history of development of any society. Being culturally determined, the use of tools has been negotiated over long periods of time. Vygotsky (1978a) argued that the importance for any culture is the way mediation, mastery and internalisation of a raft of tools and signs develop over generations to allow individuals to learn about how to function in complex environments. Essentially, the value of psychological tools and signs is in their ability to transmit culture.
Vygotsky elaborated this notion by drawing on Janet’s proposition that higher social functions occur externally initially and are then internalised. Vygotsky described the first, external occurrence as an interpersonal function within a social setting. This transmission consists of mastering “external cultural means (speech, writing, arithmetic)” (Vygotsky, 1928 cited in Van der Veer and Valsiner, 1991: 71). The second form of transmission is intrapersonal and is a means of solving psychological problems. Examples of intrapersonal transmission include “elaboration of voluntary attention, logical memory, abstract thinking, concept formation freedom of will [,] etcetera” (Vygotsky, 1928, cited in Van der Veer and Valsiner, 1991: 71). He argued that all higher psychological functions represent “the combination of tool and sign in psychological activity” (Vygotsky, 1978a: 57) and have their origin in actual human interactions.

Tools

Working from a Marxist perspective, Vygotsky argued that hoes, axes and hammers are the tools or instruments and artificial formations of physical labour (Valsiner and Van der Veer, 2000). Material or physical tools must be “externally oriented [and] must lead to changes in objects” (Vygotsky, 1978a: 55, emphasis in original). Over the span of human history tools are modified, enhanced or superseded as human labour changes. Vygotsky believed psychological tools serve the same type of role as the (material) tools of manual or physical labour. Where material “tools are employed to master nature or material objects” (Van der Veer and Valsiner, 1991: 220) psychological tools serve to master and improve natural psychological processes. They are culture-specific symbolic systems “that when internalized by individual learners become [the learners’] inner cognitive tools” (Kozulin and associates, 2003: 3). As psychological labour acts tools are the external means of mastering “the natural behavioral processes of the individual” (Kozulin, 1984: 105). An example of such psychological tools is the use of instruction manuals with new machines which will be discarded when the user gains confidence and competence in their use.
An important element of any psychological tool is that it must be used to enhance or improve performance. Examples of psychological tools not available in Vygotsky's era but currently important include word processors, Internet access, colour photographs, digital illustrations and television images and mobile communication devices.

**Signs**

Vygotsky argued that signs assist humans “to remember, compare something, report, chose and so on” (Vygotsky, 1978a: 52). Unlike tools, signs change “nothing in the object of a psychological operation. [They are] a means of internal activity aimed at mastering oneself; the sign is internally oriented” (Vygotsky, 1978a: 55, emphasis in original). As examples of signs or instrumental acts which improve human psychological processes and guide performance, Vygotsky “listed words, numbers, mnemotechnical devices, algebraic symbols, works of art, writing systems, schemata, diagrams, maps, blueprints etc” (Vygotsky, 1930, cited in Van der Veer, 1991: 219) or any stimulus that is capable of triggering another stimulus. Stimuli may include psychological tools acting as signs. In the course of social interaction humans construct and use cultural signs. When internalised and used as psychological signs humans reconstruct their mental worlds.

**Contemporary Adaptations**

Two contemporary studies, one of adolescents and one of at risk young adults, make a link between material and psychological tools and signs. An analysis of the African American rap music culture found that rap culture often presents “an extended, intricate, oral text” (Mahiri, 2004: 3) in a select group that continually challenges the legitimacy of outsiders, that is those not within the select group. Rap texts are a powerful tool for raising and informing the selected community. As tools they allow their producers to “challenge the validity of [dominant or dominating cultural] meanings as representations of social reality” (Mahiri, 2004: 7). As psychological signs, the social and cultural critique inherent in rap music develops and enhances higher mental functions such as critical thinking. However, Mahiri’s (2004) study concludes that, unless rap music writers are able to legitimate
their work “in terms of some set criteria” (Mahiri, 2004: 7), allowing others to connect with and understand the rap music culture, this and other similar popular cultures will remain on the periphery of accepted culture, learning and literacy.

Another aspect of popular culture that has been examined in recent research is the use of mobile technologies in educational contexts. The e-Portal project within the m-Learning research program seeks ways of using mobile technologies as tools to deliver learning to at risk and disaffected young adults wherever learning opportunities arise for them (Mitchell and Doherty, 2004). This project moves into a new pedagogy where learning can occur anywhere and at any time using affordable and easily accessible technologies. Apart from issues of affordability, technology and programming, the m-Portal developers advocate mobile technology devices as a means of supporting the target audience to become autonomous learners. The researchers defined autonomous learning as learners “considering their own learning goals, identifying learning needs and strategies in terms of these, exercising choice and liaising with others in putting together their own learning programme” (Mitchell and Doherty, 2004: 10).

Used this way mobile technologies become psychological tools as individuals develop intrinsic motivation, build positive self concepts through successful short term learning outcomes and regard learning as an ongoing, lifelong interest. Learning via mobile technologies (as material and psychological tools) is thus an individual pursuit, supported and scaffolded by real and virtual networks. As such each learning opportunity will be influenced by individual learning styles and preferences. Additionally, “learning will also be affected by the characteristics and functionality of the learning interface and environment” (Mitchell and Doherty, 2004: 11).

As with rap music, one of the major difficulties with m-learning is legitimacy. Mitchell and Doherty (2004) consider that disaffected youth will need to see a legitimate purpose for learning to use the technology before they take up the
opportunities that are available. That is, while young people perceive mobile
devices as tools to assist them communicate, having a mobile device has not yet
prompted young people to want to use them for educational purposes.

Both the rap music and e-portal studies use the notion of psychological tools and
signs in broadly based learning situations. One takes cultural tools into the
classroom as a means of accessing standard curriculum. The other uses cultural
tools to explore autonomous collaborative learning outside classroom or even
schools. Both demonstrate how cultural tools can effectively become psychological
tools. In particular they are dependent on literacy interactions, for example, rhyme,
text or graphics. The relevance of these two studies to the research reported in this
thesis is the role of cultural tools that identify a target group (African American
youth or at risk youth) as a means of developing or enhancing a range of literacy
skills, including speech, song and non-standard writing. The data reported and
analysed in this thesis illustrate the culturally and historically determined tools and
signs that enable data that enable workers who have poor literacy skills to
communicate in a community of practice.

Amongst the tools and signs listed by Vygotsky he nominated speech (and the
associated skills of thought, reasoning and writing) as the most important
(Vygotsky, 1929). He believed that the development of speech marked the moment
when animal and human evolution diverged. Speech as a significant psychological
tool formed a large part of his research. So it is important that this section diverts
briefly to consider speech more closely as a psychological tool.

Speech
Learning to speak is one of the milestones of human development (Vygotsky,
1978a). It signals the beginning of meaningful exchanges rather than responses to
stimuli such as hunger, anger, delight or discomfort. Words carry meaning that is
historically and socially determined. This section reviews the development of
sociocultural theory around speech, thought and writing.
At the beginning of the twentieth century, in response to Darwin’s theory of evolution, social scientists tried to understand how humans differ from animals. The major argument was around issues of human behaviour as a reaction to environmental responses or a response mediated by conscious thought. Vygotsky, for example, “pointed out that while animals adapt to their environment, man actively adapts the environment to himself” (Kozulin, 1990: 82). In developing his ideas Vygotsky [referred to] “William James, Sigmund Freud, Neo-Kantian philosopher Paul Nartorp and physiologist C. S. Sherrington” (Kozulin, 1990: 82), thus demonstrating the intellectual interdependence emphasised by Van der Veer and Valsiner (1991) and Valsiner and Van der Veer (2003).

As the most human of actions, speech was a topic of special scrutiny. While speech, that is, the communication of meaning orally, is a major point of difference between humans and animals, debate raged about the process of the development of speech and its role. Reflexologists such as Pavlov argued that actions such as speech are the result of new nerve connections created in the postnatal brain (Kozulin, 1990). This did not satisfy Vygotsky, who believed that oral language, thought processing and writing were all necessary for the development of higher mental functions.

Vygotsky argued that conditional reflexes did not explain what it was to be uniquely human. Speech, he claimed, reflects the inherited genetic characteristics of humans and draws on the experience of generations past. The pool of experiences is passed on in social contexts (Kozulin, 1999). Amongst all the cultural tools Vygotsky considered speech vital because of its dual functions as “(1) a means of social coordination of the actions of various people and (2) a tool of thinking” (Van der Veer and Valsiner, 1991: 57). He argued that the specific skill of using words as tools to interpret the environment and impact on it enables humans to engage in higher order thinking. He noted that:
the most significant moment in the course of intellectual development, which gives birth to the purely human forms of practical and abstract intelligence, occurs when speech and practical activity … converge.

(Vygotsky, 1978a: 24)

Acts of speech not only enable humans to become enculturated but also mediate the use of culturally derived tools and signs. That is, while tools and signs in themselves are useful they become more meaningful when their use is governed or modified by inter- or intrapersonal speech.

As a sign, speech is powerful and pervasive. In its external forms (oral or written) it allows communication between and among individuals enabling the transmission of cultural information by means of discussion, debate, sharing of ideas and responses to stimuli. To Vygotsky egocentric speech, the kind of spoken thoughts that guide actions, is not a mere accompaniment to immature thought, but an important verbal form instrumental in cognitive development (Kozulin, 1990). Therefore as children talk amongst themselves as they play together, they develop important cognitive skills. Then as play becomes increasingly independent the child extends ideas orally by rehearsing skills learnt as a group schema. Finally, the schema becomes an automatic act and external speech is not necessary. This scenario is similar to the adult process of learning to drive a motor vehicle.

Speech, in its internalised form as thought, “acts to organize, unify and integrate many disparate aspects of … behavior, such as perception, memory and problem solving” (John-Steiner and Souberman, 1978: 126). Vygotsky's position was that as humans mature and higher mental functions are increasingly evident, what was external, such as egocentric conversations, verbalising plans and sequences, becomes internal and eventually the earlier stages of development decay. Interpreters of Vygotsky have taken this to mean that the use of egocentric speech falls away as people mature (Kozulin, 1986; Valsiner and Van der Veer, 2000).
From his background as a literary critic, Vygotsky argued that meaning making through the use of words is more than oral language. He considered that writing, the least natural of all the literacy skills, constitutes a “new and complex form of speech” (Vygotsky, 1978a: 118) that is necessary for the development of higher mental functions. Reviewing pedagogy at the time Vygotsky argued that teaching writing as a series of mechanical skills had moved it away from its social origins. He urged that, like speech, writing should be taught as part of a “complex cultural activity” (Vygotsky, 1978a: 118), not simply as a motor activity. He declared that acts of writing should be valid and authentic so that they become more than an exercise in hand-eye coordination and digital manipulation skills.

**CONTEMPORARY ADAPTATIONS**

Tuomi’s work (1998) on distributed environments (reported earlier) demonstrates the social facet of speech. Her findings indicate, in an era when communication is increasingly conducted via computer, automated voice recognition systems or text messaging, that communication is sound as long as all participants can make meaning of it. However, when most members of a team are learning new concepts, physical presence is preferable so that tacit elements of speech (such as trust and humour) can support the new learning.

As previously noted, many neo-Vygotskian studies focus on children and imply, as Vygotsky did, that cognitive development is most prominent in the childhood years. Cultural mores in many societies frown on adult egocentric speech. Conventional thought is that “adults generally do not converse with themselves in public venues as readily as children” (Lantolf, 2003: 360). Studies of adult second language learners (Ohta, 2001; Lantolf and Yañez-Prieto, 2003, cited in Lantolf, 2003) refute this notion. These studies demonstrate that adults learning a second language:

> actively engage in an [overt] imitative process … [and are] active in determining which aspects of the language to focus on, paying attention to those properties of the language that are within their ZPD.

(Lantolf, 2003: 365)
These studies support two Vygotskian concepts. First, speech is a tool for the development of higher mental functions. Second, humans consciously use psychological tools to manipulate their (learning) environment. By demonstrating the active way that adults used oral and written language to learn new concepts the cited studies diverge from Vygotskian concepts. They show that, from a sociocultural perspective, children as well as adults rely on similar processes to develop higher mental functions.

Some neo-Vygotskian studies investigate the claim that literacy (speech, reading and writing) is the key to human cognitive development. Apart from the contextual factors found by Cole and Scribner (1981) and alluded to earlier, studies by Olson (1994, see Kozulin, 2003) and Kozulin and Lurie (1994, see Kozulin, 2003) question the value Vygotsky placed on literacy as a means of changing “the entire system of a learner’s cognitive processes” (Kozulin, 2003: 24). From a sociocultural perspective Kozulin argues that when literacy is taught as a set of “narrow technical skills with a limited goal of decoding, memorizing and reproducing texts and performing basic calculations” (2003: 25) individual learners regard literacy as being for particular purposes, such as reading novels or writing letters. They do not associate it with cognitive development (Kozulin, 2003). This position is reiterated in reflection on literacy as a component of Competency Based Training (CBT) in the workplace. Under CBT adult literacy teaching is typified by the use of increased levels of text-based material and “learning is being [refined and] defined as the ability to recognise the appropriate information and copy this into the appropriate space on the assessment sheet” (Brown, 1992: 41).

These criticisms focus attention on issues of pedagogy (Kozulin, 2003) and policy definition (Brown, 1992) of the late twentieth century and early 21st century. Strangely, this criticism mirrors Vygotsky’s comments of the 1920s that the teaching of writing, instead of relating to the child’s interests, is approached like “a technical skill such as piano-playing” (Vygotsky, 1978a: 105). Vygotsky argues, as
Kozulin’s criticism implies, that when writing is relevant and meaningful to the learner’s life new and complex forms of speech will develop.

**SIGNS AND TOOLS AT WORK**

Psychological tools and signs exist in all workplaces and the ability to utilise them is a key to advancement. For example, while one worker may be able to read instructions to guide performance in a task (sign), it is the worker who writes the instructions (uses a writing system as a tool) who is demonstrating a greater degree of higher mental functioning. In secondary processing factories workers are taught to operate various machines. Some workers use a variety of physical tools to improve their performance on those machines. Some become so attuned to the machinery that they can hear or feel (sign) when there is a functional problem. The thought and speech processes (tools) they then engage in are aimed at reducing down time and maintaining or improving productivity. In reality, environmental tools and signs mediate all workplace behaviour and thinking.

In investigating the psychological tools and signs that exist in participants’ workplaces, the current study explores the notion of the development of higher mental functions in the adult years. The target group for the study is one that is identified as having failed to learn conventional, functional literacy skills. As such their formal educational achievements differ from participants in the above studies.

Taking a sociocultural perspective, the investigation reported in this thesis focused on the range of psychological tools and signs, including speech acts, available in the participants’ workplaces. It explored how these were taken up and actively used to develop new forms of thinking about self and work. Developing higher mental skills through the use of psychological tools and signs is more complex that responding to stimuli. A sociocultural approach to learning suggests a three-stage process of mediation, internalisation and mastery. The next section reviews these threes stages in terms of their Historical Underpinnings, Vygotskian Concept and Contemporary Adaptations.
Mediation

HISTORICAL UNDERPINNINGS

The late nineteenth and early twentieth century focus in the scientific community on animal behaviour led directly to theories of human behaviour. Prominent amongst these was “Pavlov’s doctrine of conditional reflexes” (Van der Veer and Valsiner, 1991: 49). This proposed that like animals, humans respond predictably to specific stimuli, that is stimulus A causes reaction/reflex B. Vygotsky entered this community in 1924 with a critique of reflexology, pointing out “that while reflexology made an important contribution to the study of the foundations of behaviour, its claims for explaining more complex forms of behaviour is schematic and declarative” (Kozulin, 1990: 74).

VYGOTSKY'S CONCEPT

Unable to sanction the notion of all human thought and action being the result of conditioned or unconditional responses, Vygotsky proposed that an act of mediation occurs in the process of moving beyond elementary responses towards higher mental functions:

All higher psychological functions are united by one common characteristic, namely that they are mediated processes, i.e. that they incorporate in their structure, as the central and basic part of the process in general, the use of the sign as a basic means for directing and mastering the psychological processes.

(Vygotsky, 1931: 207)

Vygotsky illustrated this relationship as a triangle (Figure 3.1). He argued that responses from A to B represented natural memory, characteristic of lower mental functioning and conditional reflexes as proposed by Pavlov. That is, after a few experiences, reflex B always occurs as a result of the stimulus of A, or stimulus A always results in reaction B. Vygotsky argued that the purely human attribute of higher order thinking occurs only when there is a mediating factor. He theorised that tools and signs have this mediating function. In Figure 3.1 X represents this mediation.
Sociocultural theory states that in human development “both tool and sign form an intermediate link between object and operation, between object and subject” (Valsiner and Van der Veer, 1991: 220). These are both mediated acts involving a third element, which comes between human beings and nature. Vygotsky argued that tools and signs, or social artefacts, in particular speech were the mediating factor X which resulted in higher mental functioning. He nominated memory as an artificial or instrumental tool. A frequently used example of Vygotsky's, taken from Thurnwald, was a knot tied in a handkerchief to assist in recalling a task (Valsiner and Van der Veer, 1991).

The tool or sign that mediates behaviour resulting in higher psychological function may not be significant but it must be socially relevant. It could be as simple or familiar “as a gesture or as complex as a literary discourse. The development and composition of higher mental processes depends on culturally and historically specific forms of semiotic mediations” (Kozulin, 1990: 36).

Relying on a study carried out by his colleagues Leont’ev and Luria (see Valsiner and Van der Veer, 1991) Vygotsky claimed that (1) as subjects move from childhood to adulthood they show an increasing preference for mnemotechnical means (of mediation); and (2) in particular, adolescents and adults increasingly prefer internal mediation by means of words. This means that as people age they rely less on the concrete tools most commonly seen in childhood for mediation and
more on internalised semiotic systems until mental deterioration occurs in older age.

Mediation is the way humans learn to think but thinking processes alter from childhood to adulthood. For children, thinking means recalling situations and experiences (Vygotsky, 1978a). As children learn they develop modes of thinking that Vygotsky called complexes (Vygotsky, 1935/1994b). “For adolescents, to recall means to think” (Vygotsky, 1978a: 51), signalling a change in cognitive functioning. Thinking in complexes becomes the more advanced thinking in concepts (Vygotsky, 1935/1994b). However, this change is not an absolute. Vygotsky acknowledged that many adults never reach a stage of thinking in concepts (Vygotsky, 1935).

**CONTEMPORARY ADAPTATIONS**

As noted earlier, Vygotsky nominated psychological tools and signs as mediators of human thought and action. Kozulin (2003) notes that the idea of mediation has been a key in many recent studies. He distinguishes two facets to mediation: firstly, humans as mediators; and secondly, semiotic and symbolic mediators. Each examines mediation from opposite positions.

Studies of human mediation examine the role of the teacher or expert other in effectively enhancing learner performance. This is not easily quantifiable as mediation is context-dependent (Rogoff, 1990) and personnel-dependent (Au, 1990; Rogoff, 1990: Tharp and Gallimore, 1988). Forms of human mediation include modelling, contingency management (rewards and punishment), feedback, questioning, instructing and cognitive functioning (Tharp and Gallimore, 1988), strategy modelling, strategy awareness, presentation adjustment and transfer of responsibility (Brown and Palinscar, 1989; Kell, 1997), apprenticeship, guide participation and appropriation (Rogoff, 1990).
Kozulin (2003) reports on studies that differentiate between the type and the technique of human mediation. Teachers, for example, engage in different types of mediation, such as approving, encouraging, structuring, organising students’ work, sense making and problem elaboration. Parents, on the other hand, demonstrate a range of mediational techniques, such as “verbal prompts, cues, closed questions” (Kozulin, 2003: 21) and parent-child questioning and elaborations. Sometimes neither parents nor teachers are the mediators. Ambigapathy (2003: 69) found that friends introduce Malaysian university students to the Internet generally in the context of seeking information “on their favorite pop celebrities and the latest gossip in the areas of movies and music”. The finding of these two studies suggest that the mediating human does not necessarily need to be a professional teacher and mediation that results in the development of higher mental functions is not always carried out in a formal classroom setting.

Reviewing recent research into children’s mastery of symbolic mediation, i.e., tools and signs, Kozulin (2003) found some troubling ramifications. First, the work of DeLoach (1995, see Kozulin, 2003) demonstrates that “one cannot take it for granted that children will detect a symbolic relation, no matter how obvious it appears to adults” (Kozulin, 2003: 24). While adults often assume that young children understand a particular tool’s cultural and social implications, this is not always so. This has implications for the design of learning materials that rely on learners recognising and using symbols as psychological tools. In order for this to occur, their use needs to be adequately and appropriately mediated.

Second, Portes’ (1991) study of “the relevance of spontaneous parental mediation to classroom performance” (Kozulin, 2003: 21) identifies mediational techniques that foster cognitive strategies in learners. The study found that, in relation to achievement in Maths, the appropriate use of these techniques is a better predictor of scholastic achievement than “socioeconomic status, race and parental marital status” (Kozulin, 2003: 21). Although Portes investigated children, his findings have relevance for an investigation of adult learning. Most significantly it poses the
question: what is the importance of spontaneous mediation by peers or mentors in workplace literacy engagement for adults who self-report literacy difficulties?

Sociocultural theorists have taken Vygotsky's concept of mediation and demonstrated how it may be symbolic or human, occur in formal or informal settings, be applicable to children or adults engaged in developing higher mental functions and have more value than other social and economic factors. These points are all salient to the study reported in this thesis, which focuses on adult learners in informal settings utilising symbolic and human mediators.

Mastery
The development of higher mental functions is not simply a matter of applying a few tools and signs to a particular situation. Mastery is an important stage in the development of higher psychological skills. Gutierrez (2004: 510), writing from a sociocultural perspective, defines mastery in education settings as “comprehension of the material covered in the course and accumulation of individual or collaborative knowledge”. Despite its claims of a sociocultural heritage, this definition lacks the depth of meaning that Vygotsky imparted to the term mastery.

Historical Underpinnings
At the beginning of the twentieth century scholars from a broad range of disciplines attempted to reconcile the evolutionary process, as explained by Darwin and the human ability to be independently self-directed. Vygotsky's work indicated that researchers from a range of disciplines influenced his thinking. Valsiner and Van der Veer (2000) documented the following examples from Vygotsky's writing. Köhler, Kaffka and Yerkes, for example, theorised about the animal use of tools. Bühler, Lipmann and Bogan, Guillaume and Meyerson and Brainard explored links between animal and human thinking. Lévy-Buhl provided Vygotsky with many descriptions of primitive, i.e. uneducated, human thought. Pavlov’s work on conditional reflexes explained lower mental acts and Binet and Thurnwald investigated cultural process and memory.
Vygotsky's Concept

Initially, Vygotsky argued that mastering behaviour was a matter of mastering the stimuli that created the behaviour (Van der Veer and Valsiner, 1991). He later hypothesised a more complex role for mastery: “Between the initial level (elementary behavior) and the higher levels (mediated forms of behavior) many transitional psychological systems occur” (Vygotsky, 1930: 46, emphasis in original). These transitions are reflected in different degrees of mastery and appropriation of tools and signs and individual and societal differences.

Psychological tools, Vygotsky argued, “are directed toward mastering behavioural processes – someone else’s or one’s own” (Vygotsky, 1987b: 44). Mastery means that the influence of the tool or sign changes behaviour or ways of thinking. It is more comprehensive that understanding course material. For mastery to occur comprehending course material must result in changed ways of thinking. Ambigapathy (2003), for example, demonstrated that because Malaysian university students used English as a tool for passing exams but were unable to use it to think critically, they had not mastered it.

Vygotsky advocated an important role for the mastery of psychological tools and signs, such as achieving socialisation in each new generation of humans (Vygotsky, 1978a). Conversely, the process of social interaction is the way tools and signs are mastered anew by each human child. He argued forcefully and plausibly about the importance of education and the role of more expert others in the transmission and mastery of cultural artefacts, much of which he had observed in his own daughters and the children in the defectology laboratory. Yet, because of lack or time, illness or other unknown reasons, he conducted very few experiments to confirm his hypotheses.
**CONTEMPORARY ADAPTATIONS**

Ambigapathy’s (2003) study is important when considering the mastery of tools and signs. He shows that knowing how to use a particular tool or sign does not necessarily lead to the development of higher mental functions. His point that students use the Internet more often for entertainment than for educational purposes supports Kozulin’s (1999: 79) argument that unless there is a “correspondence between the context of learning and the context of application” cognitive change does not occur. This does not imply that there is no place for playing computer games. When learning focuses on students responding to computer games by critiquing, discussing, explaining or demonstrating the games and/or their technical frameworks, then mastery has been achieved. The game effectively becomes a tool for thinking.

Workplace competencies are touted as a means of demonstrating mastery. The study reported in this thesis consists of interviews with men who have gained certificates of competency but had not mastered the task set. It investigates the issues of context raised by Kozulin (1999) as a factor in developing mastery.

**Internalisation**

From a sociocultural perspective, learning or the acquisition of cultural artefacts (Cole, 1996: 108) progresses through a number of stages. Initially, learners are assisted by more capable others through social interaction, activity and speech. Next, learners monitor and correct themselves externally through oral speech at first and then internally through inner speech. However, a new skill or piece of knowledge is not truly learned until it is internalised (or interiorised as sometimes translated from Russian), the third and final step. Individuals who have developed new higher mental functions can use the skill or knowledge automatically, without reference to tools whether human or symbolic. Furthermore the new skill transforms their thinking.
**HISTORICAL UNDERPINNINGS**

Writing about the crisis Vygotsky perceived in psychology, Kozulin (1990) notes that in the twentieth century views about the philosophical understanding of the human as a subject were changing and impacting on psychology. In the first few decades of the century Cartesian concepts of the human as a construction emerged. As a consequence “developmental psychology focused on the internalisation of actions, social psychology on the internalisation of roles and psycholinguistics on the influence of verbal action on thought” (Kozulin, 1990: 104).

**VYGOTSKY’S CONCEPT**

Vygotsky attempted to overcome the external-internal dualism inherent in the Cartesian, culture-free position. He did this by arguing that internalised thought allows the individual to respond automatically to a situation that previously required external stimulus and reflect on and learn from that response. The learner driver who initially needs external mediation to develop responses to stimuli exemplifies this concept. Typically, the mediation takes place as a form of social interaction as she learns the myriad tasks involved in driving safely. Once she has her licence and is driving independently, she responds automatically to an external stimulus, such as a pedestrian stepping onto the road. Where once her response may have been mediated (by her driving instructor) she is now able to slow the vehicle, miss the pedestrian and accelerate automatically, using internal mediation. However, Vygotsky hypothesised that this will be a truly internalised function only when she is able to reflect on her actions and learn from them. That is, internalisation is a two-way process. Interpsychological processes become intra-psychological process which impact on external behaviours.

It is important to note internalised knowledge can be accessed and externalised at any time. This might occur for the driver if she drives another vehicle for a long period, then returns to the original vehicle. The process of reorienting and refamiliarising herself with the idiosyncrasies of this vehicle may easily result in outward verbal mediation.
CONTEMPORARY ADAPTATIONS
Ohta’s (1999) linguistic analysis of second language learners’ interactions demonstrates the moment-to-moment microgenetic process that occurs with two adult students of Japanese language—Hal and Becky. As they engage in a conversation involving requesting Hal mediates Becky’s acquisition of a particular grammatical form. Ohta shows how mediation in the form of demonstration, modelling and explicit prompts helped the learner to gain internalisation autonomy. The process, summarised in tabular form, consists of five steps that bear a close resemblance to the five methodological steps outlined by Ageyev (2003) and quoted earlier in the chapter.

This detailed analysis provides contemporary support for Vygotsky’s position. The learning takes place in a social context. Mediation utilises speech as a culturally appropriate tool and channels development to an intrapsychological plane (that is, internalisation) is characterised by progression and regression. It also supports the work of Gallimore and Tharp (1990), who describe one further stage—recursion. They argue that for both adults and children instances of “deautomatization and recursion occur so regularly that they constitute a fourth stage of the normal developmental process” (Gallimore and Tharp, 1990: 187). This stage typically occurs when a long held piece of information or instruction is difficult to recall, when the learner is distracted or the activity is not frequently practised. Whether recursion is to the first or second stage of learning, it is vital that adequate and appropriate support structures are available.

The latter point is important for the current study. Ohta (1999) demonstrated that Hal has particular qualities that enabled him to continue in a positive frame when Beck regressed. Becky also has qualities that enabled her to continue after a regression. Why is it that some learners give up and others continue despite instances of regression? Ohta does not address these issues. It has particular pertinence for adults who identify as poor readers, writers or speller, some of who
have given up. The study reported in this thesis considers the sociocultural factors that encourage success after regression.

Internalisation is the last in a series of stages for human cognitive development. Vygotsky claimed that the stages could be defined in a learning framework, the Zone of Proximal Development (ZPD), that he developed. The next section provides an overview of the ZPD, considering its Historical Underpinnings, the concept enhanced by Vygotsky and some Contemporary Adaptations.

**The Zone of Proximal Development**
The zone of proximal development (ZPD) was a part of Vygotsky's theory of child development, introduced in the later years of his life. He discussed the ZPD in at least eight published articles (Chaiklin, 2003) although it was not central to the theory. Seventy years after Vygotsky's death the ZPD is “probably one of the most widely recognized” (Chaiklin, 2003; 40), selectively borrowed (Valsiner, 2003) and cited (Daniels, 1998; Gallimore and Tharp, 1990; Newman, Griffith and Cole, 1989; Wertsch, 1985) of Vygotsky's concepts. The ZPD is taught in undergraduate programs and is “considered to be one of the major contributions of Vygotsky to the social educational psychology” (Valsiner, 2003: unpaginated).

**Historical Underpinnings**
Discussion of some concepts of sociocultural theory has illustrated the intellectual interdependence of Lev Vygotsky, one of the most influential theorists. By 1930 Vygotsky's thinking had shifted in some respects from his earlier hypotheses. In considering speech as a psychological tool he began to recognise the value of word meaning as a unit of analysis of behaviour. From this position he found that word meanings change as humans mature and according to the context in which they were used. This convinced him that transmission of cultural tools was much more complex than he had initially thought. He tried to demonstrate how thinking processes change from childhood to adolescence, focusing on formal (scientific) and informal (spontaneous) learning. He claimed that young children think in a series of complexes that evolve into concepts at the child matures.
At the same time when education had a high priority in the Soviet Union, emphasis was placed on allocating millions of children with diverse social and educational backgrounds to the best possible educational setting. Thorndyke and Binet had developed assessment instruments (IQ tests) that measured mental capacity. IQ tests seemed to be the solution to the problems faced by the Soviet Union. After the years he had spent working with disabled children, Vygotsky was convinced IQ tests were inappropriate instruments to measure learning potential. This juncture in his own thinking and the pressure to assess millions of children appear to be the catalyst for Vygotsky to introduce the ZPD. Although he claimed to have developed the concept of the zone of proximal development from the work of others, he “never tried to operationalize” it (Valsiner and Van der Veer, 2000: 340) or check the prognostic claims he made about it.

**VYGOTSKY'S CONCEPT**

Bringing the main themes of his theoretical concept together Vygotsky developed the notion of the zone of proximal development “to deal with two practical problems in educational psychology: the assessment of children’s intellectual ability and the evaluation of instructional processes” (Vygotsky, 1978a: 86). He believed that educational testing “focused too heavily on intrapsychological accomplishments and failed to address the issue of predicting future development” (Vygotsky, 1978a: 86). He proposed the zone of proximal development, defining it as:

> the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult collaboration or with more capable peers.

(Vygotsky, 1978a: 86, emphasis in original)

As a fresh approach to teaching and assessment the ZPD fits neatly into socio-historical theory. First, it demonstrates that learning proceeds and enhances development. As Vygotsky stated, “the notion of a zone of proximal development enables us to propound a new formula, namely that the only “good learning” is that which is in advance of development” (Vygotsky, 1978a: 89, emphasis in
original). He nominated this as a general law of the higher mental functions that could be applied in its entirety to children’s learning processes. This position is in direct contrast to the dominant pedagogical stance of Piaget, who believed that children could not learn new concepts until they had developed increasingly higher mental functions.

Second, the notion of children and teacher, or novice and expert, working together to solve problems collaboratively matched Vygotsky's notion of the transmission of cultural knowledge through social interaction. Vygotsky spoke of the child and tutor engaging in play activity. Instruction within this zone always involves social interaction and the transmission of cultural symbols through the mediation of psychological tools and signs, particularly speech. When instruction is proceeding in a zone of proximal development, it is essential that the learner “must be able to use words and other artefacts in ways that extend beyond their current understanding of them, thereby coordinating with possible future forms of action” (Cole and Wertsch, 1996: 245).

The difficulty with implementing the ZPD is its untested quality. At the time Vygotsky introduced it he was coming under increasing scrutiny from political ideologues and within a few years he was dead and his work banned. His concept of collaborative interactions aimed at assisting learners to reach their potential was not revealed to Western educators until thirty years later.

**CONTEMPORARY ADAPTATIONS**

The claim that “at this moment in history, the concept, [of the ZPD] at least in a somewhat simplified form, is reasonably well known among educationally oriented researchers” (Chaiklin, 2003: 40, emphasis added) suggests that some contemporary researchers fail to comprehend Vygotsky's complex concept. There is recognition that “to understand the complexity of the ZPD it is necessary to take into account concepts” including tool mediation and social mediation (Verenikina, 2003: unpagedinated).
One danger of misrepresenting or misinterpreting the concept of the ZPD is reducing Vygotsky’s notion to a unidirectional learning process. That is, “development proceeds in the direction of current adult models” (Tudge, 1990: 155). Although Vygotsky proposed that learning is in part a function of social interaction, unidirectional models privilege the teacher’s or more expert other’s knowledge. Interaction actually means instruction. Teachers who work from a unidirectional model are said to construct zones of proximal development in which to teach. This position does not recognise Vygotsky’s argument that learning (not teaching) creates the ZPD (Vygotsky, 1978a).

This argument lends some tension to the reasoning behind the ZPD. If learning creates the ZPD, why was Vygotsky proposing that the ZPD could determine what program or learning individual children need to undertake? The former position is illustrated in Ohta’s (1999) analysis of a Japanese language lesson where mediated practice allowed Becky to concentrate on the language elements with which she was struggling rather than follow a predetermined script. The latter position reflects applications that seek to determine a proximal level of development and prepare programs which suit it, characteristic of instruction that teaches to a test.

The ZPD is linked directly to some contemporary dynamic assessment procedures that have emerged over the last 25 years. All of these systems of assessment are united by the introduction of the learning phase into the assessment situation. Instead of studying the child’s individual performance, dynamic assessment focuses on the difference between performance before and that after the learning or assistance phase. (Kozulin, 2003: 16)

In effect this means that dynamic assessment examines what the child has learned rather than how the child learns. For dynamic assessment to represent a ZPD accurately, programming should focus on the difference between assisted and unassisted performance.
Contemporary Criticism Interpretations of the ZPD

Van der Veer and Valsiner (1991) and Valsiner (2003) are critical of Vygotsky's concept of the ZPD on three grounds that have important implications for this study. First, they comment that the examples Vygotsky provided “suggest that he conceived of the environment as a static background to the dynamically developing child” (Van der Veer and Valsiner, 1991: 343). This may be the result of empirical investigations that involved a tutor and learner in a closed experimental environment. Adult backgrounds are not static. Participants whose literacy engagement is reported in this thesis relate to a range of people on a daily basis and function in environments that require them to adapt to changing circumstances. They bring this background into any ZPD.

Second, as Veer and Valsiner (1991:343) note, “Vygotsky seemed to suggest that the independent performance of a child will have as it’s ‘ceiling’ the joint performance”. The implication of this is that the novice will never know more than the expert. Lantolf (2000) argues that this representation of the novice/expert relationship is unsustainable given that the key theme underpinning the ZPD is mediation. He contends that the relationship is generally one of co-construction, resulting in the emergence of expertise. Further, when experts and novices come together “novices do not merely copy the experts’ capabilities: rather they transform what the experts offer them as they appropriate it” (Lantolf, 2000: 17). Adults have many years of experience and practical skills that may be different from those of their tutors or mentors. Their practical intelligence may even give them a status of expertise in specific areas of performance. This working knowledge needs to be accounted for in constructing a ZPD in the workplace.

Third, Vygotsky's (1978a) conceptualisation of the expert other is a benevolent teacher or peer. Valsiner (2003) claims this situation may not always be the case. For the novice to advance there should be mutual acceptance if not liking. The men
cited in the investigation reported in this study, for example, have had experiences with authoritative figures who did not like, understand or show interest in them. Nor, argues Valsiner (2003), are all expert others benevolent. If experts believe that teaching or training a novice will have negative consequences, they are less willing to train properly if at all.

Despite these concerns, the ZPD is a powerful notion within sociocultural theory. It provides a structure for directing the learning of novices along a predetermined, yet achievable, path. In the workplace, for example, workers are able, with guidance and assistance, to learn new and difficult skills that they may not normally learn through discovery. The participants in this study provide instances of achieving in activities which they believed were difficult and, without assistance, unachievable. This learning can be mapped on to the Framework (Cope and associates, 1995), demonstrating a continuum of learning over a range of workplace skills.

Sociocultural theory is complex and multi-layered. This part of the chapter has provided an overview of the three key concepts of the theory: a genetic or developmental method; the social origin of higher mental functions; and the tools and signs that mediate higher mental functions. By examining the Historical Underpinnings, Vygotskian Concepts and some contemporary adaptations of these concepts this section has illustrated the intellectual interdependent thinking and demonstrated the theory’s multidisciplinary heritage. It has related contemporary conceptions of sociocultural theory to Lev Vygotsky, a prominent Russian/Soviet scholar of the early twentieth century, and described how manifestations and adaptations of his ideas in later decades have served to provide new insights into human cognitive development.

The chapter now turns to the way this complex theoretical position can be applied to adult learners in general and adult learners with literacy difficulties in particular. In doing so it draws on the literature of adults’ cognitive development and also
studies of workplace learning that take a Vygotskian perspective. Then it outlines a conceptual framework of adult workplace literacy that locates sociocultural practices in the workplace.

**Applying Sociocultural Theory to Adult Learners**

Education research focuses on stages of development – (early) childhood, adolescent or middle years and adult, with a weighting towards the early years. The result is “schemata which allocate more [developmental] phases to the period up to adolescence than to the rest of the lifespan, the implication being that development tails off after early adulthood” (Schuller, 1992: 18). This schema is reflected in much contemporary research utilising Vygotskian notions of cognitive development that focus on the childhood years (Clay and Cazden, 1990; Hedegaard, 1990; McLane, 1990; Moll, 1990; Newman, Griffin and Cole, 1989; Rogoff, 1990; Tudge, 1990). Others have applied Vygotskian concepts to older school children or communities (Au, 1990; Brown and Palinscar; Donato, 2000; McNamee, 1990; Ohta, 2000; Tharp and Gallimore, 1988).

Vygotsky’s work was predominantly, but not entirely, concerned with children in the early years of school and children with disabilities. He wrote a text on adolescents (Vygotsky, 1931, *Pedologija podroska* [*Paedology of the adolescent*]) of which two chapters, in translation, are published in *The Vygotsky Reader* (Vander Veer and Valsiner, 1994). He and his co-researchers included adolescents and adults in many of their studies. It is apparent that Vygotsky envisaged cognitive development as extending beyond childhood. He details the process of concept formation and specifies the vital final stage of *thinking in concepts* as occurring at about the time of puberty, adding that:

> even an adult does not always think in concepts. Quite commonly, his thinking is carried out on the [lesser] level of complexes and sometimes it even descends to more elementary and more primitive forms.

*(Vygotsky, 1931: 252)*
Towards the end of his life and career Vygotsky “became increasingly interested [in] and knowledgeable of the domain of deviant adult behaviour” (Van der Veer and Valsiner, 1991: 75) as it related to his studies of development. This interest developed from studies of concept development in children and concept disintegration in schizophrenia.

Thus, despite a perception that sociocultural theory is about childhood cognitive development, it is also applicable to adolescents and adults. While some concepts are quite specifically concerned with childhood, others are more general and can be considered in any discussion of lifelong cognitive growth and development.

**Differentiating Childhood Learning from Adult Learning**

There are obvious differences between adults and children. Biologically, adulthood is the post-pubescent period, a time as indicated previously by Vygotsky as a time for altered thought processes. Vygotsky's own remarks on thinking in concepts (see above) provide evidence that he did not view the development of thinking skills as immutable. Rather he accepted that adult thinking fluctuates. Current research findings that “there is no segment of the lifespan in which learning is completely absent” (Heymans, 1992: 50) advances this notion. Further, research demonstrating that “cognitive development continues apace in adulthood” (Pogson and Tennant, 1995: 27) suggests that many of the concepts and themes Vygotsky discussed are applicable to adult learners.

Scribner’s (1984) investigation of workers in a milk factory serves to highlight the difference between thinking in the adult and childhood years. In particular it demonstrated how adults’ ability to think in concepts enabled them to develop practical intelligence in the workplace. Her findings indicate that practical intelligence gained through experience “represents the course of adult skill acquisition in commonplace tasks” (Scribner, 1984: 38), enabling workers to develop the cognitive skills to move from novice to expert. She also found that “skilled practical thinking is goal-directed and varies [,] adapting properties of problems and changing conditions in the task environment” (Scribner, 1984: 39).
By asking workers to perform unfamiliar tasks she demonstrated that adults approach novel tasks from their own logical perspective, so that, for example, office workers and process workers do not think about the same task the same way. This finding illustrates Vygotsky's point that the act of remembering (which requires thinking) “is redirected to establishing and finding logical relations” (Vygotsky, 1978a: 51). Behaviour, such as solving novel problems in this fashion, indicates cognitive development and the capacity to achieve higher mental functioning. To assess further the importance of adult thinking processes, Scribner (1984) had a group of high school students undertake the same practical computation tasks as some of the workers in the factory. The students were bound by the formulae and strategies they had learnt at school and were unable to complete the tasks with the speed or accuracy of the adults. This difference illustrates the qualitative difference between childhood and adult thinking (Vygotsky, 1931).

The study reported in this thesis takes the findings on the learning of generic workplace skills to another level. Proposing that adults who have not been able to achieve a level of “logicalization” (Vygotsky, 1978a: 51) in the particular set of cognitive skills that are represented as orthodox literacy in their school years, this thesis argues that many do so while engaged in on-the-job work practices. In other words, where adults did not gain appropriate levels of literacy at school, they may learn literacy skills in the course of their daily work. This is achieved by focusing on the type of culturally-based transformations and the process of internalisation (if any) of those transformations that occur in the workplace.

Data analysis examines the role psychological tools and signs, particularly speech—play in transforming knowledge from the inter- to the intrapersonal. No worksite is devoid of speech and work-based social interaction itself takes several forms. In the study reported in this thesis the role of conversational intercourse for instructional, social, informative and assistance purposes demonstrates the development of higher mental functions in workplace settings. Participants
demonstrate how speech acts mediate their behaviour and result in new ways of acting, responding, thinking and organising.

Testing a proposition such as this requires an analytical schema that locates the basis of workplace literacy and language competence in the interaction of “performance and knowledge” (Cope, Kalantzis, Luke, McCormack, Morgan, Slade, Solomon and Veal, 1997: 90) in social contexts, recognising the sociocultural generation of knowledge and skills. *Communication, collaboration and culture: The National Framework of Adult English Language, Literacy and Numeracy Competence* is an appropriate instrument. The next part of the chapter outlines the sociocultural underpinnings of the Framework (Cope and associates, 1995), demonstrating why it is a suitable tool to analyse the data reported in this study. For a more in depth explanation of the Framework (Cope and associates, 1995) refer to Chapter 4.

**A Conceptual Framework**

Grounded in sociocultural concepts and written for use in Australia, the Framework (Cope and associates, 1995) allows a demonstration of changes in literacy competence over time. It identifies six interlinked aspects of competence—“task, technology, identity, group, organization and community” (Cope and associates, 1997: 15)—derived from the sociocultural concept of learning as a form of social activity involving the manipulation of physical or symbolic tools and signs. As such it can be used to analyse the data collected for this study.

For the purposes of the study reported in this thesis psychological signs consisted of memos, icons, verbal messages, colours, shapes, maps and plans. Psychological tools consisted of physical aids to literacy such as whiteboards, pens, dictionaries and spell checkers as well as individual strategies for determining meaning in text based literacy. In an example of the complexities of Vygotsky's concept, literacy, including oral and written modes, was considered to be both a tool and a sign, whose mediation resulted in enhanced literacy activity. This was exemplified when
the notes a person took as a result of the discussion at a meeting culminated in restructuring thinking and reformulating actions at a future date.

The Framework proposes that language and literacy “are best taught, learned and assessed where they occur, through activities in social contexts” (Cope and associates, 1995: 5). This proposition resonated with this study, particularly with respect to spontaneous learning. For adults who believe they have failed to gain one or more of the aspects of literacy within the structured school setting, the role and value of both scientific and spontaneous learning in the workplace takes on added significance. This study set out to investigate this and, as indicated in Chapters 5, 6, 7, 8, 9, 10 and 11, it will provide evidence to support the proposition that some competence development in the workplace occurred at the spontaneous level.

From a sociocultural perspective “an ‘individual’ accomplishment, such as learning to read, is simultaneously individual, social, cultural and historical” (Hagel and Tudge, 1998: 166). For participants in this study, however, the cultural construction of literacy (in one or more of its aspects) has proved to be elusive. Chapter Five will demonstrate that, for the men in this study, literacy learning in the formative school years was subject to disruption and (for one) intervention. Importantly, most reported very real confusion over one or more aspects of literacy acquisition. In his study of disability Vygotsky (1978b) demonstrated that other forms of cognitive growth compensate for disruption. Utilising the Framework (Cope and associates, 1995) enabled this study to investigate the cultural and historical factors that allow for compensation or the development of skills that were not internalised at a younger age. For example, poor competence in one aspect, such as identity, may be compensated for by high competence in another aspect, such as task.

Members of any group are engaged in social discourse, making all members co-constructors of ideas (Van der Veer and Valsiner, 1991). The Framework (Cope
and associates, 1995) provides a structure for examining how individual knowledge is constructed as a result of group interactions. Individuals choose to accept, reject or modify societal concepts, creating and constructing new knowledge and gaining intellectual independence. This process demonstrates Vygotsky's notion of historical development because, as new knowledge, it represents either a transformation or a reconstitution of old ideas. Importantly, this also demonstrates the independence of the historical line from the cultural line of development.

Aspects of identity and group competence within the Framework (Cope and associates, 1995) focus on the literacy and language skills that are valued everyday in workplaces. When workers join a new workforce they want to belong. They do not want to stand alone from their fellow workers. So by watching and imitating they begin to take on the culture of the worksite. They begin to internalise routines, schedules and predictable workplace behaviours. This social interaction and engagement can be assessed using the Framework (Cope and associates, 1995).

As workers begin to internalise the workplace culture they find that routine tasks are easier. When these tasks involve literacy skills, those with literacy difficulties maintain rigid routines, such as always copying details from a master copy. When they chose to manipulate and alter those routines, such as not referring to the master copy, they are operating at an intrapsychological level. Levels of competence at these organisation, task and technology aspects can be assessed on the Framework (Cope and associates, 1995).

An important feature of the Framework (Cope and associates, 1995) is the recognition of the development of competence. That is, over time transformations take place that shift individual workers from assisted competence through independent competence to collaborative competence (Cope and associates, 1997). Within industrial work sites this type of transformative process is apparent in the worker’s movement from an observer of heavy machinery, to an operational learner, to a skilled operator. For adults developing strategies with literacy in
workplace contexts is demonstrated by a reluctant engagement with various text forms, collaborative use of the text and finally successful integration of the text to the extent that they are unaware of its use.

The Framework (Cope and associates, 1995) is a means of assessing the development of communication competence in workplace settings based on sociocultural concepts. It was used in this thesis to give structure to data collection and data analysis. Data collection focused on key sociocultural concepts, indicating competences that can be plotted on the Framework (Cope and associates, 1995). Emphasis was placed on the mediating role of psychological tools and signs and their history and instances of the use of the ZPD. Analysis of each of these demonstrated the aspects and levels of competence determined by the Framework (Cope and associates, 1995).

**CONCLUSION**

Sociocultural theory has a rich and diverse history. The theory, as outlined in this chapter, provides a basis for collecting and analysing data and observing the process of learning or the development of higher mental functions. One of the leading early proponents, Lev Vygotsky, was “an original thinker” (Kozulin, 1996: 119) who demonstrated intellectual interdependence in arguing a historically and culturally based theory of human cognitive development. Although his was “only one of many theories that tried to give an account of the origin and development of the mental process of Western educated adults” (Van der Veer and Valsiner, 1991: 191) it has gained prominence in Western educational thinking over the last 30 years.

On his death he left two major legacies: the first, a group of loyal colleagues and students who developed his theoretical concepts to more pragmatic purposes and disseminated that knowledge beyond the former Soviet Union; the second and perhaps more exciting legacy, is a set of ideas whose power is open to empirical investigation, interpretation, debate, evolution and development. Despite being
unavailable to all but a few scholars for almost twenty years after his death, Vygotsky’s ideas have taken on an importance in modern education practices. Cole and Scribner (1978: 6) cite five reasons for his relevance to contemporary day theorists, researchers and educators:

‘He constructed a penetrating critique of the notion of the higher psychological functions in humans [dismissing any idea] that it can be found by a multiplication and complication of principles derived from animal psychology’;

‘He provided a devastating critique of theories which claim that the properties of adult intellectual functions arise from maturation alone, or are in any way preformed in the child and simply waiting far an opportunity to manifest themselves’;

Although he followed the lead of influential French sociologists of the day, Vygotsky was the first person to ‘suggest the mechanism by which culture becomes part of each person’s nature’;

He advocated combining ‘experimental cognitive psychology with neurology and physiology’ and

‘by claiming that all of these should be understood in terms of a Marxist theory of the history of human society, he laid the foundation for a unified behavioral science.’

Because Vygotsky stressed the importance of school education and wrote mainly about development in childhood, most contemporary research is focused on the school and preschool years. Some writers (Attewell, 2003; Billett, 2001a; Gallimore and Tharp, 1900; Hagell and Tudge, 1998; Lantolf, 2003; Lave and Wenger, 1988; Mitchell and Young, 2001; Tuomi, 1998) regard these ideas as applicable to adults learning in the workplace particularly with respect to the mediation of culturally determined tools and signs, the transmission of these artefacts within a social situation and, assistance provided by means of a ZPD. The research reported in this thesis tests and elaborates on this view. It seeks to test the propositions inherent in the key elements of sociocultural theory discussed in this chapter, including contemporary manifestations such as the Framework (Cope and associates, 1995).
The next chapter outlines the approach taken in designing the study. It provides details of the participants—their recruitment and their contribution to the study—and the ethical approach take to protect their identities. Explanation of data collection and analysis procedures includes a fuller description of the way the Framework (Cope and associates, 1995) was used to map aspects and stages of competence.
CHAPTER 4

CONSTRUCTING THE STUDY

INTRODUCTION
The data collected and reported in this study fills a gap in the knowledge about adult literacy acquisition in informal learning settings. Seeking to discover the issues of identity and social interaction that allow men who self-report literacy difficulties to access and engage in the workplace literacies required a methodological approach that explored nuances of behaviour, social and workplace relationships and notions of self and others that motivate learning. Additionally, the methodological approach should reflect the sociocultural perspective that drives the study. This chapter sets out the methodological stance used to investigate the research question and the data collection and analysis procedures employed to classify and interpret the evidence. The methodological rationale for this study indicates that each of the design elements—methodology, research strategy, data collection and analysis—is dependent on the sociocultural theory explained in Chapter 3. This chapter discusses the interlinking of these elements (see Figure 4.1) to create a research methodology derived from, or at least informed by, a sociocultural perspective.

This is a chapter in seven parts. Part one provides an overview of the theoretical perspective of this study that underpins and determines the other design elements. Part two describes the rationale that informed both the methodology selected and the research approach taken. Part three records particulars of the research design. Parts four and five provide details of the procedures used in data collection and analysis. The sixth part of the chapter turns to issues concerning the credibility of this study, specifically replication, validity and reliability. Part seven discusses research ethics. This is particularly important as the study involved potentially vulnerable participants. Methodological issues arising during the course of this study are discussed in Chapter 8.
PART 1 - THEORETICAL PERSPECTIVE
The choice of any methodology or research approach determines the structure and procedural rules of a study and is governed by the assumptions or theoretical orientations that the researcher brings to the project (Creswell, 2003). These assumptions or orientations “have particular implications for how the phenomena can be observed, recorded, described, interpreted and explained” (Putney, Green, Dixon and Gregory, 1999: 371) and lead directly to the plan of action for the investigation (Crotty, 1998). For this study the task was to design a methodological approach that reflected a sociocultural perspective. Such an approach takes into account “the participants’ views of the situation being studied” (Creswell, 2003: 8) as a means of investigating the process of literacy competence development in response to social, historical and cultural factors.

Sociocultural research perspectives acknowledge that humans engage in meaning making based on the historical, cultural and social features of particular contexts
(Creswell, 2003). These settings are the environments in which learning occurs and may include workplaces (Billett, 1994, 1999, 2001a, 2001b; Billet and Rose, 1997; Lave and Wenger, 1991; Rogoff, 1990; Scribner, 1984; Tuomi; 1998), supermarkets (Lave, Murtaugh and de la Rocha, 1984; Lave and Wenger, 1988) or wherever learning tools are available (Mitchell and Doherty, 2004). Social and historical features include the psychological tools and signs that mediate the activity that results in learning. These may include mobile technologies (Mitchell and Doherty, 2004), computers (Tuomi, 1998), production lines (Billett, 2001; Scribner, 1984) or tailoring tools (Rogoff, 1990) and the human agency that “operates both interdependently and independently in social practices” (Billett, 2001: 4).

The role of the researcher working from a sociocultural perspective is therefore to understand the “meaning … the particular context [and] the process” (Maxwell, 1996: 17-19, emphasis in original) of the social and cultural interactions that occur for any event. For the purposes of this study the research focus is the meaning, context and processes of workplace literacy for adults who self-report literacy difficulties. As a result of gaining an understanding of these factors the researcher developed explanations for the dynamic interdependent and independent relationships that demonstrate how literacy knowledge is a social construction. Given the participants in this study, it investigated how literacy knowledge in nine separate workplaces is constructed “by, for and between [one member of each of these] discursively mediated communit[ies]” (Hruby, 2001: 51).

A sociocultural approach to research into literacy draws on “the consequential nature of learning within and across events … exploring the historical nature of life within a social group or local setting” (Putney and associates, 1999: 374) by listening to the words of those being researched. It takes an emic perspective, giving status to cultural, historical and social mores that locate literacy skills for a specific time and purpose. The sociocultural context of the workplace defines
“what is required; what counts as [literacy] knowledge; and who has access to what, when and where and under what conditions” (Putney and associates, 1999: 374).

The theoretical perspective of any research proposal informs the selection of research strategies (Creswell, 2003; Crotty, 1998). Studies that are based on sociocultural traditions require the researcher to make sense of the participants’ interpretations of their world. Typically, there is a multiplicity of meanings, contexts and practices that have to be socially and historically negotiated. Given that these could not be directly imputed from the participants’ actions the methodology of choice was qualitative. The next section outlines the strengths qualitative research methodology had for this study.

**PART 2 – RESEARCH STRATEGY**

**Qualitative Methodology**

Qualitative research involving adults with literacy problems and/or their personal experiences was limited until the pioneering work of Gerber and Reiff (1991). When studying experiences from a personal perspective they argue that “gathering basic research data on adults with learning disabilities favors a qualitative technique” as opposed to a quantitative technique (Gerber and Reiff, 1991: 15). Quantitative studies of adults provide important data on the consequences of learning difficulties, learning disabilities or dyslexia. However, they fail to account for the complex historical, cultural and social interdependence and independence inherent in social practices (Goldberg and associates, 2003), such as workplace literacy. For researchers this is problematic:

> The questions sparked by the notion that there is a *person* to go along with every learning disability and that we err in imagining that we have understood the person if we have described his or her disability, are not to be casually dismissed.  
>  
> (Rodis, Garrod and Boscardin, 2001a, xiii, emphasis in original)

When the research focus is human interactions and responses, the legitimacy and strength of qualitative inquiry derives from the way it captures “what people have to say in their own words” (Patton, 1980: 22). Qualitative studies require the researcher to listen to the words of the participants, since these words are the tools
that allow the researched to define, describe and interpret their experiences as they recall them, enabling the researcher to identify patterns of social interaction and construction.

This study adopted a qualitative approach that constructed realities through asking questions, listening to oral responses, observing nonverbal responses and recording and examining these responses. It sought to explore the specific ways adult literacy choices respond to forms of work organisation and culture. This approach allowed the researcher to illuminate the “invisibility of everyday life” (Erickson, 1990: 83) located in the social, individual, cultural and historical reality of the participants’ workplaces.

Qualitative researchers make judgements “that lead them to decide what research designs they should frame to produce one or more of many imagined or as yet unimagined outcomes” (Peshkin, 1993: 23). When researchers seek outcomes that demonstrate how individuals and groups construct their social world “both through their interpretations of it and through actions based on those interpretations” (Hammersley and Atkinson, 1997: 11), the study reflects an ethnographic approach. The next section outlines the ethnographic style taken in this study. Incorporated in this is discussion of participatory research, a derivative of ethnographic research.

**Ethnographic Research Approach**
Notions of constructing, interpreting and responding to actions in the social world are inherent in ethnography and are also congruent with a sociocultural approach. Ethnographic approaches, for example, investigate the context of events; the social processes that occur in those contexts and the meanings individuals derive from specific events within those contexts (Creswell, 1998; Hammersley and Atkinson, 1997). Generally, ethnographic research is carried out in one site or in one community and involves the ethnographer participating, overtly or covertly, in people’s daily lives for an extended period of time, watching what happens, listening to what is said, asking questions - in fact,
collecting whatever data are available to throw light on issues that are the focus of the research.

(Hammersley and Atkinson, 1997: 1)

From a sociocultural perspective this study asked participants to reflect on the literacy events that occur everyday in their workplaces. It asked participants to consider the meaning of these events and their engagement in them. However, Oliver (2003) argues that ethnographic approaches grounded in an interpretivist paradigm construct disability as a social problem. That is, interpretive inquiry alienates disabled people “from both the product and the process of social research”, resulting in an enlightenment model of service delivery that aims to ameliorate the social disadvantage of disability (Oliver, 2003: 3) without benefiting the disabled participants of the research. Cautioning that such research is now expected to do more than advantage the researcher, he argues for research approaches that are “more democratic” (Riddell, Baron and Wilson, 2001: 223), allowing the researched to participate more actively in the research process.

One such approach to ethnographic research “calls for participatory strategies involving research subjects” (Oliver, 2003: 5). Central to this approach is participants’ involvement at various stages in the research process, but not necessarily having control over resources and agendas. The notion that individuals have the right to be consulted and actively involved in the research process is foreign to traditional ethnographic approaches that position the researcher at an objective observer, or observer of objects (Creswell, 2003).

In attempting to produce unbiased findings ethnographers traditionally attempted to “interpret data without reference to personal values or interests” (Barnes, 2002: 10) in an endeavour to produce research untainted by human foibles (Lincoln and Guba, 1985). As a derivative of ethnography, participatory research recognises that neither the researcher nor the researched are value-free. As Rodis and associates (2001b: xvi, emphasis in original) recognise, this challenges “the old problem in scientific cultures of the division between the knowing, speaking, active scientist and the unknowing, silenced, passive subject”. Participatory research is an
appropriate approach aimed at gaining data about social contexts using the words of
the participants in a way that is meaningful, recognising the agendas and
perspectives of all participants as the major data source.

An ethnographic approach that adopts a participatory perspective allows the
participants’ agendas, concerns and ideas to be incorporated as the data are
constructed, reducing the risk of researcher domination. Interview questions in this
study, subsequent to the first round of interviews, derived from issues the
participants had raised. They focused on the sociocultural contexts of literacy and
the process of literacy engagement in the workplace. Additionally, through
member checking, participants were given control over the transcriptions of their
interviews. Case study is a powerful tool in the ethnographic armoury because of
its ability to reveal the richness, variety, complexity and dynamics (Rodis and
associates, 2001b) of everyday lives not normally captured by surveys (Breen,
1994; Maxwell, 1994). Investigating workplace literacy engagement from the
perspective of the participants allowed the issues that concerned them to inform and
enrich the study. For greater detail of this process see the sections on interviewing
and member checking in parts 4 and 5 of this chapter respectively.

Case Study
Case study research produces large numbers of descriptive data that are analysed
“to develop conceptual categories or to illustrate, support or challenge theoretical
assumptions held prior to the data gathering” (Merriam, 1990: 28). This project
adopted “a multiple single case study” (Yin, 1994: 14) or “collective case study”
(Stake, 2003: 138) design because data from nine different individual cases have
been pooled to synthesise strategies for dealing with the literacy demands of the
workplace. The strength of pooling data, inherent in the multiple single case study
design, provided the opportunity to bring together the lived workplace literacy
experiences of nine individuals. In drawing them together the researcher was able
to demonstrate the significance of localised experiences and “document patterns of
practice” (Freebody, 2003: 82) across all cases that inform or even challenge
sociocultural theory.
Typically, data for case studies incorporate any combination of interviews, documents, life histories, diaries, field notes and observations, thereby giving the method its unique strength (Yin, 1994). Recognising that not all these data collection techniques need to be used in every case study, data for this study consisted predominately of fifty-six interviews supported by field notes and small numbers of documentary data provided by the participants. Like other studies (Gerber and Reiff, 1991; Hellendoorn and Ruijsenaars, 2000), interviews allowed adults who self-identify with literacy problems to tell the researcher “what issues are truly important and relevant” (Gerber and Reiff, 1991: 12). The ability of participants to recall events in their own words made it possible to discern sociocultural nuances that may not have been considered by the researcher. This has resulted in richer, more authentic findings.

Case study research requires strategies for systematically locating participants and collecting data from them. This is the focus of the next section. A research design links the theoretical perspective and the research strategy, situating the researcher in relation to “specific sites, persons, groups, institutions and bodies of relevant interpretive materials” (Denzin and Lincoln, 2003: 36). The next section outlines the research design for the study reported in this thesis.

**Part 3 - Research Design**
For this study fifty-six interviews were conducted—forty-five with primary participants from multiple sites and eleven with secondary participants. The primary participants, the main data source, were recruited between April and July 2000 in two cities in south-eastern Australia. Since naming the city they lived and worked in could identify some participants, I have chosen to use pseudonyms by naming these two cities Lachlan and Macquarie. Each primary participant was interviewed five times from the date of recruitment to June 2001.
The evidence provided by the primary participants was enhanced by interviews with their peers, supervisors or significant others, herein termed secondary participants. These secondary participants were purposefully selected and approached by the primary participants in a process similar to “snowball sampling” (Bouma, 2000; Patton, 1987; Robson, 2002) or “chain sampling” (Miles and Huberman, 1994: 28). As a variation on purposive sampling, snowball sampling enabled the researcher to gather data from a particular group of people, namely those who have worked with or knew one of the primary participants. Collecting and analysing data formed only a portion of a network of activities in this study. The timeframe for data collection and analysis for the project is in Appendix B. Essentially, tasks involved fieldwork for data collection, data analysis and engagement with the research field. For data collection to commence, the researcher needed to recruit participants. The following section details the participant recruitment process.

**Participant Recruitment**

Participant recruitment was a long, difficult and at times frustrating process owing to the nature of the participants being sought. In all, recruitment of the nine primary participants took approximately three months. This was a time-consuming process as it involved contacting and negotiating with gatekeepers (Creswell, 2003), i.e., people such as trade unions officials, family members and adult education agencies (Table 4.2) who could identify possible primary participants. Often this process took several telephone calls over a period of weeks to identify a single participant.

Purposive sampling with set objective criteria (Bouma, 2000) was used to select primary participants for the study. These criteria included: entering the workforce with literacy skills that they considered insufficient for the job they were doing; holding full-time employment for a sustained period (at least two years) at the date of recruitment; being over the age of eighteen; and being a native speaker of English. These criteria were given to the gatekeepers and the primary participants self-nominated as a result of contacts made with these gatekeepers.
The researcher proposed these criteria as they were strongly connected to the focus of the research question. As the study investigated literacy practices over time, this required that participants become familiar with the culture of a specific site. The researcher considered that it was unlikely that there would be many workers under eighteen who would satisfy the first criterion. Additionally, from the perspective of research ethics, participants over eighteen years of age are themselves able to give informed consent to participate in the research. To ensure the feasibility of this project it was necessary to exclude prospective participants of non-English speaking backgrounds. Including participants whose first language is not English would have added a complicating variable to this study and remains an issue for future investigation.

Although a total of eighteen males and females were contacted with a view to participating—only nine males agreed to participate. Six males said that they did not want to be a part of the research for reasons that they did not disclose and two did not respond to the invitation. All of the women expressed interest in participating in the study if they were able to celebrate their achievements by using their real names and real workplaces. This would have been difficult for ethical reasons and so they were not included in this study.

Table 4.1 summarises how the nine participants were recruited. Several business enterprises were contacted and approached in two Australian states. They were all concerned about the reputation of the enterprise and the workers’ welfare. No participants were recruited this way. An individual approached by following up from a newspaper article recounting his experiences with learning difficulties declined to participate. Men and women attending an adult literacy class were invited to participate. Although initially interested, none agreed to enter the study.

I simultaneously approached several unions seeking assistance from organisers,
shop stewards or delegates. This strategy proved much more productive. Dasher and Peter attended a meeting where I asked shop stewards to seek help from workplace organisers who I anticipated might know which of the plumbers on site experienced difficulties with literacy. They approached me independently. Neither is aware of the other’s participation in the study. One union official was not sure about members of his industry but was certain of a relative. Thus Sam was introduced to the study. After initial discussions with a senior officer of another union, Robert was asked to contact me to learn more about the study and the participants I was seeking. As a result of this discussion, Robert nominated himself for the study. Networking at a conference in March 2000 led me to an adult literacy teacher/researcher, who had been interviewing men, many of whom were from the sample population I was seeking. She approached five of her participants independently of one another and three agreed to participate in this study. None is aware of the participation of the other two in this study. As the researcher had an impact on the men’s literacy engagement at work and is mentioned by them I chose to make reference to her in the data analysis. She chose the pseudonym Joan for this study.

Initial contact with all participants was by phone, when an appointment for an introductory meeting was made. Four tasks were undertaken at the introductory meeting. First, a copy of the letter of introduction was given to each participant.
Second, the project was described to each man and a copy of the Information Statement—Primary Participants was handed to each man. Third, the Informed Consent form was signed by each participant and retained by the researcher. A photocopy of this statement was given to each participant at the first round of interviews. The researcher read these documents to those participants who indicated they would prefer to have it read. Fourth, each participant was asked to provide a pseudonym for the study. The names they chose were Charles, Dasher, George, James, John, Peter, Robert, Sam and Stalin, the latter name chosen because he survived what he perceives as a brutal primary school experience.

**Nine Men**

The men ranged in age from the late twenties to the late fifties. Apart from the belief that their school education had failed them, no two individuals reported the same experiences, although some had similarities and parallels. Eight of the nine had not completed secondary education yet some were able to recall individual teachers who they felt had taken a special interest in them. Importantly, their definitions of literacy and perceptions of their individual competence and difficulties varied dramatically. These data are presented in Chapter 5.

<table>
<thead>
<tr>
<th>Primary Participant</th>
<th>Secondary participant A</th>
<th>Relationship to Primary Participant</th>
<th>Secondary participant B</th>
<th>Relationship to Primary Participant</th>
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<tr>
<td><strong>Robert</strong></td>
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<td>Supervisor</td>
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<tr>
<td><strong>George</strong></td>
<td>Wayne</td>
<td>College</td>
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<td><strong>John</strong></td>
<td>Bill</td>
<td>Father</td>
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<td><strong>Stalin</strong></td>
<td>Ray</td>
<td>Supervisor</td>
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</tr>
<tr>
<td><strong>Charles</strong></td>
<td>Jack</td>
<td>Colleague</td>
<td>Jane</td>
<td>Sister</td>
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<tr>
<td><strong>Dasher</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>Mick</td>
<td>Supervisor</td>
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<td><strong>James</strong></td>
<td>William</td>
<td>Colleague</td>
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<td><strong>Peter</strong></td>
<td>John</td>
<td>Mentor</td>
<td>Helen</td>
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<tr>
<td><strong>Sam</strong></td>
<td>Peter</td>
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</table>
SECONDARY PARTICIPANTS

Secondary participants who corroborated or added to the accounts of primary participants were nominated by primary participants, acting as gatekeepers in this instance. Many initially chose a partner or family member and so were also asked to seek out a person with whom they had worked. Secondary participants were introduced to the project in a manner similar to the primary participants. The key variation in the process was that there was only one interview with each secondary participant, conducted between the fourth and fifth round of primary participant interviews. At these one-off interviews secondary participants were given an information statement and read and signed an informed consent statement. A photocopy of the signed consent statement was posted to each secondary participant with the transcript of his/her interview.

Of the nine primary participants, three nominated two secondary participants, five nominated one and one was unable to nominate a secondary participant. Of the eleven secondary participants, eight were work related and four were family members. Ten of the secondary participants were male. The two female secondary participants were both family members (wife or sister) of two different primary participants. Table 4.2 summarises the selection of Secondary Participants. As with the Gerber and Reiff study (1994) all the participants:

> viewed their participation in the study as a unique opportunity to provide insights, knowledge and suggestions that might contribute to emerging philosophies, concepts … and [pedagogies] for the population of [children], adolescents and adults with learning disabilities.

(Gerber and Reiff, 1991: 17)

Some workers lived within a few kilometres of their place of work. Others travelled considerable distances from outer urban or nearby rural regions. Some workers had always lived in the region where they worked. Others had moved there for family or employment reasons. The next section outlines the workplace contexts of the nine primary participants.
The Settings
Lachlan and Macquarie are both cities in south-eastern Australia with a mix of light and heavy industrial production, as well as a range of service industries. The men came from varying employment settings. Stalin, George and John had worked, until their retrenchment in 2000, in the same heavy industrial enterprise that I have called Firebrand. James was a long-term employee in a wire and fencing manufacturing business, a subsidiary of Firebrand. Although initially a tradesman, Robert was a union official presenting cases to the State Industrial Commission and interpreting legislation governing working conditions for members of his union. Of the other tradesmen in the study Sam was a subcontracted kitchen installer at the commencement of the study before moving into the office to become a detailer, transforming sketch plans into workable designs. Peter and Dasher were plumbers working on large construction sites on the city fringe. Both had become involved to different degrees with Occupational Health and Safety and were union Shop stewards at the commencement of this study. Charles had been engaged in the meat processing industry apart from a brief experience as an interstate truck driver.

These nine men represented a range of vocational occupations, lived in two different cities and had a variety of backgrounds. The single feature they had in common was that they all self-identified as having literacy difficulties. Generating evidence of their literacy experiences required a planned data collection process. The next section details the data collection process undertaken for this study.

<table>
<thead>
<tr>
<th>Primary Participant</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles</td>
<td>Meat Worker</td>
</tr>
<tr>
<td>James</td>
<td>Heavy Machinery Operator (Firebrand)</td>
</tr>
<tr>
<td>Stalin</td>
<td>Heavy Machinery Operator (Firebrand)</td>
</tr>
<tr>
<td>Robert</td>
<td>Industrial Officer</td>
</tr>
<tr>
<td>John</td>
<td>Heavy Machinery Operator (Firebrand)</td>
</tr>
<tr>
<td>George</td>
<td>Heavy Machinery Operator (Firebrand)</td>
</tr>
<tr>
<td>Dasher</td>
<td>Plumber</td>
</tr>
<tr>
<td>Sam</td>
<td>Kitchen Detailer</td>
</tr>
<tr>
<td>Peter</td>
<td>Plumber</td>
</tr>
</tbody>
</table>
PART 4 – DATA COLLECTION
When participants’ self-report literacy difficulties and the researcher is seeking data in the participants’ own words, audio-taping interviews is a useful approach. Techniques such as written surveys, diaries or reflective journals are problematic because of the literacy problem each man reported. This section describes the planned data collection process used in this study. It focuses on interviewing as the primary mode of data collection, the types of interviews used in this study, the development and planning of the interview schedule, themes common to interviews, the way the interviews were transcribed and how they are cited in this thesis. The latter section also discusses the use of colloquial oral language in a written language format. This section also describes and justifies two other forms of data collection used this study; first, documents that were given or lent to the researcher and second, the researcher’s field notes.

Interviewing
It is not common for research on workplace literacy to be oriented to the worker/learner’s perspective, allowing the different voices of workers to be heard (Hull, 1997). Since the crux of this study was the workers’ voices, the design needed to focus on the most appropriate way to engage a range of workers in meaningful discussion on an intimate and secretive topic. Interviewing, as a means of providing “insight into individuals’ constructed social worlds” (Freebody, 2003: 137), was the predominant method of data collection in this study. Interviews are socially constructed interchanges where each participant allows the other to see a construction of his/her world. Acknowledging this meant that I took a particular stance to the information provided in interviews for the reasons given below.

For example, no attempt was made to verify or even challenge the participants’ subjective claims of literacy difficulties by means of standardised instruments or the collection of demographic data through surveys, nor was participant selection made on the basis of the results of standardised literacy assessment. There were three reasons for taking this stance. First, my professional experience was that
diagnostic testing is the basis for teaching. As teaching was not a facet of this research there was no need to assess achievement. Second, during the initial contact phase several prospective participants predicated their involvement in the research on the absence of testing. That is, they did not want to be tested as they found it stressful and felt test results did not benefit them. As noted above, Oliver (2003) argues that good research aims to benefit participants. Third, as acknowledged earlier in this chapter, studies that use testing for baseline data (Gerber and Reiff, 1991; Goldberg and associates, 2003; Hellendoorn and Ruijsenaars, 2002) are influenced by that information. An argument, similar to mine, was made by Key (1998: 14-15), who:

wanted to impose neither categorical labels nor language, which might influence participants in their interview responses. I did not want any preliminary variables such as age, income level, or marital status, influencing my interactions with them or my analysis of their literacy stories. I knew that if I prompted them with survey questions and boxes to check that I would be creating a barrier using literacy … I decided … conversation [would be] the text from which we would work.

Primary participants engaged in five, one-on-one, audio-taped reflective interviews over a period of fifteen months, from April 2000 to July 2001. Minimum interview time was twenty minutes but stretched to forty minutes when participants were very forthcoming. Interviews were arranged, where possible, at times and locations that best suited each participant. Often, at the participant’s request, interviews were conducted in a “white room” situation (Werner and Schoepfle, 1987: 315), away from the actual site where their work duties were performed. This technique was employed to minimise risk to the participants if others in the (work) environment became aware of the nature of the research. Generally, these white rooms were in the participant’s home but also included locations closer to the worksite such as conference rooms, lunchrooms, bars and hotels.

The interview questions were semi-structured and open-ended, designed to allow participants to elaborate on three specific themes. The researcher initially nominated the first of these which sought background information to place the
participants in historical and social contexts. An example of this theme was asking participants to recall their school experiences.

Other questions were generated as a result of the researcher drawing on related research literature so as to make “connections with other domains of inquiry” (Freebody, 2003: 26). An example of this in the current study was probing ideas about social forms of literacy. In the first round of interviews most participants said that there was no literacy required in their job. However, analysis of their interviews indicated forms of literacy: such as using measuring tapes, reading road maps, interpreting architectural plans, completing machinery damage reports and responding to oral instructions. These are typical examples of literacy generally (Gee, 2000; The New London Group, 2000) or in the workplace (Rogoff, 1990; Schultz, 1997; Scribner, 1984). All of the themes probed during the interviews are

<table>
<thead>
<tr>
<th>Theme</th>
<th>Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define literacy problem</td>
<td>×</td>
</tr>
<tr>
<td>Recall school experiences</td>
<td>×</td>
</tr>
<tr>
<td>Recount job history (briefly)</td>
<td>×</td>
</tr>
<tr>
<td>Ease of entering workforce</td>
<td>×</td>
</tr>
<tr>
<td>Literacy in the workplace - examples</td>
<td>×</td>
</tr>
<tr>
<td>Literacy in the workplace - strategies for coping</td>
<td>×</td>
</tr>
<tr>
<td>Workplace tasks/role</td>
<td>×</td>
</tr>
<tr>
<td>Pictures as a form of recall</td>
<td>×</td>
</tr>
<tr>
<td>Defining literacy</td>
<td>×</td>
</tr>
<tr>
<td>New worker learning social literacy</td>
<td>×</td>
</tr>
<tr>
<td>Reading task - department store catalogue</td>
<td>×</td>
</tr>
<tr>
<td>Recognising literacy difficulties in new worker</td>
<td>×</td>
</tr>
<tr>
<td>Response literacy crisis headlines</td>
<td>×</td>
</tr>
<tr>
<td>Reading &amp; comprehension task - street directory</td>
<td>×</td>
</tr>
<tr>
<td>Reasons for participation in research</td>
<td>×</td>
</tr>
<tr>
<td>Benefits of research to self</td>
<td>×</td>
</tr>
<tr>
<td>Reaction to interview process</td>
<td>×</td>
</tr>
<tr>
<td>Writing or reading task</td>
<td>×</td>
</tr>
</tbody>
</table>

Schedule of common interview themes demonstrating how particular themes were introduced across the data collection period.
shown in Table 4.4, which indicates where each theme was initially introduced in the round of five interviews.

Each of the nine cases stands independently as a set of five to seven interviews (primary plus secondary participants). As multiple cases the interview data are interdependent. The use of common interview themes shows how the data were linked. The process of interlacing and layering of data created a mesh, a process that may be called *mesh interviewing*.

The next stage of the data collection process was transcribing the oral text to a written form. That process and the way the individuals’ words were represented in written form in this thesis, are the subject of the next section.

**Transcription and Citing**

Each interview was transcribed verbatim soon after recording. A professional typist initially transcribed each interview. The researcher edited these for typographic and/or aural errors. A copy of each transcription was sent to the appropriate participant for review and editing (where necessary). Finally, line numbering was applied to each transcript in preparation for analysis. This process was repeated for each interview cycle. In all there are 938 pages of numbered verbatim transcripts (1.5 spacing, 6pt before, hanging indent of 2 cm to accommodate line numbers, 27.5 lines per page on average). The aggregated transcripts total approximately 187,600 words. Examples of interview transcripts are in Appendix E.

As interview data were the bulk of the evidence in this study, excerpts of transcripts were used widely in later chapters of this thesis. In chapters relying on interview data any words quoted directly from interview transcripts are shown in *italics*. Data from primary participants are shown in *black italics*. Data from secondary participants are shown in *grey italics*. Referencing of citations to these interviews varies. Data from primary participants are indicated by the interviewee’s
pseudonym; which of the five the interviews was involved and the line or lines of
that interview. For example, data from line 265 of Peter’s second interview are
shown as (Peter, 2: 265) and data from lines 65 to 69 of James’ fifth interview are
shown as (James, 5: 65-69). When words of a primary participant are paraphrased,
the citation indicates the pseudonym and in which of the interviews those data are
found. For example, Charles discusses methods of interpreting information in a car
magazine (Charles, 5). Since secondary participants were interviewed only once,
only their pseudonym and the line numbers from their interview are shown in their
citations. For example, line 437 of Ray’s interview is shown as (Ray: 437) and
lines 306 to 315 of Jane’s interview are shown as (Jane: 306-315). When words of
a secondary participant are paraphrased, the citation consists only of the appropriate
pseudonym. On a few occasions the question that prompted a response is given.
This is denoted by the initials MK (in bold). The following demonstrates some of
these points in context. Sam’s willingness to read was typical of many participants.
MK: So you really shy away from having to read? Yeah. *If I do, I’ll just skim over
it … I just can’t be bothered* (Sam, 2: 112-113). His wife, taking a broader concept
of reading, believes that Sam reads in a picture form [because] he knows exactly
what to do with [the plan … and] can translate it to whatever it is. (Helen: 224-225
and 232-234).

**CONTEXTUAL USAGE**

Open-ended and probing questions resulted in a conversational type of interview.
While the data produced were interesting, important points were often found within
less structured narrative passages. The language used was also the vernacular of
the interviewees. Because of these two factors interview data were edited to a
limited extent. The ellipsis symbol … indicates where words have been edited out
so that important points can be assembled together. On occasions words [in regular
text and inside square brackets] have been added to help the flow of the narrative.
Individual vocabularies have not been altered apart from the deletion of
interjections (um, ah) and, on occasion, repeated interjectory phrases (sort of; you
know). By its nature colloquial oral language is ungrammatical and may contain idioms and mispronunciations. There has been no attempt to edit grammar, mispronunciation or colourful language. To do so would ‘formalise’ not only the writing, but also the participants.

**TIMING OF INTERVIEWS**

Two factors influenced the interview schedule. The first was the availability of participants. All interviews were arranged by mutual consent, taking into account factors such as work and family commitments of the men such as holidays, shift work, study and travel commitments for the research. This was particularly important when data were collected in Lachlan as this involved the researcher travelling interstate. The second factor was the rate at which interviews were transcribed and checked. Each round of interviews including recording, transcription, checking, forwarding to participant for editorial comment and scheduling the next interview took about three months. Dates and other details concerning all the interviews are provided in Appendix C. While interviews constituted the bulk of the data, some other data were used in the study. These consisted of confirmatory literacy tasks, documents and field notes.

**CONFIRMATORY LITERACY TASKS**

A notion central to sociocultural theory is the transmission of cultural artefacts through the use of psychological tools and signs. I wanted to record each man’s response to a range of familiar cultural artefacts that required him to engage in a range of literacy tasks. Each man undertook four tasks that were explained and recorded as part of the interview process. On each occasion the primary participants agreed to undertake the task and they were audio taped as they performed these tasks. In order to gain an account of the meta-cognitive processes they used as they engaged with literacy the men were asked to think ‘out loud’ as the tape recorder ran. These recordings were part of the interview data and provided an insight into each man’s approach to interpreting visual texts and to engaging in encoding and decoding activities. The four tasks, detailed below, were
included in interviews three, four and five. Table 4.5 summarises these tasks. The first three of the tasks were common. The last task focused directly on the specific literacy difficulty reported by individual participants.

<table>
<thead>
<tr>
<th>Common Tasks</th>
<th>Individual tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Browse through and discuss a shopping catalogue.</td>
<td>• Charles – read and discuss a car collectors’ magazine</td>
</tr>
<tr>
<td>2. Locate addresses in a street directory and demonstrate how to travel between these locations.</td>
<td>• James – read and discuss a football magazine</td>
</tr>
<tr>
<td>3. Respond to newspaper headlines about literacy</td>
<td>• Stalin – read and respond (orally) to a news article in a national daily</td>
</tr>
<tr>
<td></td>
<td>• Robert – write a written response to a letter to the editor in a national daily newspaper</td>
</tr>
<tr>
<td></td>
<td>• John – read a TV magazine guide and write a response for a competition entry</td>
</tr>
<tr>
<td></td>
<td>• George – read an respond (orally) to an article in a BMX magazine</td>
</tr>
<tr>
<td></td>
<td>• Dasher – write a letter about water saving techniques</td>
</tr>
<tr>
<td></td>
<td>• Sam – respond in writing to a kitchen design from a popular magazine</td>
</tr>
<tr>
<td></td>
<td>• Peter – write an initial draft report about a workplace safety advertising campaign</td>
</tr>
</tbody>
</table>

Common and individual literacy tasks used to validate literacy behaviours as reported by the primary participants.

**Reading Task Department Store Catalogue**

The aim of this activity was to record if and how each participant gained accurate information from the kind of department store catalogue or unsolicited advertising that is sometimes classified as ‘junk mail’. The specific publications chosen were Big W (Saturday, 9 December to Friday, 15 December 2001) and Kmart (Sunday, 10 December to Saturday, 16 December 2000). Each man selected a publication and was then asked to look carefully through it thinking about a gift for a person of his choice. Probes during this process focused on the use of images (position in relation to other similar items, colour, size and shape), numerals (size, colour and placement) and print text (size, colour, brand names).
Response to Literacy Crisis Headlines

In light of the negative memories eight of the men had of school I was interested in their response to headlines from Australian papers about literacy and work. I also saw this as an opportunity to record each man’s ability to think analytically and structure an argument. The following headlines were shown, or read if requested and the man was asked to respond to any one he chose:

2. “Can’t read, can’t write, can’t eat” ([The Australian], 29 January, 1999: 2)
3. “New rules for young jobless: Learn to read or lose the dole” ([The Australian], 29 January 1999: 2)
4. “Learn or lose the dole” ([Herald Sun] [Melbourne], 29 January 1999: 2)
5. “Only one in five get it write at work” ([The Australian], 3 February 1999: 1)

Reading and Comprehension Task - Street Directory

From the first round of interviews participants talked about using street directories, for example, when finding new worksites or making deliveries. Like department store catalogues street directories are colourful. However, where the catalogues use photo-like images, street directories use symbols and colour codes. In addition, finding a particular street requires a reader to find the index of streets and then use alphabetical order to locate the street reference. I chose a Townsville and Thuringowa Street Directory (UBD, 1999) because I was familiar with the locality and believed the participants would not. This knowledge allowed me to ask probing questions to generate responses that would indicate the print cues each man was using.

Writing or Reading Task

The interview data in this project allowed each participant to talk about and reflect on literacy practices in their life at work and in contexts outside the workplace. This approach is similar to other studies of adults with literacy difficulties (Fink,
1998; Gerber and Reiff, 1991; Goldberg and associates, 2003; Hellendoorn and Ruijsenaars, 2000). The focus of those studies was the experience of having literacy difficulties. Incorporating reading and/or writing tasks into the research reported in this thesis allowed the researcher to record nine experiences of engaging directly with a range of texts that represent the type of literacy each primary participant nominated as his area of difficulty (see Table 4.5). Apart from a hard copy of each literacy activity (see Appendix D), tape recording the men as they explained how they went about these tasks revealed much about the tensions that engulf them when faced with a literacy task they find difficult.

Document Collection
Documents supporting the men’s perceptions of their literacy skills were not solicited for this study. However, one man lent several primary and secondary school reports and a vocational education report to the researcher. A one-page chronicle of his school years written by a family member accompanied this. Another participant showed margin notations he had written on meeting minutes and gave the researcher a note he had made at work of oral instructions from his supervisor. A third participant showed the researcher a note he had made of a question he had asked at a meeting.

Field Notes
Field notes were a small but important source of data. The researcher kept a separate notebook for each primary participant, which was used for recording field notes about him and his secondary participant(s). Notes consisted of the researcher’s post-interview reflections on issues such as setting, conditions and points raised that might require further investigations. In addition, when reviewing each interview, the researcher noted points for further probing as the open ended questions to be used in a following interview. If participants undertook a written task in the fifth round of interviews, it was written in the field notebook.

In qualitative research, data collection and data analysis are simultaneous processes initially involving identifying and describing “patterns and themes from the
perspective of the participants” (Creswell, 2003: 20). The next section of this chapter reports on the three-stage data analysis process used in the research process reported in this thesis.

PART 5 - DATA ANALYSIS
Data analysis commenced with the first round of interviews and was ongoing until March 2005. As an iterative process analysis consisted of continually reviewing increasing numbers of data as more interviews were recorded and repeatedly categorising and coding the major ideas that emerged in terms of sociocultural theory. A key theoretical tool chosen to analyse the data in a three-stage process was *Communication, collaboration and culture: the national framework of adult English language, literacy and numeracy competence* (Cope and associates, 1995) (herein called the Framework) as it is premised on the sociocultural notion that all human activity involves the use of physical or psychological tools and emphasises the role of cultural and social contexts in learning. The next part of the chapter outlines the purpose and benefits to this study of using this Framework. This is followed by an explanation and justification of the three-phase data analysis process used in this thesis.

**Literacy Competence Framework**

The Framework (Figure 4.2) was a landmark document that sought to define competence for the new world of work resulting from globalisation, especially new manufacturing and communication technologies. It represented a “generic approach [defining] competence in terms of broad clusters of abilities or attributes” (Marginson, 1993: 145). In deliberately using the term *competence*, as opposed to the more common term *competency*, the authors described a concept that reflected the varying values and priorities represented in “larger, social, cultural and economic agendas” (Cope and associates, 1995: 41) and explained the relationship between an individual and a specific context. It is a term that makes the “connections between social activity, work and learning” (Cope and associates, 1995: 44). Attention in the Framework focuses on the interaction of “performance and knowledge” (Cope and associates, 1995: 90) in social contexts as the basis of
competence. It stresses the way people act on the basis of knowledge gained through previous experiences and how that knowledge and individual identity are transformed through performance in specific social and cultural contexts. In particular it proposes that:

knowledge refers not only to what is learned in formal education, training and study, but also to the languages, cultural and gendered experiences, ways of knowing and doing, which have been learnt in a broader social setting.

(Cope and associates, 1995: 9)

Two specific elements of this statement are important to the current study. First, the historical nature of all learning is placed alongside cultural and social aspects of the workplace. Second, the broad clustering of abilities and attributes that define competence legitimate the tacit, learned on-the-job ways of doing in conjunction with other orthodox concepts of knowledge learning.

**FIGURE: 4.2 THE FRAMEWORK**

Fig. 4.2.: The National Framework of Adult English Language, Literacy and Numeracy Competence at a glance. Source: (Cope and associates, 1995: 15)
Approaching data analysis in terms of sociocultural factors, the current study stands in contrast to Gerber and Reiff’s (1991) research which reported on vocational and social issues relating to three frequently recorded factors about learning disabilities. Their study implied that the way individuals respond to a set of common inherent characteristics (that is, Dyslexia) determines their vocational and social success. The study reported in this thesis, through its use of the Framework, argues that sociocultural factors influence the development of contextually appropriate literacy skills even in the presence of a set of inherent characteristics (self-reported literacy difficulties).

**ASPECTS OF COMPETENCE**

The Framework presents six aspects of competence that represent a broad perspective on the different social and cultural contexts of the workplace and in the community, namely:

- task (procedural communication)
- technology (technical communication)
- identity (personal communication)
- group (cooperative communication)
- organisation (systems communication)
- community (public communication).

A range of literacy skills is the common element in these aspects of competence. The Framework (Cope and associates, 1995) provides detailed descriptions of examples on the types of activity that indicate aspects or stages of competence. These were summarised into sets of indicators, informed by the data to guide the analysis process. This approach is compatible with the principles of the Framework, which was designed not as an assessment instrument, but as a set of guidelines to be shaped by the context in which it is used.
Indicators of Task Competence

Task competence relates to procedural communication. Jobs that involve following step-by-step instructions, precise orders or comprehending and responding to suggestions exemplify the most basic level of task competence. At its most advanced, task competence is demonstrated by workers who regard a task as contributing to the holistic long and short terms goals of the company. Specific indicators used in analysing the data generated by this project include:

- Work was a goal oriented social activity
- Step-by-step instructions were necessary
- Was the work characterised by predictable fixed routines?
- The individual demonstrated accountability for the task
- The worker perceived that the task contributed to a wider company outcome.

Indicators of Technology Competence

The way that workers respond to their physical and cultural environment by means of tools and machines is regarded as technical competence. Increasingly, technical communication is shifting from actual tools to symbolic, media-based tools. Workers, therefore, with the most basic level of technological competence “can use technology effectively within clearly defined expectations” (Kalantzis and Cope, 1997: 109) while those who are highly competent are able to use technology in new and unpredictable situations and across diverse cultural settings. The following are the indicators of technology competence used to interrogate the data:

- Technology was used effectively to achieve stated outcomes
- The use of technology related only to specialised operations
- Known technology was applied in unpredictable situations
- Initiative was shown in identifying and solving technical problems
- The person demonstrated knowledge of several different technologies and was able to apply this knowledge to new and unpredictable situations
The person was able to relate and adapt technology to diverse social and cultural needs.

**Indicators of Identity Competence**

Identity competence is demonstrated through personal communication, specifically how an individual communicates and informally interacts with others. It is most frequently an oral form of communication. At a minimal level identity competence is limited to discussion about procedures, systems and technical aspects of work. Higher level skills, such as negotiating across a diverse range of attitudes and opinions and conflict resolution, are characteristic of advanced or collaborative levels of identity competence. In analysing the data indicators such as the following were used to determine each worker’s levels of competence:

- Learning was a process of receiving basic facts
- Personal discipline was applied to meet organisational requirements
- The worker identified with organisational values and culture
- The worker is able to express organisational values
- The worker finds opportunities to create and share personal goals
- The worker demonstrated personal mastery
- The worker was able to negotiate diversity and difference in the workplace
- The worker learns collaboratively
- The worker demonstrates awareness of how others see him/her.

**Indicators of Group Competence**

The notion of group responsibility, accessed as a result of cooperative communication, is evident in post-Fordist industrial structures. It reflects a transition from the minute divisions of labour typical of early industrial worksites to a team-based culture, characterised by a shared culture and cultural values, resulting in a common identity. Workers who function at a low level of group competence recognise and respond to the authority structures found in groups. They learn the rules quickly and act in response to them. On the other hand,
workers who demonstrate a collaborative level of cooperative competence
recognise and can build on the diversity within a group. They are comfortable with
changing group dynamics and value the range of experiences and skills within the
group to develop sophisticated internal resources. Eight indicators of group
competence are that the worker:

- Applied personal discipline in order to meet organisational requirements
- Learned and followed rules
- Understood instructions and acted on them when directed
- Engaged in work teams and other simple, limited group relationships that
  had clear boundaries or clearly defined tasks
- Established common ground based on compromise in discussions when a
  range of perspectives was presented
- Built upon group resources in creating new solutions to complex problems
  in a diverse workplace
- Used internal difference as a group resource
- Networked and engaged in mutually transformative dialogue around cultural
  perspectives.

**Indicators of Organisation Competence**

In terms of organisation competence literacy describes how individuals
communicate about a system or organisation. Within any organisation individuals
who demonstrate an ability to work for a common goal and recognise their position
in a contiguous hierarchy with fixed design structures function at a base level of
organisation competence. Those who are able to envisage the organisation as part
of a wider, globally influenced enterprise and are able to design structures to
enhance its performance are functioning at an advanced level of organisational
competence. The following are indicators of organisational competence.

- The worker understood that tasks were relevant to the organisation
- He/she demonstrated formal compliance to organisational structures
- The worker knew relationship between immediate superiors and inferiors
• The worker acted consistently with organisational values
• The worker knew designated organisational systems
• The worker made limited suggestions with respect of systems and values
• The worker was able to conceive the organisation in a global systemic context
• By investing part of their own person and experiences, the worker was able to actively redesign systems
• The worker created alliances and networks to influence change.

Indicators of Community Competence

The community aspect of literacy competence recognises the need for workers to engage in the wider community beyond the workplace, representing the particular company and its cultural values. Those who have a limited degree of community literacy competence have limited interactions about the business with those outside the company and what contact they have is generally “mediated through, or with the close support of specialist sales, complaints or information people” (Kalantzis and Cope, 1997: 128). Higher levels of community competence are indicated by sensitivity to differences in culture and communication and an ability to create new and diverse public relationships, resulting in new openings for local and global markets. Participants demonstrated community competence if they:

• Engaged in limited relationships with clients or the public, assisted by specialist support staff
• Accurately represented the organisation when speaking on its behalf
• Adopted the organisation’s image
• Demonstrated sensitivity to cultural and communication diversity when relating to clients
• Were able to create new local and global openings by attending to internal organisational diversity.
STAGES OF COMPETENCE

Cope and associates (1995) divided these six aspects of competence into three stages of competence. Each stage is a precondition for the next. Thus, from the centre, assisted competence needs to be achieved before reaching independent competence and collaborative competence cannot be achieved prior to independent competence. These three stages of competence permit an analysis of an individual’s learning trajectory. For example, a new employee is likely to function at an assisted stage of competence in the public aspect of work as s/he learns about the social culture of the new workplace. As s/he becomes more familiar with social patterns at work s/he will reach an independent stage of performance. At some time in the future s/he will make suggestions about changes to social aspects of the workplace or introduce a new worker to the workplace culture. This demonstrates a collaborative stage of functioning. Each of these stages has distinct characteristics defined by observable performance strategies and behaviours that act as indicators for that stage or movement between stages. However, it was necessary to add an earlier stage of nil or minimal competence to account for data reported in the current study. To qualify for this latter stage a participant needed to show that he had not attained an assisted stage of competence.

Indicators of the Assisted Stage of Competence

When workers have relatively simple or direct demands that can be met by working with the close support of a supervisor, they demonstrate an assisted level of competence. Characteristically, they focus on a single task and require a high degree of individual support “in the sense of being helped to do things or being told what to do, how to do it and when to do it” (Kalantzis and Cope, 1997: 102). Work in the organisation supports such dependency by allowing supervisors to read newsletters or memos to workers. Questions asked in interrogating the data for this study that help to determine if a participant’s performance or behaviour falls within the assisted stage were:

- Was he performing tasks according to instructions?
- Was he using technology as expected?
• Was he fitting into predictable systems requirements?
• Was he exercising personal discipline to meet organisational requirements?
• Was he fitting into groups?
• Was he interacting with the public according to fixed patterns?

**Indicators of the Independent Stage of Competence**

An individual demonstrates a stage of *independent competence* when routine support is no longer necessary. Workers demonstrating independent competence exhibit autonomy in regard to “commitment, responsibility, speaking for and on behalf of the organisation” (Kalantzis and Cope, 1995: 101). Simultaneously, they demonstrate recognition of times when it is appropriate to seek out help. In the same manner workers at an independent stage of competence are able to offer assistance when requested by others. They act as members of a common corporate culture, bonded to others in that culture and responsible for enhancing the corporate mission and vision. Typically, workers who participate in team decision-making demonstrate independent competence. Questions that aid in determining the independent competence of participants in this study were:

• Was he performing tasks according to a personal sense of what needs to be done in the organisation?
• Was he taking initiative in the use of technology?
• Was he representing the system and replicating its culture through his expression of its values, his actions and his communication patterns?
• Was he contributing actively and constructively to the established culture of the group?
• Was he representing the organisation to the public?

**Indicators of the Collaborative Stage of Competence**

Workers who demonstrate *collaborative competence* are not absorbed in a single task as is the case for workers with assisted competence. These workers demonstrate flexibility in negotiating the complexity of contemporary workplaces,
including ability in co-ordinating multiple and/or related tasks using a range of interrelated technologies. Functioning at a level of collaborative competence entails:

- recognising cultural differences, working with multiple layers of identity, negotiating, finding common ground or creating new ground, making alliances, linking divergent networks, focusing on the fine subtleties of those differences that are closest to home and making global connections.

(Kalantzis and Cope, 1995: 103)

Team leaders or mentors typically function at a level of collaborative competence. Questions used in analysis of data for the current study that distinguish participants with this level of competence included:

- Was he able to demonstrate that he routinely creates new tasks and reformulates old ones?
- Was he able to enhance the technological capacity of the organisation?
- Did he influence systems change?
- Could he demonstrate that he negotiated cultural differences?
- Was he able to shape group dynamics and create new and diverse public relationships?

These indicators remain consistent through all six aspects of competence as set out in the Framework (Cope and associates, 1995). They form the basis of the second, data display stage of the analysis (Miles and Huberman, 1984: 21). The next section outlines how the Framework has been incorporated into a three-stage data analysis process.

A Three-phase Process of Analysis

The three-phase iterative data analysis process employed in this study used an “unordered meta-matrix” (Miles and Huberman, 1984: 151). This matrix is suited to studies of several individual people, each constituting a case, such as in this study. As a type of “pattern-matching” (Yin, 2003: 116) it consists of three phases—data reduction, data display and conclusion and verification (Table 4.7). The second phase, data display, consists of three steps (Miles and Huberman,
1984), each moving the analysis from nine individual or multiple cases (Yin, 1994) towards producing a single study.

Analysis of the large number of interview data in this study was a major task. One difficulty was introducing sufficient interview data so that the participants were represented adequately and fairly. One reason for this problem was that incidents and themes were introduced and probed over two or more interviews, sometimes resulting in large numbers of data on a particular theme. A second reason was that some participants were more forthcoming than others. For participants who were less candid, the researcher’s task was to link parts of an extended conversation. For participants who were expansive, the researcher’s role was to extract salient points from long narratives. The result was the generation of a large number of data.

To make an adequate and fair representation of each case, data from the range of interviews were analysed across several chapters in a three-phase process (Table 4.6). As part of the first phase, data reduction, initial biographical data were presented in Chapter 5 and analysed in terms of aspects of competence in Chapter 6. Data display, the second phase of analysis, commenced with a within category

<table>
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<th>PHASE</th>
<th>Data analysis process</th>
<th>Data Analysis Chapters</th>
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| 1     | **Data reduction**    | Chapter 5: introduced participants  
|       |                       | Chapter 6: located aspects of competence |
| 2     | **Data display**      | Chapter 7: stages of competence before work  
|       | • within category sorting | Chapter 8: stages of competence in the working years  
|       | • across category sorting | Chapter 9: drawing all cases together  
|       | • across category clustering | Chapter 10: reviewing cases in sociocultural terms |
| 3     | **Conclusion drawing and verification** | Chapter 11: drawing conclusions and verifying findings |
sorting procedure. This step, presented across two chapters and using indicators derived from the data, illustrated which of the three stages of competence each primary participant achieved. Chapter 7 focused on the incidents prior to commencing fulltime work or the job the nine participants were undertaking at the time of interview. Chapter 8 focused about the data on literacy practices at work. Chapter 9 drew all nine cases together. In an across category sorting procedure it compared the nine cases in terms of stages of competence. Data analysis continued in Chapter 10 where data were clustered across cases around the sociocultural themes discussed in Chapter 3. Data analysis concluded with drawing and verifying conclusions in Chapter 11. The next part of this chapter provides more detailed justification for each of the three phases as they appear in the data analysis chapters.

**DATA REDUCTION**

Data reduction refers to the process of sorting through the data as they are collected and assembled and “selecting, focusing, simplifying, abstracting and transforming” (Miles and Huberman, 1984: 21) them so that they can be classified for deeper analysis. At this stage a volume of data was reduced to workable units that could be organised and verified, enabling the researcher to focus more clearly on what additional data needed to be gathered. In this thesis data reduction was reported in Chapter 5 where the nine participants representing the nine single cases, the core of this study, are introduced. That chapter consists of data describing each of the nine participants, focusing in particular on their construction of their school experiences and introduction to full-time work. This is achieved through the device of short biographies or pen pictures. Data presented in Chapter 5 were analysed in terms of the six aspects of literacy competence as described in the Framework (Cope and associates, 1995). This step of analysis was reported in Chapter 6.

**DATA DISPLAY**

During the second phase of analysis the researcher asked questions of the data, seeking to “understand what is happening and to do something based on that
understanding” (Miles and Huberman, 1984: 21). In this instance, events or critical incidents around literacy engagement reported in the data were mapped against the aspects and stages of competence reported in the Framework (Cope and associates, 1995). In order to identify changes in stages of competence over time events were analysed with regard to aspects of competence and stages of performance for each primary participant. This part of the procedure was an iterative process, with each of the iterations refining the previous one. Based on Miles and Huberman’s (1984) recommendations this thesis uses a three-step format to achieve data display. Each of these steps is described below.

**Within Category Sorting**
In the first step of the data display process the researcher created a multiple case unordered meta-matrix. This involved sorting and interpreting data for each individual in terms of aspects and stages of competence as shown on the Framework (Cope and associates, 1995). The sorting process allowed the researcher to view the data for each case within the bounds of selected categories, in this instance, stages of competence. In this thesis this step of analysis was reported in Chapter 7 and 8. Stages of literacy competence prior to the men entering the workforce were the focus of Chapter 7. Stages of competence in the working years were the focus of Chapter 8. The aims of splitting the data in this fashion were to demonstrate patterns of competence interpreted as the response to critical incidents and compare the development of competence over time. At the end of this step the data were assembled on a matrix, one axis being the primary participants and the other being the three stages of competence development, namely assisted, independent and collaborative.

**Across Category Sorting**
The second step of the data display stage, *across category sorting* (Chapter 9), involved the identification of commonalities across the individual cases using the same categories that were used in the previous step. This was the step where the
focus was on all cases as illustrations of particular categories. The researcher interpreted all cases with respect to each of the six aspects and the three stages of competence in the Framework (Cope and associates, 1995). The tool used for analysis at this step was Hull’s (2000) eighty metacategories for literacy functions. These categories and metacategories allowed an analysis of the types of literacy practices the men were engaging in. Further it suggested the reasons for achieving particular levels of competence.

**Across Category Clustering**

The third step of data display was reported in Chapter 10. It examined sociocultural factors of the workplace that could explain why some men developed competence in particular aspects while others did not. This step examined responses to critical incidents across all cases seeking to develop an interpretation, from a sociocultural perspective, of why responses were identical, similar, varied or completely different. For instance, it asked how important tools and signs were in demonstrating literacy competence as described in the reports of critical incidents. The evidence for this was found in the participant’s descriptions of tool and sign usage. Analysis at this level took into account factors in the participants’ environment or background that may have influenced their responses to a particular set of circumstances. The “recurring regularities” (Merriam, 1990: 133) that arose in this step informed the framework for discussion in the next stage of analysis.

**Conclusion and Verification**

Chapter 11 presented the final phase of analysis, conclusion and verification and the validation process used in this study. At this stage the researcher drew realistic conclusions based on the interpretation of the data as analysed: “The ultimate goal is to treat the evidence fairly, to produce compelling analytic conclusions” (Yin, 1994: 103). Two features of this final phase which assisted in the verification and thus enhance the credibility of this study, were member checking and triangulation.
Member Checking

Member checking, that is, participants reviewing and responding to the researcher’s interpretation, is “the most crucial technique for establishing credibility” (Lincoln and Guba, 1985: 314) in qualitative research. The principal guiding data collection and analysis was that, as the researcher, I needed to accept the reality as constructed by the participants and represent that construction as accurately and truthfully as possible. Member checking when the participants tested the researcher’s interpretation and reconstruction of that reality was a mean of verifying my interpretations and representations.

In this study member checking took three different forms. The first was inherent in the mesh interviewing process which demanded re-examination of statements made by participants during a particular interview to clarify ideas that were emerging. On many occasions questions I asked were prefaced with phrases such as I’ve looked at your responses … (James 3: 1) or going back to some of the things that you told me … (Robert, 2: 3) that indicated explicitly that I was interpreting the participant’s construction of reality. For further examples see Peter, 3: 2 and Charles, 4: 9. Participants were asked to confirm their comments and illustrate their perceptions with critical incidents. Participants did not hesitate to correct me when I had misunderstood or misinterpreted their words. Stalin, for instance, used the example of doing puzzles as a literacy form. I interpreted this as a skill that he enjoyed. In the second interview I raised this and he corrected me, saying it was an example (Stalin, 2: 91) and did not refer particularly to him. Along the same lines when George described his feelings of foolishness and shame when his colleagues learnt that he could not read, I interpreted these as the feelings of a person with low self-esteem. George responded that he had never felt bad about himself (George, 2).

The second form of member checking was for each participant to confirm the accuracy of the transcribed raw data. As each interview was transcribed and edited (following the procedure explained previously) it was posted to its respective
participant (primary or secondary). All participants were encouraged to provide feedback to the researcher by reading and reviewing their transcripts. Some primary participants reported that they asked a trusted family member to read the transcript to them. A week to ten days after posting, the researcher contacted each primary participant by telephone to check that they had received the transcript and to gain an indication of its accuracy. Primary participants were also able to respond at subsequent interviews. George, Peter and Dasher requested minor amendments, such as changing “engine” to “motor”, to one or more transcripts. All their suggestions for corrections were made. Secondary participants were sent a pro-forma asking them to note any amendments. No secondary participants requested amendments.

The third form of member checking consisted of asking the primary participants to confirm the accuracy of any of the researcher’s writing. This included various drafts of Chapters 5 to 11 as well as the text of conference papers and seminar presentations. These were forwarded to the participants prior to presentation in another forum. Although no changes were requested the primary participants enjoyed being privileged in this manner. Several participants commented that they found this process valuable and useful and all believed that it has given them a stake in the research and eagerly anticipate the final conclusions.

**Triangulation**

“Good research practice obligates the researcher to triangulate … to enhance the validity of research findings” (Mathison, 1998: 13). Basing a piece of research largely on the recall of a select few individuals begs the question of who is constructing the reality. In this study the participants constructed the reality being analysed. For any number of reasons recall of situations may vary or coincide because of the way each respondent has constructed or reconstructed that incident. A way of confirming or corroborate findings is to triangulate.
Triangulation “makes use of multiple and varied sources” (Creswell, 1998: 202). When triangulation occurs through the data collection process, the sources may include “observation, interviews [or] site documents [that provide] … sufficient quality to instil confidence in [the researcher’s] interpretations and conclusions” (Freebody, 2003: 77). In this study triangulation was achieved in a number of ways. First, an interview with one or more secondary participants, nominated by the primary participants, confirmed much of the primary participants’ comments. Each secondary participant was interviewed once. Open-ended questions for each interview derived from the first four interviews with the associated primary participant. The full text of the questions for each secondary participant is in Appendix C. The questions were carefully structured to allow secondary participants to talk about the primary participant without the researcher asking directly about any of the critical incidents disclosed in earlier interviews. The thinking behind this strategy was to ascertain whether the incidents critical to the primary participant were nominated as such by the secondary participant without prompting on the part of the researcher. This proved to be the case for incidents described by James, John, George, Robert, Charles and Stalin.

The second method of triangulation was confirmatory literacy tasks. Although most of the primary participants initially said that their working life did not involve any literacy tasks, they did talk about literacy tasks that they engage in regularly. These included: reading notices, maps, plans, safety signs; writing memos and, for some, reading and writing letters and reports; following set procedures; reporting to supervisors and teams; studying for different vocational certificates; and participating in a range of meetings. I decided to confirm some of the literacy behaviours reported by the primary participants by embedding literacy tasks within the interview process. As another form of data this provided opportunities for participants to demonstrate the strategies they used when undertaking tasks that involve literacy. However, the surprising result of undertaking these activities was the effect on the men. Many realised that they have developed sophisticated modes
of engaging with a range of oral and written texts, contradicting their initial comments about their uses of literacy.

A third form of triangulation was documentary evidence. Stalin lent documents relating to his school history. Peter showed me a question he had written during a Shop stewards’ meeting. James showed me the margin notes he makes on safety committee minutes and also gave me a memo he had written about a particular task at work. I interviewed Robert in his office where he was able to indicate letters and reports in varying stages of completion. Each of these examples demonstrated the use of written literacy in different work contexts.

Presenting papers related to the study at conferences and seminars was the fourth mode of triangulation. The benefit of this to the study was twofold. From the researcher’s perspective it provided opportunities for peer review. Feedback received helped to refine my thinking and the clarity with which I analysed and reported the results. As has been previously mentioned, the primary participants were asked to review all the papers I presented deriving from this research. They were enthusiastic and spoke in admiration of other participants. Additionally, they claimed to have gained insight about themselves. This last point about having the participant review the products of the research also relates to the fifth form of triangulation. Submitting drafts to primary participants - the data source - for ongoing review of the researcher’s reconstruction and interpretation is a valuable and important form of triangulation (Freebody, 2003; Stake, 2003). Mesh interviewing which was central to this study is therefore a form of triangulation as well as a form of member checking.

To this stage this chapter has detailed important methodological elements of the research process used to generate, analyse and validate data in this thesis. These elements have included the theoretical perspective, research strategies and design and data collection and analysis. Morse, Barrett, Mayan, Olsen and Spiers (2002: 2) caution that, even with the emphasis placed on these methodological elements,
research that lacks rigour “becomes worthless and loses its utility”. The next two sections set out the strategies used to a) demonstrate rigour and b) protect the participants. Part 6 of this chapter reviews issues of replication, validity and reliability in this study while Part 7 outlines some of the ethical considerations that had to be dealt with, especially as these relate to risk management.

**PART 6 - ENSURING THE QUALITY OF THE STUDY**

The notions of replication, validity and reliability that are used as benchmarks of quality in research have their genesis in quantitative methods where numbers and formulae can be reproduced in a range of settings. Using these notions as evidence of rigour in qualitative research has been a contentious issue for at least two decades (Morse and associates, 2002). It has been argued, for example, that the subjective, social world of particular individuals cannot be studied in the same way as the objective, natural world of the mathematician (Oliver, 1992). When social worlds are studied participants may be expected to construct that world to their best advantage. Researchers also “recognize that their own background shapes their interpretation” (Creswell, 2003: 8).

Accounts provided by participants in the research reported in this thesis, as has been noted earlier, were constructions of their social world. The question of determining the quality of research that accepts that “knowledge is socially constructed and a product of the particular historical context within which it is located” (Oliver, 1992: 106) poses particular problems for educational researchers. For example, all the participants (primary and secondary participants as well as the researcher) in the current study had agendas that became part of the research. Inevitably, all brought assumptions to the study; some of these assumptions were well founded and others needed revision. This is illustrated by the assumptions about the individuals I, as the researcher, brought to the study. In the course of conducting the research my ideas and presumptions were challenged. My prior experiences suggested that I would be told about strategies, such as leaving non-existent reading glasses at home. Instead I discovered individuals who use a range
of much more subtle techniques, such as studying body language, using environmental text (print and iconic) and using digital technologies. The assumption that adults somehow became accustomed to the social problems associated with poor literacy was challenged repeatedly as the men spoke about their desire to read, write or spell better. This was highlighted in their descriptions of everyday activities that they find are either difficult or impossible, such as reading roadside signs, ordering from the menu at a fast food outlet or restaurant, or reading a departure board at an airport. The data collection and analysis process became a collaborative learning process. Collaboration in itself is a useful tool for planning processes or developing ideas. In the research process, however, it might be seen as removing the researcher’s objectivity and lessening rigour. This is the “the problem of objectivity” (Barnes, 2001: 10).

In reflecting on emancipatory disability research nine years after Oliver introduced the concept, Barnes (2003) commented on the problem of objectivity in research where there is interaction between the researcher and the researched. Elsewhere suggested that to reduce claims of bias, researchers should clearly state their position, ensuring that the “choice of research methodology and data collection [and analysis] strategies are logical, rigorous and open to scrutiny” (Barnes, 2001: 11). The section entitled ‘My story’ in Chapter 1 of this thesis demonstrated the researcher’s initial position and the material presented in this chapter indicated the rigour and logic in the research design and the reasons why the researcher’s position changed. While this research makes no claims to being emancipatory (Oliver, 1992, 1997, 2003), the principles underlying the emancipatory research paradigm are useful in assessing the credibility of the current study. The three key fundamentals, of “reciprocity, gain and empowerment” (Oliver, 1992: 111) are important in demonstrating the quality of this study.

Reciprocity
One of the dangers of researching a marginalised group such as those in this study is that the social relationship between the researcher and the researched can be one of dominance, i.e., power over the latter by the former (Barnes, 2001; Oliver, 1992,
1997, 2003: Vernon, 1997). Keeping an open reciprocal relationship was a useful way of dealing with this problem in the current study. The trust and confidence that engenders reciprocal relationships was built into the research design, specifically in the interview process and the dissemination of raw, interpreted and reconstructed data. Having detailed the design earlier in the chapter, these elements are summarised here.

First, the interview process was designed to be reciprocal, depending on “continual revision by the participants of the hypotheses and interpretations that are central to the project” (Freebody, 2003: 78). On several occasions participants reminded me that there was something they wanted to add to a statement in a previous interview or that I had not asked them enough questions about a particular incident. For example, Robert suggested, after five interviews, that the interview process needed to have been longer. From my perspective, as researcher, I was able to probe the issues of interest to this study. Participants indicated, through their responses and requests, that they were not inhibited by my predetermined questions or insistent examination and re-examination of their recollections.

Second, reciprocity was apparent in the way participants reached mutual agreements with the researcher on interview dates and times. In effect they were interviewed at a time and in a setting of their choice. The limitation for participants in the vicinity of Lachlan was that meetings needed to coincide with times that the researcher was in the area. Given the constraints all participants had around travel, work, family and personal commitments, these arrangements were relatively easily made. The interviews, as the main mode of data in collection, were vital in establishing reciprocity. At the commencement of the process I judged that to have nine men talk to a complete stranger about an emotive and personal issue I would have to be very accepting of their stories. That is, I did not challenge their perceptions. Rather, I contested, challenged, deconstructed, questioned and probed their constructions of incidents, drawing out meanings that they had not considered, while demonstrating empathy and understanding.
Third, at all times during the data collection and analysis phase, the participants were kept informed about the progress being made. Transcribed interviews were sent to each participant who was at liberty to make alterations or erasures. As noted in part 5 of this chapter some men exercised this option on a few occasions. In line with an agreement made at our initial meetings, all primary participants were forwarded any texts deriving from the study that made reference to them. This had an interesting effect. The men enjoyed getting the transcripts and conference/seminar papers. If they could not read them themselves, usually their partner read it to them. One man kept his by his bed so he and his wife could read or reread a bit every night. He has kept them all so his grandchildren will know that he took place in some important research. All have requested a copy of the final thesis. I gained the impression that sharing this information brought couples closer and helped the men to talk about things that had worried them for many years. Participant comments suggested that reading or hearing about others who also struggled with literacy helped most participants to recognise their strengths. I also found that, as they read more of the data, they were more open, possibly because they felt happy with the sharing relationship.

Finally, while conducting the interviews, as researcher, I was at pains to empathise rather than sympathise. That is, participants often revealed information that was distressing or shocking or made the researcher angry. However, treading the fine line between social activist and expert teacher, I chose to offer support by listening sensitively and responding genuinely. On occasions I suggested other avenues of support. Participants were at liberty to accept or reject these without influencing the study. While there were many opportunities when recounts from my own experiences would have been appropriate, I chose to limit these so as not to detract from the participants’ stories. Many of the participants had their own motives in agreeing to take part in the study that placed a reciprocal demand on the researcher, i.e., to allow them to construct their responses in terms of their own agendas. For example, Stalin introduced the driver training incident into his narrative. Teaching employees to drive private motor vehicles was not standard practice at Firebrand
and had no connection to Stalin’s job, nor did it have a large component of the functional literacy skills Stalin struggles with. However, he regards this incident as pivotal in changing his identity in his worksite. I did not understand the significance of this incident until I interviewed Ray, who regards the demonstration of support for Stalin by his colleagues as a turning point in Stalin’s workplace involvement. From that time on Stalin became more active and involved, taking on tasks with a determination and confidence that were new.

Gain
When the subjects of educational research are individuals with disabling conditions, such as literacy difficulties (self-reported or recognised), there is concern about who gains from research. Some researchers express angst that the major gain has been their own (Oliver, 1997; Vernon, 1997). In any research relationship the gains of all participants need to be considered. Where all the participants contributed voluntarily and for no immediate financial gain, like payment for interview, such as in this study, it is difficult to specify the gains that were built into the research design. However, modes of reducing the risk of major gain being the researcher’s were built into the data collection and analysis process.

Using open-ended questions during the data collection process provided opportunities for participants to infuse their own experiences, perceptions and constructions, adding richness to the data. The consequences of probing participants about these experiences enabled them to think about their literacy experiences and skills in new ways. As a result the participants developed cognisance of their own particular literacy skills and gained confidence to cope with new literacy encounters. An unintended gain came through asking participants to review seminar and conference papers. Several commented with admiration about the experiences of other participants and noted that they had gained insights into their personal qualities, strengths and life course. As a result of the research, most primary participants gained personally and some gained professional and financially. Sam, for example, was considering further study because he realised that his spelling problems were not the obstacle he had considered them to be.
Charles was more confident about his skill and knowledge as a meatworker. James commented that in discussing his literacy problems with a complete stranger he had begun to realise that they did not dominate his life any more. He was less concerned about keeping his problems a secret.

While the primary purpose of this study for the researcher was to investigate issues of literacy, there were several subsidiary and sometimes surprising gains. As the researcher I gleaned insights into the long-term effects of inadequate literacy attainment in the school years from the perspective of nine men. I began to understand for the first time why some children do not like school. Importantly, I was able to observe and listen to accounts of the ways that non-orthodox literacy skills are used habitually to circumvent literacy demands, at the same time learning about the array of literacy practices in different worksites. Along with this came an awareness of how tenacious human spirit can ameliorate, to some extent, difficult circumstances.

**Empowerment**
The design of the study demanded that participants were actively engaged in co-constructing a narrative. Most found this a useful approach that enabled them to introduce their thoughts, ideas and suggestions into the interviews. The practical activities (particularly the map reading activity), for example, had their genesis in comments made by several participants. Importantly, this shifted the researcher from a view that literacy skills could be isolated in a work context to acknowledging the veracity of literacy as a skill that is represented in all areas of life.

**Generalisability**
This study analysed the constructed narratives of nine men at a particular period of time, in particular contexts. The aim of the study was “not to generalise to another place or time” (Rice, 2000: 73). Therefore the study makes no claim to replication, generalisability, reliability or validity beyond those participating in the study. The circumstances and experiences of the participants may resonate with other reports
or studies (see Facey, 1981; Hall and McFerran, 2001; Rodis and associates, 2001c) but are entirely beyond the scope of this study, since there are no statistical data in the current study that could be used for generalisation purposes. However, the narratives, the comments and the sentiments expressed by the participants are very similar, if not almost identical, to those from participants in other studies (Gerber and Reiff, 1991; Goldberg and associates 2003; Hellendoorn and Ruijssenaars, 2000; McNulty, 2003; Rodis and associates, 2001). Given the detail provided it is possible that the study could be replicated and similar conclusions could be reached, thus achieving a naturalistic generalisation.

Explanation so far has focused on issues of how data were collected and analysed within a well-structured methodology. The next part of this chapter details the protocols that were used to protect the participants.

**PART 7 - RESEARCH ETHICS AND RISK MANAGEMENT**

Researchers have the responsibility of protecting participants from risk or harm, particularly if the participants are vulnerable (Creswell, 2003). Part of the researcher’s role is to assess the potential for risk. Consideration, including issues of “physical, psychological, social, economic, or legal harm” (Creswell, 2003; 64), commences with the research proposal. Proposals for research involving human participants have to be approved prior to data collection commencing. The Research Ethics Committee of the University of Newcastle (Australia) approved the proposal for this study (HREC Approval No. H-878-0400, see Appendix A).

The primary participants who contributed to the research reported in this thesis lived with a personal concern that was very important to them. They believed their self-perceived poor literacy skills made them vulnerable and at risk of “exposure and embarrassment, as well as loss of standing, employment and self-esteem” (Stake, 2003: 154). Sam demonstrated this vulnerability in not nominating his supervisor as a secondary participant. Dasher demonstrated the same insecurity by not nominating any secondary participants. It was this kind of susceptibility that
kept George silent about literacy at work for twenty years. In such a situation the researcher has three primary responsibilities in order to minimise risk to participants. First, there should be agreed protocols for disclosing identifying information. Second, the researcher actively protected participants’ identities and third, the researcher should avoid “low-priority probing of sensitive issues” (Stake, 2003: 155). The next section of this chapter provides details of how these were achieved in the current study.

Disclosure Protocols
Part of the Information Statement (Appendix A) provided to primary and secondary participants indicated that they should provide the researcher with a pseudonym and that they would be asked to review audio tape transcripts and any papers written for conferences or publication which made reference to data obtained from them. In addition, they were informed (verbally) of the pseudonyms for their cities of work and, in the case of Lachlan, the name of the literacy teacher. Secondary participants were asked to use the pseudonym of their primary participant during their interviews. All were happy to do so.

Protecting Identities
To protect the identity and preserve the confidentiality of all the participants in this study coding has been used extensively. All names, including primary and secondary participants, colleagues, spouses, children, cities, suburbs and companies, are coded, through the use of pseudonyms. Primary and secondary participants nominated a pseudonym, as did Joan, the literacy teacher/researcher and gatekeeper. Even though some primary participants worked for the same company and attended, at some stage, the same literacy classes none was aware that the others were respondents in this study. This was achieved in two ways. First, the gatekeeper who acted on the researcher’s behalf approached each man individually and privately. Second, all of these men chose to be interviewed at their homes and did not come in contact with any other participants. Details of all the participants’ recruitment and occupations are given in Tables 4.1 and 4.3 respectively.
**Low-priority Probing**
The focus of data collection in this project was literacy engagement, particularly at work. This was the priority in framing the interview questions and probing data. Since other social interactions, such as family relationships, were not a priority they were not focused on in data collection. Where a participant chose to mention family or other close personal relationships I did not reject the data. For example, one participant in discussing literacy engagement outside the workplace mentioned a separation and reconciliation with his partner that occurred during the data collection period. I chose not to probe this sensitive and emotive issue. Secondary participants Jane, Jack, Helen and Bill all responded as close family members of Charles, Sam and John, respectively. However, the questioning and probing in all interviews centred on literacy engagement, not private, interpersonal relationships. In Sam’s case the separation of the two is blurred because close family relationships have played a large part in reshaping his identity as a literate person. As the researcher, I found that I had to focus on interpreting these relationships in terms of Sam’s literacy.

James frequently talked about work in terms of jokes and humorous incidents. While these types of interactions are important in the workplace, incidents of that kind reported in the data demonstrated James’ literacy engagement. In a similar vein, John talked about some work tasks that he found distressing and alluded to unpleasant incidents at school. Probing on these occasions focused on literacy rather than personal interactions.

**Conclusion**
This chapter provided a detailed explanation of the design and structure of the data collection and analysis process used to describe and interpret evidence presented in this thesis. Each of the seven parts focused attention on a different aspect of the research design. Parts 1 and 2 were concerned with the theoretical perspective of the study and placing it within the broad spectrum of qualitative research.
Part 3 moved from the broad spectrum to particulars of the study reported in this thesis. It gave details of the participants, their pseudonyms, their selection, their occupations and their associated secondary participants. Part 4 provided details of data collection, emphasising the approach taken to interviewing.

Part 5 described the Framework (Cope *and associates*, 1995) which was the tool used to analyse data. It outlined indicators of aspects and stages of competence as the basis of interrogating data. Finally, this section described the components of the three-phase data analysis process, providing unfolding iterations of analysis to answer the research question.

Parts 6 and 7 of this chapter reviewed the strategies used to ensure the quality of the study and outlined the ethical protocol and procedures for minimising risk to all the participants. The research design represented a structured approach to data collection and analysis. The question the researcher asked at this stage is: did one or more elements of the research design or process unduly influence the findings?

The following seven chapters are largely concerned with data. Chapter 5 introduces the primary participants in the form of nine biographies (one for each participant). Each man’s experiences are drawn from the data and presented as a narrative of their literacy experiences from school up until they commenced long-term employment. In Chapter 6 these memories were analysed through the lens of the Framework (Cope *and associates*, 1995), in terms of a set of indicators outlined in part 5 of this chapter, to determine their relationship to the six aspects of competence. Chapters 6 to 10 continue this analysis by focusing on the stages of competence outlined in part 5 from different perspectives. Chapter 11 draws conclusions from the analysis and verifies findings with respect of current research in the field.
CHAPTER 5

Nine Lives

Introduction
Several contemporary studies document and give expression to the experiences of adult with lifelong literacy difficulties (Gerber and Reiff, 1991; Goldberg and associates, 2003; Hellendoorn and Ruijssenaars, 2000; McNulty, 2003). The earliest of these used an ethnographic method that allowed nine “adults with learning disabilities to speak for themselves” (Gerber and Reiff, 1991: xiii). From an insider perspective it addressed the way in which literacy disability impacted on participants’ experiences of education, vocational choices, the ability to function in a range of social and emotional contexts and the ways they adjusted to daily life. The current study paralleled the research by Gerber and Reiff (1994) in several respects. First, it investigated the literacy experiences of nine adults of the same range of ages (28 to 57). Second, it used the voices of the adults as the primary data. Third, the evidence related to their reflections on their literacy experiences over the life span.

There are some major differences between the two studies. First, while Gerber and Reiff (1991) interviewed men and women, the primary participants in the current study were all males. Second, in their study Gerber and Reiff (1991) determined levels of success in the life course based on educational achievement, vocation and salary. Initially the participants were categorised into high, moderate and marginally successful. Interviews and data analysis were framed by these predetermined categories. The data analysis reported in this thesis made no such predetermination of success or achievement. Third, in attempting to determine emotional success factors for the nine individuals Gerber and Reiff (1991) used general topics, such as severity and persistence of literacy related difficulties as a basis for an analysis of interview data. Categorisation of participants combined with the broad approach to analysis did not allow Gerber and Reiff (1991) to interrogate the issues that were at the core of the current study. Essentially the study reported in this thesis focused on the issues of identity and social interaction.
that enable men who self-report literacy difficulties to access and engage in a range of workplace literacies. From a sociocultural perspective Gerber and Reiff (1991) explored results in terms of what was the experience of these people as a result of having a literacy problem. The current study explores the process in terms of how sociocultural factors in their workplaces impacted on the nine participants in terms of their literacy and their identities.

This chapter is the first stage of the three-phase data analysis process discussed in chapter 4. As the data reduction stage it drew on a large number of data to introduce the primary participants using their own narratives, supported by data from secondary participants where available and when appropriate. The first section of this chapter briefly reiterated the way the oral data were represented in written text, as explained in Chapter 4. The second section of this chapter provided a set of nine descriptive pen portraits designed to present snapshots of men who struggle with literacy in their everyday working lives. It captured experiences similar to those in Gerber and Reiff’s (1991) study, giving the nine men’s accounts of the impact of school education and placed them within their individual work contexts. The purpose of this section was twofold. First, it allowed the reader to gain some understanding of the characteristics of each primary participant. Second, the information provided was an introduction to further analysis. Each pen portrait opens with a quotation from or about the participant that attempts to capture the participant’s spirit. This section concludes at the time the men started long-term employment. Each man’s story is reviewed briefly at the end of his pen portrait. The next section reviewed all nine biographies, highlighting six themes that became apparent at this early stage of analysis.

The concluding section of this chapter considered definitions of literacy. Given the two opposing views of literacy that were discussed in Chapter 2, the primary participants were asked how they defined literacy. As the data demonstrate, the answers had an intriguing and subjective tone. Each man defined literacy differently although in instrumental terms, according to his own experiences. The
definition of literacy each worked with helped to shape his identity and is important in considering his interview responses.

**REVEALING NINE LIVES**
The nine pen portraits that follow give brief insights into the nine primary participants whose evidence was presented and analysed in this and subsequent chapters of this thesis. The data in this chapter were taken from interviews conducted by the researcher with each participant along with added detail gained through one-off interviews with some secondary participants. These insights drew on each man’s memories of his school years. Many of these data were collected during the first round of interviews and raised issues and suggestions for the directions of subsequent interviews. A summary following each pen portrait highlighted these issues.

**Charles**

_I don’t care if you can read or write ... If you’re really interested in something, you’ll learn it._

(Charles, 4:12-13)

Charles worked in the meat processing industry. He remembered school as long, boring hours of _virtually just sitting there not being involved in any of it_ (Charles, 1:18), doing nothing. He recalled that at the end of the year he used to take his schoolbooks back home after being at school for a year and they’d still have nothing in ’em ... _I could’ve just given them to somebody else. They were brand new_ (Charles, 5:32-35). Although he recalled excelling in solid geometry, woodwork and metalwork, problems arose in reading and writing. He _just couldn’t do it. Couldn’t get a grasp on it_ (Charles, 1:30). What he learned one day _just wouldn’t be in my head_ (Charles, 1:31) the next.

When he did attempt the rare piece of homework, it was simply a matter of asking any one of his four older sisters to do it for him. _We would just read. If he asked, you just did it. [We] never thought that he couldn’t do it. He just wanted you to read it for him_ (Jane: 162-164). By nature Charles was charming, _always pleasant_
[and] very, very placid, very placid (Jack: 48) to the extent that people, like his sisters, were happy to respond to his requests. As Jane noted, no one ever said, “Well, why can’t you read it yourself?” Somebody would always pick it up and just start reading it for him (Jane: 31-32). It’s a hard habit for all of us to break, too, because we’ve done it for so long for him (Jane: 326). School held more confusion and puzzlement than allure or interest for Charles.

He didn’t like going to school. He was trying to hide the fact that he couldn’t read or write … so he wanted to leave school because it was too much pressure on him to cope … Oh, he used to try not to go to school. And he didn’t like going to school because it would have been hard for him … he just wanted to leave. He just didn’t like it. That’s what he’d say, “I just don’t like it. I just want to leave? … Yeah, I can’t imagine how hard it would’ve been for him.

(Jane: 263-281)

Eventually, when he was thirteen years old, the school arranged special permission for him to leave. Charles recalled philosophically that leaving school was a sort of mutual agreement (Charles, 1: 12) because he was bored. The teachers virtually said I was not much good at it and there was no point on pursuing or going there. I was getting very bored at being there. Not being able to anticipate [sic: participate] in a lot of the work.

(Charles, 1: 9-12)

In retrospect he believed it was more or less the school assisted me, like helped me, to leave school more than helped me to fix the problem (Charles, 5: 235-236). His family was confident that he would do well at work (Jane: 266). So he started at an abattoir owned by his father and worked as a slaughterman – labourer - learnt driving the trucks (Jane: 108-112).

School was an unrewarding experience for Charles. He remembered the frustration of trying to learn to read, the boredom and the isolation of not being able to participate. He implied that the latter was owing to literacy, or lack of it. He was the youngest child and the only son in a close-knit family and was able to leave school at thirteen years of age and enter his father’s business. At work and at home
fundamental literacy skills had never been a major problem. He was respected and admired by his family, friends and colleagues for the person he was.

**Reviewing Charles**

Even at school Charles was good at practical tasks—woodwork, metal fabrication and solid geometry. These were the skills he used in workplace tasks such as labouring, maintenance and truck driving. His working life, for example, revolved mainly around the meat industry with a brief period as an intestate truck driver. Recreationally he enjoyed building cars and reconditioning engines. In Charles’ opinion these activities did not involve orthodox or instrumental literacy skills.

But there was another side to Charles. As Jack noted he was placid. He was also very well organised and thought through problems systematically. The two are linked. Having a placid nature meant that he was not easily flustered. These two attributes were demonstrated on several occasions. During the interviews at his home we were interrupted by phone calls from family members with questions or requests for assistance. As an interested observer I noted that Charles did not become irritated but provided meaningful and useful suggestions that were clear, sequential and considered. On more than one occasion he commented that, as the only son, his mother and sisters looked to him for advice.

These episodes intrigued me. I was interested to know how much his skills in thinking through situations and working with people had impacted on his literacy and his self-perception. In other words, what were the sociocultural factors that allowed Charles to demonstrate higher order thinking skills when he had difficulty writing his own name? I was also interested to know about other higher order skills in which Charles engaged.

**James**

*We’ve taken a bloke who was fairly destructive to our business to being very, very constructive for our business*

(Mick: 141-143)
At school James remembered being placed in a class for students with lower abilities because of his poor literacy skills. He did not recollect being teased—noting that the kids at school knew you couldn’t read and you were in a lower class. It didn’t worry them (James, 1: 57-58). He recalled a different attitude from the teachers who didn’t have a lot of patience if you couldn’t keep up … they just let you go (James, 1: 18-20). He fell further and further behind and remembered being sent out of the classroom to go and paint the flagpole … a couple of times (James, 4: 321-322). He had no memories of the majority of teachers providing him with extra tuition or designing appropriate tasks. The only memorable variation on this was Sister Elizabeth, his teacher in fourth and fifth class (primary school).

She was a great nun … she knew. She understood straight away when I was in, like, fourth and fifth class. When you done exams, she used to take me to a room and read the questions to me. And I passed every one from then on in. ’Cause she used to say to me … “You listen. You pay attention,” she said, “because you’ll be doin’ it.” ’Cause I use to do them. She said, “I’ll be taking you aside and I’ll be readin’ them.” And, you know, she would. She was good.

(James, 5: 675-683)

James left school, aged fifteen, able to read ‘individual words but not sentences or anything like that’ (James, 1: 6). While literacy skills did not worry his school friends and the teachers, apart from Sister Elizabeth, had no patience, his first truly negative reaction occurred at his first job, as an apprentice panel beater. This first job was a real bad experience (James, 1: 25). 31 years later he recalls the ongoing harassment because of literacy problems as very nasty (James, 1: 37), resulting in some unpleasant exchanges that he was unwilling to recount. On reflection he considered it was lucky I could look after myself, really, ’cause they were real awful to me (James, 1: 55-56). His next job was at a local glassworks where the management wanted workers and was unconcerned about literacy levels. He was employed there for fourteen years and retrenched when it ceased trading. At the time of data collection James was a frontline worker in heavy industry, a job he had held for seventeen years.
REVIEWING JAMES

James was an interesting man to interview. He became quite animated on several occasions, even banging his fist on the table in one instance. His facial expressions and tone of voice added depth to his words. My field notes recorded several changes during this part of our conversation.

Initially he was very offhand when discussing his schooling. Although it had not been a positive experience he had no negative reactions from other students. Being very good at sport, (James, 1: 88) and streaming into a low ability stream may have been compensatory factors here. However, when discussion turned to his teachers, his eyes lit up with fury. The tone of his voice was raised and he became more animated. He reacted as if, on the whole, they had failed him. He implied that he knew why he was falling behind in class, why he was being sent to paint the flagpole and how putting him in the low ability class identified, labelled and stigmatised him. When asked how his teachers might respond to his life experiences, James promptly said that they would say he was lying (James, 5). A response like this to events of 40 years ago suggested a troubled relationship.

James demonstrated very different reactions when recollecting his teacher Sister Elizabeth. His face, eyes and voice softened. He spoke of her in awe and with respect. This response raised the questions: What was it about the interaction with Sister Elizabeth that made James feel as if he could learn? Was it that the nun did not demand demonstrations of functional literacy? Perhaps it was that she paid attention to James? Perhaps there would be a difference in the outcomes of students who attended state or private/religious schools? Reflecting on the comment from Mick, James’ work supervisor, quoted at the beginning of this pen portrait led to questions about the social factors that change a destructive worker to a constructive worker. Is there any relationship between this change at work and James’ earlier experiences with Sister Elizabeth?
Stalin

Someone that survived [school teachers].

(Stalin, 5: 554)

Stalin was a frontline worker in heavy industry until he was retrenched when his workshop closed. Now 38, he was the only participant in the study who received any formalised special tuition when he was at school. This resulted from his placement in a special facility for intellectually impaired students following many years of falling behind in the regular classrooms, although he has never been assessed as having an intellectual impairment.

His memories of school are of harassment [and] self-esteem problems (Stalin, 1: 5). Philosophically he recalled that he got pretty wild and angry (Stalin, 3: 227) because he could not cope with being embarrassed when he was made to look foolish. With maturity and the wisdom gained over time he believed that his responses to and the reactions of, his teachers and peers related directly to his learning problems.

I had a bad time at school and especially more so in primary school ... I was pretty uncontrollable. And I don’t think I coped very good at school. The point being I could easily get [to and] bug the other kids [and], bug your teacher. And basically, looking back at it now, the reason for all that was because I couldn’t spell, I couldn’t write and my maths was atrocious.

(Stalin, 5: 467-473)

His unruly behaviour resulted in punishments such as being removed to a storeroom or sitting in a corner with his back to the class (Stalin, 3). This type of humiliation induced in Stalin a real fear of looking foolish or being embarrassed and a consequent timidity. Stalin did not want to leave school, although he didn’t like school very much (Stalin, 1: 26). He left school prior to Year 12 because his parents were anxious about his chances of employment in a tightening jobs market. The thinking seems to indicate a disjunction between school and work. That is, school was a time of learning and moving into a secure, long-term job was the beginning of adult, independent life. This was not immediately the case for Stalin.
He worked in two or three short-term jobs before he found work with Firebrand where his father worked. He remained with that employer for twenty-one years until he was made redundant in July 2000 and also remained living at home with his parents.

**REVIEWING STALIN**

Stalin carried his school experiences with him every day. The most dramatic indication of this was the distinctive pseudonym he chose. He did not hesitate to nominate it and initially I did not question his choice. However, colleagues who read my work were puzzled by his choice of the pseudonym ‘Stalin’. When I sought a reason for the choice he said it was because he wanted a name that would be remembered, not because he was a despot but as someone who survived primary school teachers that he likened to Stalin because of the way they treated him (Stalin, 5). He carried a *lot of resentment against* [them] (Stalin, 5: 543). In his memory his primary school years were a time of fear, punishment and humiliation from both teachers and other students. These memories were not softened with reflections on his secondary schooling which afforded him the opportunity to learn basic decoding and encoding and engage in the school council (School Report, July 1975). Instead, his primary school experiences shaped his identity as self-defensive (Stalin, 3) and made him reliant on others and fearful of taking risks (Stalin, 2, 3, 4, 5).

Yet when I met Stalin I found him to be courteous, considerate, self-reflective, confident, organised, decisive and thoughtful in responding to questions. He always surprised me with his deep knowledge of current affairs and his ability to see relationships between past and current events, such as ethnic cleansing. Stalin’s school reports indicated that he displayed “a good general knowledge” in Social Studies (School Report, November, 1977) at school. He appeared to have continued to build on this strength.
At his initial interview I felt a tension between the child he was describing and the adult talking to me. I began to wonder if the sociocultural practices at school—the cycle of harassment, acting out and punishments—had created a shy, timid adolescent with low self-esteem. What were the practices at high school that enabled Stalin to gain basic encoding and decoding skills and had the fears of a tightening job market interrupted this process? What were the sociocultural factors in the workplace that had created a self-assured adult in an era that he described as golden (Stalin, 4: 209)? Was it the culture of the workplace or was it the influence of a particular individual? Was there a time in the workforce that was not golden? Finally, had retrenchment been a factor in Stalin’s literacy engagement?

Robert

*You’ve got to grow and you have to be able to learn by your mistake.*

(Robert 1: 167-168)

Robert was an Industrial Officer for a trade union. He came from a financially and materially impoverished rural background (Robert, 1) and regarded school as having failed him because of its inadequacies, which he believed are still, to some degree, apparent. *They don’t focus on getting the most out of the pupils, like they seem to just focus on the scholars … and forget about the rest* (Robert, 1: 17-19).

Home life was difficult for Robert. His father milked the cows at 2 am before going off to his day job. Of an evening Robert and his mother did the milking and Robert tended the vegetable garden, while his sister helped care for their brother who had severe disabilities. At fourteen and a half, he put his age up to get a part time job to help support his family. So for a period he was helping on the farm, working part time and attending school. His parents could not afford to purchase school textbooks and his assignments were often completed on unused pages torn from old exercise books. With the only table in the house being the kitchen and sharing a bedroom with two other brothers Robert had little time or space to study. Although he believed he was intelligent enough to do well at school he felt that the teachers did not understand his situation. He felt they were teaching to an elite.
In the social scale, I was down in the [socioeconomic] dumps, but certainly they weren’t interested in that. They focused on … kids with plenty of money or parents with plenty of money and forgot about the rest.

(Robert, 1: 27-30)

Robert implied that the teachers disregarded him because he was socioeconomically disadvantaged. In attempting to help out his family he undertook tasks that took him away from his school studies. In his opinion the teachers did not recognise this or make any allowances for it. He believed that there was and still is a lack of connectedness between schools and the real life experiences of individual students (Robert, 2).

From a well-regarded student in primary school, Robert’s grades slipped badly in high school. By Year 10 the battle to earn money to help support his family, assist on the farm and succeed at school had taken its toll on Robert. Owing to a perceived lack of interest on the part of his teachers Robert decided that the school system sucked (Robert, 1: 9). He did poorly in his Year 10 examinations and decided to leave school to help support his family. He left school able to read, spell and comprehend but feeling inadequate in his ability to use written and oral expressive language. The main lesson he appeared to have learnt at school is that he could learn without seeking help from teachers or peers (Robert, 1).

From his first fulltime job in a wool store he moved into a horticulture apprenticeship funded by weekend work with a landscape gardener. Robert did not find the academic component of his apprenticeship difficult even though he never wanted to be in the classroom (Robert, 1: 107). However, his home and work circumstances meant that assignments were often submitted late and the college suggested he work with a study buddy to complete his apprenticeship. He rejected the offer, preferring to battle on my own (Robert, 1: 114), reflecting the independence he had learnt from his school experiences.
He believed that many of his trade teachers raised their eyebrows at his approach to assignments and examinations. Often he chose to write a criticism of the set topic or task or even the stance of the teacher who had set it, demonstrating conceptual and analytical skills that were noted by others in the trade union he belonged to (see Scott: 135-139). Nonetheless he successfully completed the academic aspects of his apprenticeship. He recalled that he had a rebellious nature and a willingness to speak out. Scott, his current supervisor, remembered him as someone not shy of giving his opinion. *He's always had something to say. He's always outspoken about anything and he's never backward in saying something* (Scott: 255-257).

Being vocal about social equity issues meant that he was often seen as a troublemaker, bringing him into conflict with his employer and sometimes the union.

**REVIEWING ROBERT**

Sociocultural practices at high school shaped Robert’s identity as a determined, stubborn and self-driven man. These attitudes, along with an ability to think analytically (Scott: 137), saw him move from labouring, through an apprenticeship and into a mid-level union position. The attitudes he learnt in school about self-reliance and rejecting the assistance of others have ramifications for sociocultural theory. For example, current conceptions of Vygotsky’s ZPD suggest that learners accept and enjoy the assistance of expert others. As Valsiner (2003) argues this is not always the case. Robert’s situation exemplified this position.

Without collecting data from his teachers it was impossible to say whether they understood his circumstances or rejected him because of his socioeconomic status, as he claimed. Whatever their motives, it is important to recognise the effects on the student who perceived an attitude of rejection and rebelled against it. ZPDs could not be established because the learner rejected the assistance.

The questions arising from Robert’s story were: what are the sociocultural factors that allow an adult like Robert to become less defensive? How does he learn to
communicate and work with his colleagues to solve novel and sometimes difficult problems?

John

*You learn … watching other people. … You learn all the time.*

(John, 3: 249-253)

In 1968, when John was five, he migrated with his family from England to Australia. His father, Bill, recalled that just before we left England John was able to come home from school and he was learning a different type of reading. And he could come home and he could read the newspaper (Bill: 12-15). After their arrival in Australia the family lived first in a suburban migrant hostel and John and his sister attended the local school. As a newly arrived migrant, John was placed in an English as a Foreign Language class with non-English speaking children. The emphasis was on learning oral English skills rather than reading, writing and comprehension.

*All he did there was sit at [the] back of the class ‘cause he could speak English. And the teacher was just teachin’ all the other children how to speak English. So he lost his literacy skills there. And then he never caught up again.*

(Bill: 35-40)

John agreed that this was the start of the deterioration of his literacy, that is, his reading and writing skills (John, 1). In conjunction with this, school was a lonely, unpleasant experience for him. He and his sister were subjected to systematic bullying from other children at the hostel. A consequence of the bullying was truancy. Bill knew women at the hostel were bullying his wife but was astonished to discover that it was intergenerational:
There were two families on [sic] the hostel … and they each had three children and the children were … picking on our three kids. It got to a stage where I found out that my kids were too terrified to go to school … They only had to walk … a very short distance … and yet they stopped going to school for a week because they were just terrified of these bloody bunch of kids knocking them about … that sort of thing, it destroys a kid’s ability to learn if they’re bloody terrified to go to school.

(Bill: 186-207)

John did not talk very much about these incidents although he had not forgotten them. On several occasions he alluded to bullying: They call you dumb. They want to pick on you and just [make you] stay on your own then. Kids can be cruel (John, 2: 95-96). In a later interview he related the bullying to literacy skills. 'Cause I couldn’t read properly at school kids pick on you and you hated going to school. And you didn’t want to learn at all (John, 4: 420-422). In reflecting on the difference between being a worker and a school student, John poignantly expressed the alienation he felt:

You're not like these little kids at school where they say, “Oh well don’t talk to him. He’s stupid.” And then they used to poke fun at you. And then you didn’t want to learn anything. You just wanted to stay in the corner and disappear.

(John, 4: 449-453)

Circumstances at the time meant that after leaving the hostel the family moved numerous times—every few months or so, it was a move and we never had time to settle down (Bill: 18-19). John had no time to settle into school and literacy skills fell further and further behind. In addition his parents had decided to save money to get a property … or buy our own house. So mum started working. … so I think we had very little supervision on the kids at that time (Bill: 26-30). Inevitably no one checked to see if John was attending school.

They purchased a small farm but life was not easy. Bill left home early, worked many hours of overtime, arriving home late at night. He rarely saw his children.

I got a job at Firebrand. So working at Firebrand and then coming home … and we had to build our own house. We were living in a
caravan. So pretty much I left ’em, you know, to their own devices with education. Mum’s not educated and, you know, it was the woman up the road, next property up, used to drive them to school and what not. So I literally didn’t know or even bother to find out how their education was going.

(Bill: 52-58)

The first John’s parents knew of literacy problems was when he commenced high school. The school contacted them, suggesting John was dyslexic and seeking permission to put him in a special class. *I don’t know whether he is dyslectic [sic]* or whether that was, you know, he just couldn’t read, so stick him in there (Bill: 183-184). John decided not to attend school (even though his father thought he was) because he didn’t seem to be catchin’ up or learnin’ (John, 1: 43). He was fourteen or fifteen years of age and couldn’t read or write. I couldn’t study or get a car licence or a job or nothing like that (John, 5: 423-424). For about four years he helped on the family farm and drew unemployment benefits until he was taken on at Firebrand, where his father worked.

**REVIEWING JOHN**

From a sociocultural perspective, John’s was an interesting study of the mismatch between cultures and social mores. The data from his father suggest that he was happy, settled and learning at an appropriate rate in England. On arrival in Australia, apparently in line with education customs at the time, he was classified and taught as a migrant with no English language skills, lived in close quarters with other families and because of his mother’s illiteracy became the object of bullying and derision. In a new and strange country and without the cultural tools to understand or interpret what was happening he chose truancy as a means of surviving. That is, he felt safer staying away from school than being with children who taunted him.

In many ways the intimidation John experienced at school was still apparent. For example, he did not respond easily to questions. Many of his responses were monosyllabic. He only became more responsive when he wanted to talk about
successes or when he felt that the conversational relationship was positive. With respect to the former he became quite animated when he told me that he was, as an adult, able to read novels for the first time. At first he started with children’s stories and progressed to more complex stories. At the time of data collection he was reading a novel called ‘The Car’ (John, 4: 167). This was a great source of pride for him. His other great achievement was his children whom he discussed readily. He followed their progress at school, even rescheduling an interview to attend a school function.

John’s recall of attending adult literacy classes provided evidence of his desire to establish trusting, positive relationships. He was initially reluctant to attend literacy classes but relented when he found that a tutor could work individually with him at his home. This arrangement continued for twelve months until he had the confidence to attend a small group.

John felt he was alienated by the school system. He found that schoolteachers did not know how to assist him. What is the working future for a man like John? What broad literacy skills could he take into a job? What are the sociocultural factors that would enable him to create the network of colleagues that might allow him to succeed and prosper in an early 21st century workplace?

George

*Everyone knew George.*

(Wayne: 303)

George worked at Firebrand for 33 years. When asked what he thought he was good at in his school years, he nominated *fightin’* (George, 1: 39) in response to teasing and harassment by his peers because of his poor literacy skills. *I learnt to fight because people’d harass you. I just stopped them from harassing [me]* (George, 1: 103-104). He also *learnt* [by reading the body language of the students who teased him] *from a very early age, as a kid* (George, 3: 123) who would fight
and who was bluffing. While he did not learn to read textual material, he did learn to read people (George, 3: 143).

He asserted that the teachers he had when he was a child wouldn’t bloody care less (George, 5: 219) about his life achievements. In his experience the teachers just basically stick you over in the corner, in the too hard basket (George, 1: 32-33). Many years after leaving school he still remembered the name of the only teacher in primary school who showed a bit of interest (George, 1:34) by providing special tuition after school:

So as not to create problems for the kids at school, I used to be kept in as a naughty little boy after school and she used to stay back and go through, tryin’ [to] teach me reading and writing. Then she left the school.

(George, 1: 34-37)

Because he didn’t want to be there in the first place (George, 1: 27), he left school and absconded to Macquarie after the first year of high school, aged 14. Here he found a job as a refrigeration mechanic during the week and as a junior sales representative for the same company on Saturdays, even though he was too young to be legally employed. This job lasted twelve months. For this and the following three years he worked when he wanted money to buy something, then quit. The harassment he experienced at school continued, to some extent, in the various jobs he held, until his colleagues realised that he could fight well.

REVIEWING GEORGE

The tone of George’s language suggested deep resentment about his school experiences. He recalled being teased by his peers and chose to use physical aggression to counter their harassment. He claimed that he was known as a fighter. In his interviews George did not present as an overtly aggressive person. Alternatively he was softly spoken, thought very carefully before answering any questions, was not at all concerned about contradicting my assumptions or presumptions and on one occasion corrected the transcript when I had made an error in technical terminology. In later interviews he spoke about becoming
smarter about fighting (not with his hands but his head) and using analytical processes to achieve his goals (see Chapter 6).

George did not know or understand why gaining orthodox literacy skill had been so difficult. In interviewing George it became apparent that this difficulty shaped his behaviour as a student. For example, taunts and harassment by his peers induced a physically aggressive response. In addition, a perception that his teachers didn’t care, escalating bullying and violence led him to abscond from home and commence work when he was legally too young. These responses have, over a period of years, defined his public personality, forcing him to behave in particular ways to avoid letting all but his closest family know that he struggles with literacy. The physical aggression of his school years carried into the workplace (see Chapter 6); he developed a very strong will to succeed (at hiding a literacy difficulty); and he became fiercely independent. In contrast to this, is the comment at the beginning of George’s story from Wayne, the tradesman who worked in partnership with George for more than fifteen years. Everybody in the factory knew George was a talented and hardworking man. What were the sociocultural factors that allowed George to find a niche where he was valued and admired in the workplace? George did not mention any important people in his childhood—teachers or parents, apart from the one teacher who supported him briefly; had there been an individual whose influence ameliorated the effects of the school harassment? Apart from ‘reading people’ what other real world literacies did George employ at work? After twenty years at his job an incident, typical of many contemporary workplaces, exposed George’s literacy secret. What was it about the culture of George’s worksite that allowed him to work for so long without telling anyone about literacy problems and then accepted that George the colleague and person was more important than a lack of literacy?

Dasher

_They call me Dasher, but I ’m a bit slow sometimes. I like to take my time. … so I can take it in_  

(Dasher, 2: 68-69)
Dasher was a plumber. As far as he was concerned reading was an ongoing problem at work and at home. As a plumber, he was required to read plans, blueprints and instructions. Occasionally he wrote reports, diary entries and comments. He felt disadvantaged because he could not read properly (Dasher, 1:5). He said he could read some words but had difficulty in retaining or recalling what he had read (Dasher, 1). In addition, he found difficulty recognising and using vowels, affecting his spelling and his confidence in reading aloud. He put this down to absence from school:

*I had a few operations when I was early on in primary school. And I missed a lot of classes, about eight weeks of classes when they were doing the ‘a’, ‘e’s and ‘i’, ‘a ‘ and ‘u ‘s’ and stuff like that. I forget what class it was but I missed all that, just never picked it up. I just can’t understand. I tried to teach myself but it just hasn’t worked.*

(Dasher, 1: 86-90)

His comment that he loved school (Dasher, 1: 101) suggested that he enjoyed the social and non-academic aspects. In particular Dasher enjoyed subjects where reading was not as important and he loved playing sport at school (Dasher, 1:101). In formal classes Dasher felt stupid and dumb, not knowing what was going on (Dasher, 1: 74) because he could not keep up with the literacy demands.

On the completion of primary school he moved to a technical high school where teaching and learning had a vocational focus. He recalled enjoying and being good at solid geometry and Technical Drawing to the extent that he considered becoming a draftsman. By then he had worked out a strategy for escaping the confusion he experiences with reading.

*If you had to stand up in class and read something out, then I would go to the toilet or something, or crouch down so that he [the teacher] wouldn’t pick me out.*

(Dasher, 1: 79-80)

Dasher repeated Year 10 while other students proceeded either to apprenticeships or to academic study in science and engineering (Years 11 and 12). He then proceeded to a pre-apprenticeship course in plumbing as opposed to fitting and turning which he had been studying in the junior school, or brick laying, which he
wanted to study. He was reluctant to leave school: *I did* [leave] *because everybody else was* [leaving]. *I didn’t want to go out into the big world. It was very daunting in them days, yeah. It was just like another adventure* (Dasher, 1:104-105).

For the next four years Dasher was engaged as an apprentice. Even this was a challenge. Plumbing is a trade divided into five specialist fields. As an apprentice in the field of air conditioning plumbing, Dasher had to attend classes in the dominant field—sanitary plumbing: *I’m sitting in the classes with sanitary plumbers trying to learn sanitary plumbing where I didn’t do sanitary plumbing in my apprenticeship* (Dasher, 1: 64-66). Most classes had little relevance to what he was learning on-the-job. He completed his apprenticeship with a real feeling of relief, believing that he would never have to study again. Later in life he came to realise that *there’s a gap there* (Dasher, 1: 93) in his knowledge. Recognising that opportunities exist for learning and using computer technology, he agonised that he lacked the confidence to embrace new learning technologies (Dasher, 1).

On completion of his apprenticeship Dasher was unemployed for about eighteen months and then worked in the petrochemical industry for about eight years. When that *job for life* (Dasher, 5: 214) opportunity ceased to exist he decided to return to plumbing. He worked for various small firms until he was diagnosed with cancer. After his recovery Dasher returned to plumbing and worked with a man who influenced him greatly.

**REVIEWING DASHER**

The irony of the pseudonym he chose, Dasher—a suggestion of speed for someone who is a little slow—illustrated the dilemmas and contradictions surrounding Dasher. When talking about his school years he used language that expressed disenchantment, confusion and a sense of aloneness. He did not mention any outstanding teachers or special assistance but commented about not understanding English phonemes, a problem that should have been noticed at school. However, despite not being able to keep up with his peers in subjects with a high orthodox
literacy content, school seems to have been a haven for him. He did not want to leave school but accepted that, like his peers, he had to move into the daunting, big, wide world. Much of his apprenticeship training appeared to have been irrelevant, yet he accepted that he had to attend the classes. Even there he had to hide to avoid reading aloud. He recognised that he needed to keep up with advances in plumbing and technology, acknowledging that there was a gap in his education, but had no way of gaining the skills he needed. Every interview echoed with the loneliness he learned at school and continued to feel and the isolation of feeling stupid or dumb that held him back from achieving the things he would like to do. As demonstrated in his memories of the inappropriate plumbing theory classes, he complied with the expectations of others but with growing frustration and resentment. In later interviews he alluded to attending anger management classes, suggesting that the frustration had become a major problem in his life.

At the time of data collection Dasher had to overcome a major illness, was struggling with several personal issues and although happy to participate was often guarded in his responses. He was very proud of his son, although, at the same time, there was a wariness that his son’s literacy and computer skills were developing at a pace that was too rapid for him to keep up with. Dasher liked to surf the Internet, researching health and safety issues about modern plumbing to which, he believed, the community should be alerted. When reading this information became too difficult he retreated to isolation, preferring to keep his struggles with literacy private. The result was a series of incomplete projects, shelved in disillusionment.

Dasher liked to be sociable, learning and playing sport with others. At the same time he retreated from peers, friends and teachers when literacy, particularly reading and writing publicly, were the issue. These contradictions gave rise to questions, including: how is it that a man who identified himself as a slow thinker (see the opening quotation) was able to function differently and protect his concerns about his literacy skills? What were the sociocultural factors that enable Dasher to analyse and argue positions yet still maintain his identity as a low literate worker,
partner and father in literacy rich environments? Has Dasher met anyone in the workplace who has helped him to feel confident in his own ability?

Sam

*I haven’t knocked back a job because I didn’t think I [couldn’t] learn it*

(Sam, 4: 17)

Sam, a cabinet-maker, described himself as a *slow learner* (Sam, 4: 7) with an optimistic outlook. This has not always been easy, as he *hated school* (Sam, 1: 14) because *it was just too hard* (Sam, 1: 16). He saw no relevance in what was being taught and was hampered by being a slow reader and a *really bad speller* (Sam, 3: 155). The difficulty with spelling may be a consequence of poor auditory conceptualisation. In terms of spelling, this is often indicated by difficulty in hearing (and thus reproducing in writing or recognising in print) the sequential order of letters in words. Helen, Sam’s wife, observed that when Sam attempted to spell: *he doesn’t really remember the sequences of the letters* (Helen: 130-131). Sam reported that at school he *couldn’t concentrate* (Sam, 1: 18). When he was listening he had a tendency to focus on the first idea and miss the rest. *I’ll always have to ask someone again or twice or three time* (Sam, 1: 42). To Sam spelling was the defining element of school, dominating his thoughts: *When I was at school I hated it. I hated not spelling* (Sam, 5: 66). In his memory of the classroom this segregated him into a

*bucket of about three people that can’t do it, can’t remember how you spell things unless you put a lot of effort into it. And it’s kind of Catch 22. You’re putting a lot of effort into something that you dislike. It’s disheartening. Why bother? In a classroom … you’re pigeonholed into, you’re dumb.*

(Sam, 5: 536-541)

As a logical thinker Sam was *always good with numbers* (Sam, 1: 190). However, he did not regard a facility with numbers to be a form of literacy. The inability to sequence sounds or letters in words confused him. Increasingly Sam came to believe that he lacked intelligence:
As a kid, not being able to spell and thinking that you’re dumb is … harder than when you’re an adult. Because you just think, why bother? It’s almost like, you know, I could see in some kids why they commit suicide and stuff like that … doesn’t help.

(Sam, 5: 526-529)

At home his family, who never look at a positive side of things (Sam, 5: 122-123), were unsupportive. He believed his schoolteachers readily reinforced his parents’ views.

Feelings of inadequacy were not confined to childhood—they underscored Sam’s attitude to life in a strange manner. Determined to get out of the ‘bucket’, he regarded literacy problems as forcing him to find alternative paths in his life and career. That is, spelling represented an obstacle, not a barrier. For example, while still at school he decided to move into carpentry, a career with few apparent literacy requirements. He reasoned that this would give him a career path in a practical, craft field, thus circumventing spelling problems.

At the completion of Year 10 he gained a six months pre-apprenticeship and entered his father’s trade by taking up a cabinet-making apprenticeship. While school was hard and left him with no self-confidence (Sam, 1: 141), the practically talented Sam, who was always good with his hands, enjoyed his apprenticeship. It was mainly just hands on and drawings and I was always good at drawings. It didn’t worry me. I was always good at it (Sam, 1: 30-32).

REVIEWING SAM
Sam reiterated phrases and terms that are commonly used by individuals with literacy problems, such as pigeonholed [and] dumb (Sam, 5: 526) - see also, Gerber and Reiff, 1991; Goldberg and associates, 2003; Hellendoorn and Ruijssenaars, 2000; McNulty, 2003. School experiences created individuals like Sam who felt dumb, stupid or alienated. He remembered school as a futile, self-perpetuating cycle of failed learning where he was not encouraged but compared with other, more able students. Despite this Sam knew he had some strengths at school. These
revolved around subjects with high practical, hands-on components, such as drawing. He was able to use this strength to gain trade qualifications and make progress as a cabinet-maker.

Close family was important in creating Sam’s identity. In the last round of interviews he revealed that his family had been a negative influence on his development. In his perception their attitude, which could be described as cautious or conservative, never encouraged him to take risks in learning. As he recalled his parents wanted him to accept that he would not learn to spell and reportedly continued to frown upon any ambitions he had. Yet, as the data presented in the following chapters demonstrated, Sam took opportunities to challenge his spelling skills and moved into a more demanding job. This was not easy and leads to questions such as: what are the sociocultural factors that have encouraged an individual to set and meet challenges around literacy engagement in his life and work? Does skilled manual work involve literacy tasks?

Peter

*I would be more verbose if I could spell all the words.*

(Peter, 3: 399)

Peter was a 30-year-old plumber who quite like[s] reading (Peter, 1: 74) but had difficulty with spelling. As a student at a Christian Brother's school (Peter, 1: 41) he quite enjoyed science and English and … did a bit of music theory (Peter, 1: 44-45) and struggled with Mathematics. However, spelling problems and the consequent difficulties of keeping pace with his peers frustrated him right through school (Peter, 1: 5). As he recalled: the teachers were trying to hammer [spelling] in for fourteen or fifteen years and it didn’t work (Peter, 3: 414-415). His school reports noted that he was inattentive and a bit of a disruption (Peter, 1: 32-33). Leaving school aged seventeen, having completed Year 11, Peter had no regrets because he felt that school held no promise for him. In retrospect he recognised the role spelling played in him making that decision. If he had been able to spell *it’d*
have kept me at school, I think. That's the main reason I left school (Peter, 3: 411-412).

His father was a plumbing inspector and on the occasions that he had been to work with him while still at school Peter had enjoyed the company of plumbers. So he resolved to gain a highly competitive plumbing apprenticeship. Peter remembered that the first positive report he ever achieved was from the Master Plumber’s Equivalence Test, a prerequisite for entering the trade. He enjoyed his apprenticeship because the teachers treated you more like a man instead of a boy (Peter, 2: 110). From his perspective plumbing was a good trade for him because it is all verbal (Peter, 1: 84).

Good experiences at technical college (TAFE) convinced Peter to keep learning. As a consequence, after completing his four-year apprenticeship he returned to night school for about eight years picking up different subjects, because of all the different areas of specialities of plumbing (Peter, 1: 118-119). In addition, he also maintained current First Aid qualifications and has trained in Occupational Health and Safety. His continuing problem was spelling, which he found confusing and trying. Peter illustrated this by explaining one of his common problems:

I might sit there for five minutes trying to think of how to spell the word 'of'. And I sort of spell it phonetically and sitting there thinking 'ov'. I know that's not right. If you put down six or seven different spellings of the same word, I'd be able to tell you exactly what the right word was straight away. But I can't actually get it [spell it] straight away [without seeing the list].

(Peter, 1: 12-16)

REVIEWING PETER

As a keen reader and capable speaker Peter, like other participants, was confused and frustrated about why spelling was so difficult. He did not understand why everyday words like ‘of’ were so hard to spell or why he could not remember the spelling. This, however, had not stopped Peter from working hard to further his career. By circumventing the barriers poor spelling impose Peter was able to find
ways to meet his desire to learn. Yet he was not able to achieve the complexity of written English he would like. What is it in the culture of vocational and technical training that allows an individual, such as Peter, to access and progress successfully through a range of specialist courses? At work he was promoted to senior positions that required him to use a range of literacy skills, sometime very publicly. How has he been able to construct a workplace environment that allowed him to do this? Has Peter achieved promotion in the workplace solely through a sense of personal drive or has he benefited from the mentoring of colleagues?

**Reviewing Nine Lives**
The pen portraits have introduced the nine primary participants. Data analysed in forthcoming chapters add to each of these snapshots. However, it is possible at this stage to focus on some common themes that emerge from these memories. The central theme is school and comments about school fall into three main categories, namely the type of school; the school’s response to an individual literacy problem; and student responses. Other themes that emerge include the difference between school and (pre)vocational education; the role of parents or teachers; the importance of personal strengths; and the disjunction between school and work. These themes are discussed briefly in this section.

**The Type of School**
Although the men were not asked about the type of schools they attended, their comments suggest that most were educated in government or state schools. Stalin’s school reports indicated that this was the case for him. Family financial circumstances for Robert and John implied attendance at state schools. Charles, George, Dasher and Sam made no reference to the type of school they attended but, as they did not specifically make mention of any independent or religious affiliations, it must be assumed that they went to state schools. On the other hand James recalls with fondness Sister Elizabeth (an indicator of a religious school) and Peter notes that he attended a Christian Brothers school.
School Response to an Individual Literacy Problem

The question arising from this difference in school systems is: was there a disparity in the approach to educating students with literacy difficulties between these systems? This question is posed in the knowledge that curriculum is and was, state approved but each system could demonstrate differences in their approach to instruction and pastoral care. From the data collected the answer is no. Neither James nor Peter was offered ongoing assistance. Peter may have been considered a student with a spelling problem but he did not indicate that any of his teachers tried to convince him to stay on at school because he had the cognitive ability to complete Year 12. James’ experience was that the majority of his teachers thought he was better out of the classroom. This was also reflected in Charles’ experience where his unsuitability for school was officially sanctioned. Both Stalin and John were offered help at school. For Stalin this occurred as a result of being enrolled in a special school, contingent on an unsupported classification of intellectual or behaviour impairment. The intervention provided, although useful, had an instrumental focus, allowing Stalin to read but not develop comprehension skills. For John, the assistance was too late. By the time he enrolled in high school and literacy problems were recognised he had missed too much school and was scarred by the intimidation resulting from bullying. Dasher was required to repeat a year at school but he did not indicate that this was so that he could receive extra attention. Rather, it was to take up trade training (Dasher, 2), an indication that his teachers did not consider that he could follow an academic, university focused stream. Robert (in his high school years), George and Sam did not indicate that they received any special help. On the contrary Sam talked about being sidelined and pigeonholed and Robert recalled being ignored.

Student Responses to School

The attitude to teachers was varied. When asked in the final round of interviews how their teachers would react to their workplace achievements both Robert and George felt that they would not care. Stalin, still angry about his mistreatment in primary school, was ambivalent. All the others were philosophical, commenting that teachers probably did not understand their problem and, if they did, were
insufficiently trained and that classes were too large to do anything. There were some high points in school. Dasher and James commented that they enjoyed and were good at sport at school. Others (Charles, Sam, Peter) report that they liked and were good at practical subjects such as solid geometry, woodwork and metal work.

Nevertheless the men report behaviour problems at school. It could be argued that poor behaviour was the reason underpinning their literacy difficulties. However, this argument is difficult to sustain in light of the data. Robert, James, Stalin, George, Sam, Dasher and Peter all claim to have acted out in response to their teachers’ inability to help them with literacy. For example, James and George became physically aggressive; Stalin became inattentive and distractible; and John truanted. Stalin reflected that his uncontrollable behaviour at primary school was because he *couldn’t spell*, … *couldn’t write* (Stalin, 5:472-473), had atrocious maths and, as a consequence, could not keep up and became highly distractible.

Dasher, in frustration, developed evasive strategies; Peter linked poor grades related to spelling and behaviour problems. Sam and Robert felt rejected and sidelined. John and Charles withdrew from school. Charles attended school but appears not to have been encouraged to participate to the extent that exercise books remained unused. On the other hand John did not attend school regularly, for extended periods of time. All at some stage felt humiliated and used varying strategies over a period of time to hide the knowledge of literacy difficulties from friends, family or colleagues. Two questions arise from these experiences: what happened to these angry, frustrated and confused young men when they joined the full time workforce? And how did they deal with their anger?

Not surprisingly, apart from Dasher, all of the men wanted to leave school, frequently because they saw little purpose in attending. Several (Sam, Peter, Dasher and Robert) went on to gain trade qualifications. Others (Charles, James, George, John and Stalin) gained skills on-the-job. Those who moved from school to trade training made comparisons between the two. The next subsection reviews
these data. It should be noted here that Peter and Dasher in particular used the term *school* when referring to their initial vocational training. I have included their comments in the next section because they illustrate the differences between the compulsory school years and trade training.

**Trade Training**

Peter enjoyed his plumbing training. The atmosphere was very different from school where the Christian Brothers aimed to turn *young boys into big, tough men* (Peter, 1: 42-43) under a rigid and strict regimen. He found his trade teachers treated students as young men by putting responsibility for learning on them. He regarded the content as a mix of metalwork and science, two subjects he enjoyed at high school (Peter, 2) and his initial success encouraged him to continue studying after his initial apprenticeship training. Dasher’s experience was not as pleasant. First, plumbing was not his chosen course. Unlike Peter he had no background in the field and even found it difficult to secure an apprenticeship. Second, the first year of trade school had no relevance to his branch of plumbing. So, apart from struggling with the literacy demands, he could not relate classroom tasks to the workplace. Like Peter, Sam, through his father, had some background knowledge of the trade he entered. He enjoyed his apprenticeship because it developed skills that he had shown interest and aptitude in at school—woodwork, drawing and mathematics. Additionally, it had a practical, *hands on* (Sam, 1: 30) focus that relieved him from concerns about spelling. When a horticulture apprenticeship became available, Robert took it, reasoning that he *was interested in gardening* … *was quite used to getting my hands dirty* [from] *being round the farm* … [and] *was growing most of the vegetables in the backyard* (Robert, 2: 36-38). In common with Peter and Sam, Robert liked the practical aspects of his apprenticeship. Peter explained that trade training was good for people with poor literacy skills because assessments and examinations are either practical or multiple choice (Peter, 2). Two questions arise from trade training through apprenticeships. First, in terms of literacy, are manual procedures and processes considered more valuable than cognitive skills? Second, how do tradespeople keep up with changing standards
and evolving technologies, particularly when they lack confidence in their orthodox literacy skills?

**Impact of Family Involvement**
All the men mention one or more members of their family. This is consistent with the findings of other studies (Gerber and Reiff, 1991; Goldberg *and associates*, 2003; Hellendoorn and Ruijssenaars, 2000; McNulty, 2003) that cite family members as supportive. The current study was able to differentiate a range of family influences. First was influence in the school years. Stalin’s mother has kept a collection of documents consisting of school and vocational guidance reports and voluntarily wrote a chronology of his school experiences. This and Stalin’s references to his parents’ attempts to obtain the best education for him, indicated their depth of involvement from preschool to leaving school. The chronology revealed numerous assessments, referrals and appointments to ‘diagnose’ and label Stalin. His parents sought tutoring and coaching for him and, eventually, decided when he should leave school. John, on the other hand, had a completely different experience. His mother’s own literacy problems (see Bill’s interview) were compounded by adjusting to a new culture and dealing with the bullying of other women in the migrant hostel. His father worked long hours and left the educational supervision of John and his sister to his wife. The result was a scared boy who chose not to attend school and quickly lost the few literacy skills he had until he could not read or write (John, 1). Charles received little support from his mother because she thought he was stupid and did not want him embarrassed (see Jane’s interview), but his sisters actively assisted him, particularly in literacy tasks. He was free to tinker with motors and, because he was the only boy and youngest child in the family, learned to interact with male role models who were chronologically older, a literacy skill that has benefited him all his life. Charles’ parents understood his unhappiness at school and encouraged him to leave school and take up manual work where literacy would not be an issue.

Like Charles, Robert came from a close-knit family that influenced many of his decisions. His anger at the school system, for example, was founded on a belief
that his teachers were unaware or unresponsive to his family circumstances. Further, his decision to leave school arose from a need to assist his family. Although his parents agreed to it, they were disappointed that he did not complete school (Robert, 1).

The second influence was in finding jobs. Sam and Peter chose trades in which their fathers had qualifications. Charles entered the same industry as his father. Networking at work by their fathers provided work opportunities for John, Stalin and James (his father and his uncle). George applied through the employment office and had his wife complete the application so he could start his 33 years as a Firebrand employee. Two questions emerge from this analysis. First, were these men able to rise above the influence of their families in accessing work opportunities? Second, are there figures of influence at work to assist them or have they devised ways of managing literacy demands independently?

**Individual Strengths**

All of the men had interests that became strengths. Some, such as solid geometry, woodwork and metalwork or sport, became apparent at school. Others, like constructing, building and repairing engines, had a slower gestation beyond the schoolyard. These interests, like sport, for the most part put the men in situations where they needed to interact with and respond to other people and therefore develop a range of communication literacies. Other benefits of these interests, particularly those continuing beyond school, included working in teams, thinking strategically and taking initiative. How important are individual interests, developed in childhood, in assisting adults to find alternative paths, maintain optimism and advance technical or literacy skills?

From the perspective of the researcher each of the themes discussed above had an impact on the development of literacy skills and the questions arising from them would form the basis of subsequent interviews. It seemed important to ask the primary participants how they defined literacy because the interview questions were written from a sociocultural, multiliteracies paradigm that is the researcher’s
perspective. I believed that in using the term literacy when interviewing I needed to understand how each participant conceived it. The next section outlines how definitions of literacy illustrate the range of differences amongst the primary participants.

DEFINING LITERACY
As the discussion in Chapter 2 indicated notions of literacy as reported in the media, represented in policy and investigated in academia polarise around two foci—a functional, instrumental approach and a sociocultural/critical approach. As the researcher, I entered the data collection process with a particular concept of literacy. Since the focus of this study was literacy, a term used frequently in the interview questions, I felt that is was important to know how each of the primary participants defined the concept of literacy.

Literacy/Phonetics
In the early rounds of interviews all the primary participants were asked to define literacy and talk about the difficulties they encountered. The most common response was subjective. That is, they defined literacy in terms of their own difficulties. For example, Charles, John and George who all struggle with print texts mentioned reading and/or writing. James also considered reading to be an important literacy skill but differentiated between writing and spelling. The former referred to handwriting which he used everyday at work and the latter to encoding with which he struggled.

Sam who was a reluctant reader (Sam, 1) and Peter who was a voracious reader (Peter, 1) cited spelling. On several occasions Peter mentioned the difficulty he had with common words. The example he used frequently included ‘of’, which he usually spelt phonetically (‘ov’). He knew when words such as this were misspelt but could not think or visualise how they should be spelt. Because of these types of errors he grew frustrated and … [gets] embarrassed (Peter, 3: 385). It was a topic he mentioned frequently and was best illustrated in the following extract.
It's not just a case of me getting one or two letters wrong, I can’t get the word out. I can’t spell at all. I’ll get the first three or four letters and that’s it. And then I’m stuck. I have got no idea. It’d be better off putting letters of the alphabet up on a dart board and letting me throw darts at it, because there is no way I can spell.

(Peter, 4: 371-373)

Spelling also concerned Stalin. He found it embarrassing that his written work was littered with spelling errors and commented that it interfered with his work and social relations (Stalin, 1). In addition, he believed that he was able to read with reasonable accuracy, fluency and speed, a legacy of training at the special school, but was unable to comprehend most of what he read. He found specific written texts, such as safety or technical manuals, very difficult and challenging to comprehend. In a later interview he added the notion of finding your own way through things and understanding and comprehending (Stalin, 2: 91-92).

Significantly Stalin’s definition related to a sense of identity resulting from relationships of power. In his mind a literate person can

write a letter quite confidently without [any] or only about [a few] spelling mistakes. Someone that can, if they’re given a puzzle … can do quite confidently. Someone that can … go throughout their life without having to worry about what other people think of you when you write a letter or something like that like in the spelling mistakes.

(Stalin, 1: 147-152)

Stalin was a man who thought and considered deeply, rarely answering an interview question without thinking carefully. Like others he used his participatory role in the repeated interviewing process, as described in Chapter 4, to analyse his learning style and achievements. Toward the end of the round of interviews he noted that he had reshaped his ideas about being literate:

Being literate doesn’t mean that you have to have a mathematics degree. Being literate takes all shapes and forms … I realise that I may not be literate in some things, but I’m more literate in other things that other people don’t have.

(Stalin, 5: 460-464)

In terms of literacy Robert and Dasher shared some concerns with expressive language. Dasher commented that he had a disability in talkin’ to people properly
He felt inhibited not only by a poor store of vocabulary but also by great difficulty in enunciating some multisyllable words, such as ‘vocabulary’ (Dasher, 5). As a consequence of difficulty in spelling Dasher hated writing down things and doing essays … they’re the skills that I just haven’t got (Dasher, 5: 146-147). Robert like Peter was an avid reader; his literacy problem doesn’t stem from reading. A lot of [the problem] is speech and a lot of it is getting … getting the words to sound right (Robert, 2: 125-127). Technically this is described as a difficulty in expressive language and may present in oral or written language, or both. For a man whose job was to get the words to sound right in both oral and written forms this could be stressful and inhibiting.

The Nature of Literacy

Asking these men about literacy was instructive. There was no clear distinction between a functional approach and a sociocultural approach as outlined in Chapter 2. Instead, literacy related to some skills that were required in particular social and cultural contexts. For example, Stalin regarded not being able to write greeting cards to relatives as a literacy problem. Peter faced the same challenge but overcame it by having his wife check a draft message first. Literacy became most disabling in contexts where the men felt most disadvantaged. Analysis of the data in the following chapters elicits the sociocultural factors that reduce disadvantage, dissipate disability and create literacy-capable identities.

This chapter began the introduction of the data. It commenced the analysis process by introducing the nine primary participants through brief biographies. In addition, it explored themes that emerged from data of experiences prior to the commencement of long-term work. Further each man’s concept of literacy was noted in order to demonstrate the different perspectives on the major theme of this study between the researcher and the researched.

The next chapter concludes the data reduction—the first stage of data analysis—by categorising each man’s experiences in terms of the six aspects of competence in the Framework (Cope and associates, 1995) described in Chapter 4. As these
aspects of competence encapsulate the multiple literacy skills necessary in workplaces of the early 21st century it was important to determine each man’s attainment at the time he started long-term employment.
CHAPTER 6

.LOCATING ASPECTS OF COMPETENCE

INTRODUCTION
This chapter concludes the first phase of data analysis—data reduction. Taking the critical incidents outlined in the previous chapter and mapping them against the Framework (Cope and associates, 1995) determined which aspects of competence each of the primary participants demonstrated prior to commencing work. The questions that guided this analysis (see Chapter 4) in essence asked what aspects of competence each man manifested. Since the Framework (Cope and associates, 1995) is premised on sociocultural principles, this part of the analysis focuses on the socially situated activities that indicate engagement in a range of literacy practices. In terms of the research question, this analysis establishes that men who self-report literacy difficulties access and engage in a range of aspects of literacy.

Since this stage of analysis examined each primary participant as a single case the chapter discusses each man in turn, following the same order as the previous chapter. The intent in this chapter is to gain an understanding of the broad range of literacy competence each man brought to his workplace context. In this respect discussion is general, nominating aspects of competence.

Charles
The data indicated that when Charles started work as a thirteen year old he demonstrated literacy and language competence in five aspects. First, he had an interest in and aptitude for mechanics that can be classed as technical competence. He recalls that at school he excelled at solid geometry[,] woodwork [and] metalwork (Charles, 1: 98), practical activities that enabled him to perform specialised technical tasks. His sister recalls that, in terms of technology, Charles could always just see how things went (Jane: 56). As he explained, I like cars, motorbikes, trucks, all that type of stuff and I’ve always been able to fix ’em (Charles, 3; 191-192).
Second, the experience he gained from helping his brother-in-law repair cars (Charles, 3: 71-73) gave him some degree of group or co-operative competence. Typically, he was not overly verbally communicative in these sessions, but indicated that he assisted his relative in a limited capacity, such as passing the appropriate tools.

Third, in the process of assisting his brother-in-law, Charles observed and reflected on the task at hand. This is characteristic of Charles’ learning style based on the maxim that *if you’re really interested in something, you’ll learn it* (Charles, 4; 12-13) and is very much a part of his identity or interpersonal competence.

Fourth, he had a pleasant approach to others who could assist him with orthodox literacy tasks (cooperative communication). The data demonstrate that seeking help from others has never been a problem for Charles. He presented as a very pleasant (Jack: 48) person who is so laid back and deep that you just … do what he asks (Jane: 170-171). Charles illustrated this aspect of communication in the first round of interviews when discussing the difficulties ordering food at a fish and chip shop or a milk bar he faced when he was younger:

> They might have a board up there with heaps of different foods on it and I would always buy the same thing that I roughly knew a shop [like that] would have. So because you just can’t read a menu or something like that, so you just ordered the same thing that you are pretty sure that they’ve got. Like you go into a fish and chip shop you buy a piece of fish and some chips and they might have a whole range of different stuff, but you know that they’ve got that. So you ask for that. Same as a milk bar, you ask for a pie or something like that.

(Charles, 1: 194 202)

In a later interview he recalled that his sisters would help him out by reading things like menus for him when he went to the shops (Charles, 5: 65-66).

Fifth, Charles took a dislike to the unpredictability of school, preferring the routine and sequence of manual labour (task or procedural communication) in the
workforce. This was apparent in his comment that the predictable and fixed routine at the abattoir was easier than school because the task is just there in front of you. You can anticipate [sic: participate] in it and you can do it (Charles, 1: 16-17).

In terms of organisational competence, the only organisation Charles had been involved with was school. His comments on his school years indicated that, apart from those subjects he excelled in, he was completely disengaged and very bored (Charles, 1: 11 and 19). School had no relevance to him and he believes the teachers were happy for him to leave. He indicates no organisational competence at the time he left school.

In summary, Charles had many competences when he left school because of a failure to demonstrate competence in orthodox literacy. All of these were in practical areas and generally related to self-motivating factors that he was able to negotiate despite a lack of literacy skills. The first part of the next level of analysis (Chapter 6) suggests the stages of competence Charles had achieved for each of these aspects of competence and follows up on changes in stages in his working life.

James
James commenced his employment at Firebrand with competence in three distinct aspects—organisation, task and technology. He developed competence in two aspects—identity and group—but demonstrated little competence in community or public literacy.

Organisational competence is evident in data indicating that James knew and understood his immediate contiguous relationships at school and in his first job with a panel beater. At school, for example, he recognised that the school streamed students on the basis of their literacy achievement. The data suggest that, like James, his peers complied with this systemic arrangement, accepting that some students lacked literacy skills and would not be able to complete regular classroom
tasks. Further, the data acknowledged the powerful position of teachers who would send him to paint the flagpole because he could not keep up in class.

Task competence refers to the ability to use strategies and procedures to complete tasks. Apart from painting the flagpole, James provided little evidence of task competence at school. His literacy skills, which he characterised as knowing how to read *individual words but not a sentence* (James, 1: 6) by the time he left school, suggest that James achieved few tasks from a curriculum with a written English focus.

At home James *knew how to work on cars* (James, 3: 203) and was capable of undertaking discrete tasks within the context of mechanical repairs. At work, first as an apprentice panel beater and then in a glassworks, James appeared to achieve satisfactorily routine and predictable tasks under supervision. Inadequate work skills were not cited as the reasons for leaving either of these jobs. Despite two years of unemployment between the glassworks closing and his entry into Firebrand (James, 1) it must be presumed that James took a degree of task competence with him into the new workplace.

His work with cars and his habit of *sticky-beaking* (James, 3; 204) as his uncle fixed cars helped James develop a level of technology competence that was useful when he commenced at Firebrand. He claims that workers with *machine knowledge* (James, 3: 214) find it easier to learn to use the complex heavy machines because they are *not afraid to do anything on them* (James, 3: 209). He cited this knowledge as helpful on entry into the heavy manufacturing sector.

James commenced his first job as an apprentice panel beater, aware that he needed to demonstrate that he could work well (James, 1) in spite of his poor literacy. He carefully concealed his literacy problems from his immediate peers, relying on his boss to provide a supportive working environment. In doing this he indicated that he understood the roles and relationships within the workplace.
By the time James began work at Firebrand he had developed specific strategies, aimed at protecting his poor literacy and presenting an image of a literate person. Typically, these tricks involved antisocial acts such as fighting, and rebelliousness (James, 1) as well as using his memory to *play through* (James, 1: 167) literacy-rich situations, such as reading memos or newspaper articles. Clever as these strategies may be they do not indicate an ability to communicate about personal attributes or resources, indicators of identity competence. On the contrary, James was doing his best to conceal his identity. So in reality the identity presented was false. There is, however, one incident that indicated that James was prepared to drop his guard in terms of identity. When he applied to work at Firebrand he *had to tell them the truth* (James, 1: 74) about his literacy skills. As James described it, this was an organisational requirement that he complied with in order to get a job. This single incident indicates that he had the self discipline to tell the truth, even though it put him at a disadvantage, in order to comply with company policy, an indicator of identity competence.

From his school days, when he was streamed and dismissed by most of his teachers, James has learnt how to comply with authority and work to rules. These indicators of the group aspect of competence are apparent in the story James related. At the glassworks he knew whom to listen to and what to do. To have successfully worked there for fourteen years he must have established some team relations. When he applied to work at Firebrand James understood that he needed to reveal his poor literacy skills to comply with company policy. It is important to note here that, from James’ perspective, compliance was for personal reasons, such as wanting a job or protecting himself from taunts about poor literacy, rather than accepting company policy.

**Stalin**

When Stalin commenced work at Firebrand after a few short-term jobs his actions and behaviours reflected his school experience. Fear of being embarrassed and humiliated invoked a *self-defence mechanism* (Stalin, 3: 370-271) to prevent others from labelling him a *dunce* (Stalin, 5: 7), a *fool* [or an] *idiot* (Stalin, 5: 310-311).
He approached work with an attitude of compliant subservience. That is, he understood the power relationships at work and acted within the rules and worked strictly within the authority structure of the organisation. These are indicators of group and organisational competence.

The negative power relationships he had experienced in primary school and the structured teaching in the special school gave Stalin a particular perspective on risk free interactions with authority figures. Essentially, this meant complying with instructions, undertaking tasks that were highly structured with limited scope and having predictable outcomes. Unpredictability was anathema to him. Although skills are evidence of the task aspect of competence, he needed very strong support structures to learn new tasks.

There are no data to suggest that Stalin had any competence with mechanical technology prior to commencing work at Firebrand. He did, however, have competence in the technical aspects of literacy, to the extent that he was able to read non-technical print texts. His competence in the community aspect was limited to his brief period on the Student Representative Council at high school (School Report). The reason he worked at Firebrand appears to be that his father worked there and was able to obtain work for his son.

**Robert**

When Robert entered the full time workforce he demonstrated a complex range of competences. For example, when task competence meant performing work tasks he was capable. His experiences working on his parents’ farm and at various short-term jobs prior to taking up his apprenticeship indicate that he was capable of hard, sustained, manual labour and that he could comply with supervisors’ directions. On the other hand, when he needed to communicate with colleagues and supervisors about new or unfamiliar situations he was unable to do so. This inability relates directly to the discrimination he believed he suffered at high school owing to his socioeconomic background. As a consequence he determined to succeed without
the assistance of others. This is evidenced in a stubborn resistance to study assistance that marked his apprenticeship.

The technology competence Robert requires currently centres on comprehending, analysing and arguing industrial positions orally and in writing. So it is worth considering which of these skills he had at the end of his apprenticeship, rather than the technical competence necessary for maintaining parks and gardens, the subject of his apprenticeship. The data indicate that owing to his primary school debating experiences Robert could structure and analyse arguments. These skills were enhanced as he progressed through his apprenticeship, particularly as he tended to analyse assessment tasks critically. While these tasks generally required written language skills, being identified … [as] outspoken (Robert, 2: 105-106) meant that Robert found that he was allotted menial practical tasks, such as picking up rubbish (Robert, 2) which did not necessitate the use of critical writing.

One of the legacies of Robert’s high school experiences was a notion of equity that led him to advocate on behalf of apprentices. At the age of fifteen he joined a left-focused political party and the trade union movement. These two affiliations were the focus of his group and organisational competence. As an apprentice working within the frameworks of a political party and a trade union he gained skills in publicly representing organisations and performing tasks that are relevant to an organisation. He also began to demonstrate the self-discipline necessary to meet the requirements of an organisation. For example, picking up papers for the first three years of his apprenticeship (Robert, 2) not only demonstrated his ability to comply with the directions of a supervisor (group competence) but also forced Robert to learn more about how the union and political parties function. As an outspoken person, this knowledge resulted in his increasing interaction with peers and supervisors about the union and workers’ rights. Union officials noted this demonstration of community competence. Robert’s experiences have been instrumental in shaping his identity competence. Every incident he recounted
contributed to his application of personal discipline in workplace interactions including identifying as a union member and activist.

**John**

By the time he commenced work at Firebrand John’s school experiences had shaped much of the way he interacted with others. In terms of the identity aspect of competence he was unable to communicate with others about his literacy problem. His efforts to prevent bullying and humiliation owing to poor literacy skills precluded any interest in the people or organisation around him. Since he could not separate his persona from his perceptions of a good worker he had negative identity competence. However, in the years between giving up on school and commencing at Firebrand he had dabbled in mechanical repairs, had been a recipient of unemployment benefits and had worked seasonally as a fruit picker. Each of these three experiences had given him skills that he took to his long-term job at Firebrand. First, he had some technical competence. He was not frightened by tools or machines and knew the basic tools that a trade assistant might be asked to fetch or find. Second, he knew the rules about claiming and receiving social security payments. He would have been familiar with both rule-based behaviour and a relationship of compliance. Additionally, he would have had first-hand experience of the exercise of power by people in positions of power. Finally, he had undertaken tasks that were routine and relatively discrete and had limited and predictable outcomes. Through these experiences he gained some degree of skill in the aspects of group, task, technology and organisational competence. As might be expected of a person trying so hard to protect himself from the taunts of others, John did not demonstrate any community or public competence.

**George**

Although by his own admission he was not competent in the orthodox literacy skills of reading and writing when he started work at Firebrand, George was skilled and competent in the use and interpretation of body language. In a world where his literacy problems were concealed from *everybody* ... [including] *children and cousins and uncles or aunties* (George, 4: 17-19), doctors, dentists, peers,
neighbours and friends out of pride and a sense of embarrassment (George, 4: 17) body language was his only literacy tool. He used body language to reckon which teased child at school was most vulnerable and he used it to demonstrate his explosive reaction when faced with the danger of revealing his literacy problems. So, while he needed strong support structures to undertake tasks that required any facility with orthodox literacy, he could use non-verbal language to gain meaning from situations. This is indicative of both task and identity competence. A further example of task competence is George’s ability to work in a range of short-term jobs. For a period of more than four years, commencing when he was fourteen and legally not entitled to work, he found a job whenever he needed some money (George, 1). The first job that lasted twelve months required him to work as a refrigeration mechanic during the week and as a salesperson for the same company on Saturday mornings. It is typical of George that he never contemplated that he would not be able to do these jobs. In terms of task competence, he could perform a range of different work-related roles with sufficient proficiency to hold jobs for as long as he needed. Additionally, he gained community competence through his interaction with the public in his role as a salesman. Such interactions were always mitigated by his need to avoid using orthodox literacy. Essentially, he used his keen body language skills to determine who would help him out. Generally, he has found that most people are quite willing to help me out (George, 1: 257).

Technology competence was one of George’s strengths when he commenced at Firebrand. All aspects of mechanics—building, diagnosing problems and repairing—have always just made sense to him (George, 1: 71). This natural intuition meant that he was confident around large machines, particularly in new or unfamiliar situations. While this should have been beneficial George chose to work in close and limited relationships as a means of deflecting attention from his orthodox literacy skills. The implications for George’s group and organisational competence were profound. While he could follow instructions and work to rules he did so only under his own terms, that is, because he needed to earn money for a specific purpose. Owing to his strong technical skills and positive self-perception
he was susceptible to telling supervisors that they were wrong. As a result his
group competence was weak when he started at Firebrand. For a period of
approximately five years George had only one reason for working—he needed the
money. Consequently, he worked in a series of short-term positions to achieve that.
The data give no indication that he had any interest about or concern with the
organisations in which he worked. He demonstrated no organisational competence.

**Dasher**
Dasher is a qualified plumber. His pathway to this career was via a technical high
school and an apprenticeship. Experiences from his earliest school years until the
completion of his apprenticeship shaped Dasher’s literacy and language
competence. By mapping these experiences against the Framework (*Cope and
associates*, 1995) it was possible to assess the aspects of competence Dasher
demonstrated when he commenced his first plumbing position.

The data on Dasher indicated technology competence in two areas when he
commenced work. First, a natural consequence of Dasher’s apprenticeship was the
knowledge to complete a range of tasks in the field of air conditioning plumbing.
Second, in terms of literacy tasks, Dasher indicated that he was actively avoiding
tasks such as reading aloud (Dasher, 1), *writing things down and doing essays*
(Dasher, 5: 146) during the years of his training.

As an early career plumber, Dasher demonstrated task competence under the
supervision of his first employer. The data showed that his first plumbing job after
completion of his apprenticeship was in a small owner-operated business where,
typically, both plumbers worked together and shared tasks. Under these conditions
Dasher understood that the quality of jobs undertaken reflected on the enterprise
and, ultimately, would guarantee both his and his boss’ jobs.

Dasher was unable to draw on any similarities between the two branches of the one
trade, namely, the air conditioning that was the subject of his apprenticeship and
sanitary plumbing that was the focus of his first year theory classes. An inability to
envisage a broader perspective has important implication for the development of the identity aspect of workplace literacy competence. It means, for example, that every task, instruction or response is considered in isolation or that an individual does not understand the relationship between individual tasks and organisational achievement.

Identity was linked closely to learning for Dasher. From his perspective learning involved the acquisition of fixed and discrete facts or chunks, exemplified in two of his recollections: first, his comments that for health reasons he was absent from school when vowels were taught and he was never able to catch up (this contextualised reading instruction as a sequence of independently learned skills, typical of a functional approach): and second, Dasher remembers the first year of his apprenticeship when class work focused on sanitary plumbing, not air conditioning. In his mind they stood as separate, unconnected fields of study.

He tended to relate to (or chose not to relate to) the basis of this decontextualised notion of learning. For instance he cited poor vocabulary knowledge as the reason his conversations became heated and abusive (Dasher, 5). He explained that raising his voice and shouting were a means of overcoming his frustrations when he could not draw on appropriate vocabulary.

Compliance to authority figures, an indicator of group competence, resonates in his account. This was evident, for example, in the way he became a plumber. He seems to have had little chance of attending a comprehensive or technical school. Once he had been streamed, apart from sport, he enjoyed technical drawing and solid geometry in a curriculum that was practical and vocationally focused. A career as a draftsman was denied him when he was told to do plumbing (Dasher, 1: 56), a trade of which and in which he had no prior knowledge, interest or experience. His acceptance of incidents such as this, the inappropriate teaching in the first year of his apprenticeship and progression through his trade training indicate that Dasher had attained some degree of group competence when he started
work. Although the situation of his apprenticeship, with a small owner-operated entity, would have entailed meeting clients, there were no data that indicated the development of any community competence.

**Sam**

Like Peter, Dasher and Robert, Sam is a qualified tradesman. He entered the industry with competence in technical communication, largely as a result of skills he had learned in his apprenticeship. These included using a tape measure accurately and appropriately, reading and interpreting plans and using and caring for specialist tools appropriately. As the son of a carpenter he had some familiarity with the industry and chose it because of its practical nature which suited a person who has always been good with his hands, avoided reading and was troubled by poor spelling. His confidence and willingness to work hard at the specific tasks required of apprentices are indicators of task competence.

Sam interrupted his apprenticeship to focus on amateur cycling. He lived and competed in Europe and the Pacific, winning a title in New Zealand. As a sport road cycling develops skills that are appropriate to the workforce. First, teams who contest events are expected to work together, follow instructions, represent the values and goals of the team as a whole and provide support to elite riders. Second, the tactics are complex (Sam, 5) and riders who get the lead or ride in the leading pack need to know how to respond appropriately to novel or unfamiliar situations. Third, individual riders need to understand and respond to their bikes in a noisy environment. Finally, as an international sport, competitors need to be able to make themselves understood in several different languages. To succeed in cycle racing individuals need to demonstrate competence across all aspects of the Framework (*Cope and associates*, 1995). From a personal perspective Sam continued contact with his girlfriend during this period via email, which tested his writing and spelling proficiency. So, as he began work as a qualified carpenter/cabinet maker, Sam was able to demonstrate all aspects of competence.
Peter
Even though he enjoyed reading and was a good communicator Peter struggled at school. The curriculum was boring, the teachers frustrated him and he had a tendency to act out (Peter 1 and 2). School reports were negative. Yet his peers were surprised when he decided to leave school, not understanding how poor spelling was negatively affecting his grades (Peter, 1: 207-214).

Things changed when he began his plumbing apprenticeship – something which he was really keen to do. His father was a plumber and he had been on worksites with him (Peter, 1). The apprenticeship was an enjoyable period of his life (Peter, 2). Rather than being in class because he was compelled to, the way he regards his school years, he was learning because he wanted to.

The system of examining theoretical competence in his plumbing course suited Peter. Mostly it was a matter of reading a chapter and answering a few questions. End of year examinations were usually multiple choice, with a few oral explanations (Peter, 2). Neither of these required Peter to write responses, so he had no concerns about spelling.

By the time he commenced work as a plumber, Peter was proficient in several aspects of competence. Through his training he demonstrated task, technology identity, group and organisational competence in most aspects of literacy and language. The data did not indicate if he had developed community competence. However, when literacy tasks involved spelling his proficiency changed. He had some task competence but identity and technology competence were limited to simple, repetitive basic facts or the use of abbreviations common to the industry. With respect of his training he had some competence in the organisation and group aspects where compliance was limited when spelling was the focus. For example, he recalled a trade school teacher who threw my book back to me and said, you know, “Go and learn how to spell” or something like that to me (Peter, 2: 128-129). Peter did not enjoy that instance of a teacher’s exercise of power. An
enthusiasm for learning, hard work and finding a niche in his chosen industry were the factors that influenced Peter’s progress as a plumber.

**SUMMARY**

Amongst these nine lives are similarities and differences. Some men indicated they engaged in aspects of language and literacy that sometimes involved deeper complexity and greater familiarity than those of other men. Some positioned themselves in jobs that made demands on their literacy skills while others subconsciously gained skills in aspects of literacy competence.

As noted in the literature (Castleton, 2002; Gee, Hull and Lankshear, 1996; Hull, 2000; Kalantzis and Cope, 1997) there is an increased emphasis placed on continued learning in the new work order. Workers in this study found that they were expected to respond to problems (with machinery, production priorities and personnel) within a team structure, improve safety standards, engage in teaching or learning and contribute actively to workplace decision-making. Roles that were at one time static became incorporated into a dynamic, multi-skilled environment where quick and proactive problem solving was paramount. While this resulted in some workers engaging with orthodox text-based literacy, it has also resulted in all workers routinely engaging in a broad range of oral and communal literacy tasks.

The next stage of analysis - data display - commences in the next chapter with the first step in a three-step process, namely within category sorting. Following on from determining which aspects of competence the data demonstrated for each man, it investigates the types of literacy engagement that typified stages of competence in each of the nine cases.
CHAPTER 7

LITERACY COMPETENCE AT SCHOOL AND THE YEARS BEFORE WORK

INTRODUCTION
This chapter commences the second stage of data analysis, namely, data display. As described in Chapter 4 this stage consists of three steps, the first of which, within category sorting, continued the pattern of analysing nine single cases. As such it examined more closely evidence from the data to answer the research question: what are the issues of identity and social interaction that allow men who self-report literacy difficulties to access and engage in the workplace literacies? It achieved this by using the Framework (Cope and associates, 1995) as described in Chapter 4 to determine each man’s stage of competence.

Analysis of the data in this chapter focused on the time before each primary participant commenced full-time employment or for many the job that they were doing at the time of data collection or prior to redundancy. Chapter 8 continues this analysis by examining stages of competence in the working years. To report on the analysis each of these two chapters asks the same question: how did each man demonstrate literacy engagement? Both chapters also have the same structure. For each man there is a brief introduction followed by an analysis of stages of competence for each of the six aspects of competence as described by the Framework (Cope and associates, 1995).

Before reporting the second phase of analysis this chapter first reiterates briefly how and why the Framework (Cope and associates, 1995) was used at this stage of data analysis and recapitulates on data display as the second part of a three-stage process. Analysis of data is the subject of the remainder of the chapter.

THE FRAMEWORK
The Framework was chosen as a data analysis tool because it links competence to workplace performance in the real world social activity of the workplace. When data collection takes a multiple single case approach the Framework is a suitable
tool for analysis because it encompasses multiple and varied forms of literacy practice that are “locally and contextually specific” (Cope and associates, 1995: 69). That is, the Framework enables the researcher to analyse data on a site specific basis. In this respect it is appropriate for analysing the literacy practices of individuals who believe they have failed broadly ranging, decontextualised school-based literacy across a range of sites. Analysis in Chapter 5 asked what literacy practices each man engaged in prior to commencing work. As the second phase of analysis the question changed to what was each man doing to demonstrate aspects of competence. At this point the analysis classified behaviours as assisted, independent or collaborative (as explained in Chapter 4). An individual may demonstrate different stages within an aspect of competence.

**DATA DISPLAY**
As described in Chapter 4, *data display* (Miles and Huberman, 1984: 21) was the second of a three-phase iterative process, with each part adding a layer of interpretation about the literacy engagement experiences of nine men. In the data display part of the analysis the nine individual cases were merged into a single description. This occurred in three steps. In the first step, the subject of Chapters 7 and 8, each man’s aspects of literacy competence were analysed using the Framework (Cope and associates, 1995) to determine stages of competence. The other steps of data display are reported in Chapters 9 and 10.

**Within Category Sorting**
In the first step of the data display process, *within category sorting*, the researcher created a multiple case unordered meta-matrix (Miles and Huberman, 1984: 21), using the Framework (Cope and associates, 1995) as a tool to categorise literacy behaviours in terms of stages of competence. Questioning how an individual demonstrated competence in the critical literacy incidents described in Chapter 5 allowed a closer examination of competence for each of the cases. For example, where a participant demonstrated group competence, this step in data display questioned how this competence was demonstrated. A feature of the Framework (Cope and associates, 1995) is that it measures an individual’s strengths by
allowing competence to be mapped over several stages. Thus a worker who has a
good knowledge of machinery but cannot teach others to operate a particular
machine may be mapped at an independent stage for knowledge (technology
competence) and an assisted stage for discussing its operations (group competence).

This part of the analysis followed on from the analyses reported in Chapter 6. The
aim at this step was to map each man’s stages of competence. Reporting this step
of the analysis has been divided between two chapters. This chapter explores
stages of competence prior to commencing work. Regarding Charles, for example,
this is when he left school and moved in to the meat processing industry. For
Dasher, Sam, Peter and Robert the time of commencing work is less clear-cut. All
worked throughout their apprenticeships and have worked at a range of jobs since.
Generally, work was considered to be at the completion of their trade training.
Stalin, George, James and John talked most about the job they held at the time of
interview. In some cases, such as Sam and Charles, jobs changed during the data
collection period. Assessing literacy competence at an early working stage
establishes a baseline from which comparisons of later achievements can be made.
Chapter 8 examines stages of literacy competence at work, providing a comparison
of literacy engagement over time.

Charles
Charles lived in an outer suburban area of Macquarie. He always had difficulty
with orthodox literacy skills. At school he was bored and confused and felt ignored.
When he was thirteen years of age his parents were permitted to remove him from
school so that he could start paid work. The physical aspects of working in an
abattoir appealed to Charles and he was pleased to leave school. He has worked
continuously in the meat processing or road transport industries ever since. The
data demonstrated that Charles entered the workforce, aged thirteen, with some
capability in five aspects of competence.
**Task**
Task competence was an interesting focal point for Charles’ development. As regards practical, particularly mechanical, skills he functioned at an independent stage, taking great pleasure in his achievements and demonstrating individual accountability for tasks. This applied especially to the ability to think of novel solutions to problems. However, where tasks involved reading, writing or discussion Charles functioned at an assisted level of task competence. He provided instances of his sisters helping or even doing orthodox literacy tasks for him. His sister Jane corroborated this evidence.

**Technology**
Since he was used to tinkering with cars Charles felt comfortable around machines. *He’s never been afraid to pull something apart to try and get it going again* (Jack: 2078-208). By observing and assisting his brother-in-law he learnt to think and act sequentially when pulling an engine apart. The logical and procedural thinking engendered in this process meant that he was quite prepared to show initiative when there was a technical problem. Being able to solve a problem and talk about its solution are two different things. The data indicate that his unwillingness to discuss problems—*even up to a week, I’d think through it* (Charles, 3: 85) rather than discuss the problem—put him below an assisted stage of competence for communication on the technical aspect of competence.

**Group**
Charles always accepted figures of authority. Unlike other participants he did not act out at school. Instead he passively accepted the fact that he could do nothing more that sit in class and do nothing to the extent of taking unused books home at the end of the year. He knew and understood the role of authority figures, was compliant and followed rules. Within his family unit he worked in established but limited relationships to undertake common tasks. This was evidenced in the close relationship he had with his sisters and particularly the close ties he forged with his brother-in-law around an interest in mechanics. Thus Charles was at stage one or at
the assisted level of group competence at school. At home with family members he was at an independent level.

**ORGANISATION**

He comprehended the notion of contiguous roles, for example acknowledging that it was ultimately the school headmaster’s decision that he leave school (Charles, 5). In Charles’ perception this suggestion arose because the teachers in high school did not understand his learning problem. He perceived that arranging for him to leave school was more a convenience for the teachers than a support for him. Being unable to represent the organisation (school) in a positive light and responding to fixed hierarchies of authority placed Charles at the assisted level of organisation competence.

**IDENTITY**

In terms of identity competence, Charles’ ranged between the assisted and independent stages. The former was demonstrated in his conception of learning as a series of basic facts that he needed to memorise. For example:

> I just couldn’t do it [read and write]. Couldn’t get a grasp on it. Occasionally people would sit down and [show me how to do] everything. I’d learn [them] for that day. [But] by the following day it just wouldn’t be in my head.

(Charles, 1: 31-32)

He demonstrated an independent stage of identity competence in his capacity to master skills personally, such as mechanics, that he needed in order to create shared goals with others, such as his brother-in-law. Again, it must be noted that these competence levels apply to practical activities and limited oral communication. At the time Charles commenced work there is no evidence that he accessed orthodox literacy skills at all and he was pleased to enter an industry where *no reading or writing* [were] involved. *It was just all manual work* (Charles, 1: 25-26).
COMMUNITY
The data indicated that Charles’ community competence or public communication was at an assisted stage. This is most clearly demonstrated in his description of the difficulties found in accessing menus in cafés and restaurants. For example, he was unable to order items beyond standards such as fish and chips or a hamburger without the mediation of a trusted friend.

Table 7.1 illustrates the stages of competence that Charles demonstrated when he commenced work. It demonstrates how he achieved different stages for the same aspect of competence.

**Table 7.1: Charles’ Stages of Competence When he Entered the Full-Time Work Force**

<table>
<thead>
<tr>
<th>Collaborative</th>
<th>Task</th>
<th>Technology</th>
<th>Organisation</th>
<th>Identity</th>
<th>Group</th>
<th>Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
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Key: c = communication

James had held two long-term jobs. The first that he commenced when he was fifteen was at a glasswork and lasted fourteen years. This was followed by about two years of unemployment before he was taken on at Firebrand. This was the job about which he was most forthcoming. The first part of this analysis focuses on the years before he became a Firebrand employee.

TASK
The data demonstrated that task competence was one of James’ strengths by the time he started work at Firebrand. In the glassworks he had worked in an environment where practical work tasks were physically hard and dangerous (William). Commencing at Firebrand provided opportunities for James to demonstrate his prowess with machines. He had even developed strategies for engaging with various forms of literacy:

*You remember words and you remember things and that’s what helps you along. You can’t remember sentences … but you*
remember, instances, like a stop sign. Like you just know what it is and things like that. That’s how you get away with most of the things.

(James, 1: 83-86)

While these might seem like clever strategies to bluff his colleagues into thinking he was literate, they also highlight James’ inability to talk about orthodox literacy skills. When it was necessary to demonstrate these skills James needed support from family members. Therefore in regard to task competence James demonstrated an independent stage for physical work tasks and an assisted stage for orthodox literacy skills.

TECHNOLOGY
Since he had many years of tinkering with cars, James commenced work at Firebrand with a level of independent competence in the technological aspect of the Framework. This was illustrated in the interest and enthusiasm he had for machines: operators need to know, [how to] care about the machines and understand them … to be interested in them (James, 3: 55-57) and not be afraid of them. He argued that even today this was a prerequisite for operating or maintaining complex machines.

ORGANISATION
Again there were few data regarding the organisation aspect of competence prior to commencing at Firebrand. The evidence was that he left his apprenticeship for reasons other than a failure to comply with organisational requirements. At the glassworks he worked within organisational structures for fourteen years and provided no evidence that he had conflicted with superiors, nor was there any evidence that he progressed through the ranks at the glassworks, taking on the responsibilities commensurate with more senior positions. James’ level of performance in the organisation was limited and could be interpreted as an assisted stage on the Framework (Cope and associates, 1995).
IDENTITY
An assumption inherent in the Framework (Cope and associates, 1995) is that individuals are able to demonstrate minimal or assisted levels in any or all of the six aspects of competence. In terms of the identity aspect of competence this would be indicated in a capability to “apply personal discipline to meet organisational requirements” (Kalantzis and Cope, 1997: 109). There are no data to suggest that James focused on organisational requirements. Even though he felt obliged to disclose his poor literacy skills when applying for the position, at the glassworks his focus was on concealing his literacy difficulties, rather than on the requirements of the organisation. Having left his apprenticeship because of bullying and intimidation about his literacy (James, 1) he set out to work hard, not because it was an organisational directive but to keep out of trouble. He achieved this by bluffing his way (James, 1), memorising routines: you’ve got to have a good memory (James, 1: 82), keeping out of the way or, on occasions, protecting himself by fighting (James, 2). His memories of his time at the glassworks were that it was pretty good, but … it was hard (James, 1: 65-66). James commenced work at Firebrand at the stage of negative to assisted performance.

GROUP
Since he stayed with one employer for fourteen years it is possible to conclude from the data that James developed skills in working with others and following directions. However, as there are no data about work practices at the glassworks it is difficult to draw any conclusions about the quality of James’ ability to follow instructions or work in collaborative teams at that site. During his two years of unemployment between jobs there was an indication that James found himself in trouble with the law (William). This suggested that by the time he commenced at Firebrand James had some difficulty complying with authority. It was apparent that, although he demonstrated functional compliance to the degree that he achieved set tasks, his occasional outbursts of aggression indicated that James was at a stage of assisted group competence.
COMMUNITY
James did not have strong community or public communication competence when he commenced work at Firebrand, according to the data. He spoke of his father assisting to find his first job and his uncle helping with his second (James, 1). Relationships at work where you more or less fought your way through (James, 1: 66) appear to have been limited, placing him at a nil level of community competence at work. The contrast to this was outside the workplace where James found an outlet in sport. His success as a first grade footballer (William), for example, alluded to the types of group and public communication competence that would be valuable in any workplace.

James’ stages of competence when he commenced work at Firebrand are represented in Table 7.2. The aspects where he demonstrated different stages of competence are indicated.

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Key: c = communication

Stalin
Of the nine primary participants, Stalin was the only one who had received any long-term tuition for a literacy problem when he was at school. Although he enjoyed reading his comprehension and spelling ability concerned him. He had worked at Firebrand for 22 years where he initially had similar humiliating experiences to those of his school years.

Stalin tried a few short-term jobs prior to commencing work at Firebrand. His actions and behaviours at work reflected his school experience. Fear of being embarrassed and humiliated invoked a self-defence mechanism (Stalin, 3: 370-271)
to prevent others from labelling him a *dunce* (Stalin, 5: 7), *a fool* [or an] *idiot* (Stalin, 5: 310-311). His reactions were evident in all aspects of competence.

**Task**
The negative power relationships he had experienced in primary school and the structured teaching in the special school gave Stalin a particular perspective on risk-free interactions with authority figures. *I really do believe … that they had to run me down to make them feel good, to make them feel secure* (Stalin, 3: 287-289). To avoid being targeted by teachers and peers he had to comply with instructions, undertaking tasks that were highly structured with limited scope and with predictable outcomes. Inconsistency was anathema to him and he needed very strong support structures to learn new workplace tasks. There was no evidence that he used his literacy skills to advantage himself at work apart from listening, questioning and attempting to respond appropriately (Stalin, 2). In effect this meant he required support structures to complete workplace tasks. This is an indicator of an assisted stage of competence.

**Technology**
There are no data to suggest that Stalin had any competence with mechanical technology prior to commencing work at Firebrand. The evidence does point to a fear of machines, illustrated in the way he tried *to run away from things like that if he thought they were too hard* (Ray: 180-181). He did, however, have competence in the technical aspects of literacy, to the extent that he was able to read non-technical print texts:

> I could read the [environmental safety] signs but they might have given me a safety booklet or something like that and I might have been able to read it but whether I really comprehended it at all was another thing.

(Stalin, 1: 40-42)

Stalin performed the limited specialised tasks he had been taught, indicating an assisted level of competence. There are no data to suggest that Stalin worked beyond the expectations specified for an entry-level manual worker. In terms of
literacy he demonstrated an assisted level of competence but was unable to demonstrate mechanical competence.

**ORGANISATION**
The evidence suggested that Stalin learned about power and authority at primary school (Stalin, 3). He was aware of authority figures and understood the power relationships that existed in workplaces. As a consequence he acted within the rules, working strictly within the authority structure. His comments on computer use gave some indication of the gulf he perceived between himself and managers: *most managers now, by the time they’re 28, they’re completely literate in computers* (Stalin, 2: 130-131). He added that managers older than 28 would have little difficulty with computers because they *would be educated* (Stalin, 2: 138). Workers functioning at an assisted level of organisational competence recognise and place value in the contiguous relationships of the workplace, just as Stalin did.

**IDENTITY**
On commencing at Firebrand Stalin’s self-esteem was low as a result of his school experiences (Stalin, 1). He shunned tasks that might involve writing because *it’s pretty embarrassing if when you’re working you had to write a letter or something to somebody and you don’t know how to spell* (Stalin, 1: 32-34). His focus was on learning what was important, whom he could talk to and how to keep out of trouble. He was unable to separate himself from workplace expectations, taking it particularly hard and personally if he made a mistake (Ray). Stalin believed he was *a nobody* (Ray: 644) with no prospects. At its best, Stalin’s stage of identity competence when he commenced work at Firebrand was at minimal assisted level.

**GROUP**
Stalin approached work with an attitude of compliant subservience, preferring to sweep the floor than tackle more complex tasks. Having been schooled in rule compliance he understood how to follow rules and comply with the wishes of those in authority over him. The data do not suggest that Stalin used initiative when
undertaking complex tasks. As mentioned previously he preferred mundane tasks and shied away from activities that he perceived as difficult or complex. Because he was slow to learn new skills and needed many opportunities to practise new skills, Stalin was characterised as having learning problems (Ray: 20). Typically his behaviour placed him at an assisted level of group competence.

COMMUNITY
Stalin’s competence on the community aspect was limited to his brief period on the Student Representative Council at high school (School Report). Since he transitioned directly from school to work, there is no evidence of engagement with community structures. Stalin gave no indication that he was involved with community or sporting groups, nor did he make explicit the way he obtained his first few short-term jobs. He gained a position at Firebrand because his father worked there and assisted Stalin with the application. He did not mention an interview, which could have indicated some community competence. Thus, in light of the evidence Stalin’s community competence should be assessed as negligible at the time he commenced work at Firebrand.

Stalin’s stages of competence at the time he joined Firebrand are summarised in Table 7.3. It demonstrates the low levels of competence Stalin demonstrated when he started work at Firebrand.

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<th>Organisation</th>
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Key: co = comprehension

Robert
Robert grew up on the rural outskirts of Lachlan and attended the local public primary school and high school. He reported that he did well and was a high achieving student at primary school (Robert, 1 and 5) but his grades and interest fell
away in high school, fuelled, he believed, by the uncaring nature of the teachers. He commenced his first part-time job when he was fourteen and left school to work and later take up a horticulture apprenticeship after the completion of Year 10. Although hampered to some extent by difficulties in expressive language, Robert used his critical thinking and analysis skills to achieve a degree of notoriety at work that was noticed by more senior members of the trade union to which he belonged. Eventually, this led to a union position that he held when he was interviewed for this study. His job as an Industrial Officer was the focus of his most recent workplace literacy activities.

**TASK**

Work had always been a goal-oriented activity for Robert. In his first work experiences his stated aim was to improve his family’s circumstances materially. During his apprenticeship the focus shifted towards the rights of other apprentices or to challenging his trade teachers. The data indicated that Robert demonstrated task competence in the years prior to taking up the position he was engaged in during the data collection period.

Since the data are limited around particular tasks it is impossible to judge Robert’s stages of competence in some areas. For example, he was not particularly forthcoming about the kinds of tasks he undertook during his apprenticeship apart from picking up litter. The first area to examine was practical workplace tasks. For example, his habit of turning around or manipulating examination or assignment questions in order to *take out a scathing attack on the assignment or the attitude of the question or the text* (Robert, 1: 132-133) indicated that he was doing more than responding to a fixed, immutable task. Further, his recollections of picking up rubbish for the first three years of his apprenticeship, presumably his employer’s response to Robert’s agitation over the *glaringly obvious things that [were] wrong* (Robert, 2: 100) in the workplace, suggested that he found repetitive tasks irksome. These two incidents illustrated that Robert did not need strong support structures but approached tasks from a sense of personal accountability and chose to
reformulate activities from the perspectives of others in his work community. The data suggested that by the time Robert completed his apprenticeship he was functioning at an independent to collaborative level on the task aspect of competence for these types of tasks.

When analysis focused on literacy, the data demonstrated slightly different levels. Written expressive language was an element of Robert’s trade training. He chose to use these opportunities to attack the tenor or direction of the task, thus using the literacy he found most difficult as an important tool of his training. There is no evidence of the quality of the writing, except that he passed all formal written tasks of the theory component of his course. Essentially, the issue here is not of anyone else’s perception of his written work, but his own. As Robert explained there were occasions when I might do the work and then think it’s not good enough and I wouldn’t hand it in (Robert, 1: 82-83). His oral expressive literacy developed during the years of his apprenticeship. Initially, he was hot-headed and said things in the heat of the moment that should not have been said (Robert, 4), but he learned through watching and learning. He said that in addressing disgruntled workers he sometimes made mistakes but used these as learning experiences.

These comments indicated a shift in competence levels. Initially, he demonstrated an assisted level of task competence with respect to expressive language. However, as he became more involved in the union and began interacting with more workers, his language became more tempered. He conceded that sometimes he learnt to respond differently after he had copped a flogging around the ears [when] … standing up in front of a group (Robert, 4: 105) but mostly it was from looking and listening. Performing in this manner is indicative of an independent level of task competence.

**TECHNOLOGY**

With respect to the technical aspects of orthodox literacy Robert functioned at a collaborative stage because reading, writing, spelling and comprehension were
activities that he readily and routinely participated in. However, going beyond these mechanical aspects to higher, expressive forms of written and spoken English, Robert was at an assisted stage.

From his involvement in politics and the labour movement he said he became a more confident public speaker at formal meetings and workplace forums, researching industrial issues, understanding meeting procedures and actively leading and participating in meetings and observing behaviour and body language as an indicator of mood or attitude. His habit of analysing and questioning tasks and procedures made him watchful and alert.

**Organisation**

Consideration of Robert’s organisational competence prior to becoming an Industrial Officer should take into account the two organisations he was associated with. The first is a group that represented learning and earning, including school, TAFE and his shire employers. Robert had a *fairly cynical view of teachers* (Robert, 5: 217) that developed in high school and has remained with him. It coloured all his relationships with the people or institutions he equated with teachers. For example, he felt that bosses acted as if they were superior (Robert, 4) and he challenged his TAFE teachers when he perceived that inappropriate tasks had been set. In all, his attitude to this group was negative and he had little regard for the power relations inherent in them. In this respect his organisational competence was negligible.

Robert’s relationship with his trade union was very different. Here he demonstrated an assisted to independent level of performance. The data demonstrate that he understood the roles and responsibilities of union members and that he learnt the relevance of tasks that emanated from the union. In pursing a career in unionism, Robert demonstrated an ability to act in ways that were consistent with the value systems implicit in organised labour.
IDENTITY
Robert’s approach to the bookwork of his apprenticeship was characteristic of a person at an independent stage of identity competence. Conditions were difficult. He worked seven days a week and came home to do assignments in cramped conditions. Although he knew that study ... was the last thing I wanted to do (Robert, 1: 106) he also acknowledged that he just had to do it. There was no choice (Robert, 1: 123). This stance placed him above an assisted level because he was doing more than applying personal discipline to meet the requirements of the course. He was subjugating his needs and his preconceived notions of teachers to satisfy organisational requirements.

Robert described himself as an easygoing (Robert, 2: 100) person who goes along with the flow (Robert, 1: 66-67). Yet both he and Scott reported that the qualities that made him stand out when he was working for a local council were not typical of a person who goes with the flow. By the time he became a union delegate for his worksite others in the union had noticed … that he had that ability to be able to probably go further than what he was doing (Scott, 139-141). By indicating that he identified with the values and culture of the union and was able to communicate these values to others, Robert demonstrated an independent level of identity competence.

GROUP
Robert’s preference for working independently, refusing assistance when it was offered and not talking to teachers about his work was a product of his high school experiences (Robert, 1). Consequently, when he needed to communicate with colleagues and supervisors about new or unfamiliar situations he was unable to do so. His vigorous determination to maintain a distance between himself and others, such as teachers and supervisors, whose job was to assist him, did not provide Robert with a sturdy basis for developing group competence.
On-site learning during his apprenticeship was not easy for Robert. He found it difficult fitting in at work, settling down to the routine (Robert, 2: 95) and he was identified as a fairly outspoken rebel (Robert, 3: 11). The evidence was that Robert had difficulty accepting authority and working in a team context (Robert, 2). In his own words, Robert put up a brick wall [because] the door had been shut so many times in [his] face (Robert, 2: 165-168). Taking on the role of a union organiser gave Robert the opportunity to develop group skills. There are no data directly relating to his twelve-month period as an organiser. The exception is Scott’s comment that there was jealousy (Scott: 100) in the union when an inexperienced organiser was appointed as an Industrial Officer. Mapping the data onto the Framework (Cope and associates, 1995) suggested that Robert had no group competence when he commenced his job as an Industrial Officer.

**Community**

As was noted in the previous chapter Robert was a union and political activist throughout his apprenticeship. Among other activities this entailed active engagement at a local level in branch meetings and debating local issues, as well as attending and participating in state conferences. However, he conceded that, instead of debating rationally, he would have been arguing with the official (Robert, 4: 143), unable to see a perspective other than his own. As his involvement in the union movement grew, he listened to and observed more experienced officials. In this way, mediated by others he developed assisted levels of community competence by the time he finished his apprenticeship.

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**John**

John was the only primary participant not born in Australia. He migrated from England with his family when he was five years of age and, according to his father
(Bill), was already demonstrating early reading skills. Initially, the family lived in a migrant hostel and John attended the local public school where he was placed in the English as a foreign language class where the focus was on oral language. He lost his developing reading skills and, at the same time, began to be teased and bullied by other migrant children who lived at the hostel and attended the same school. As John and his father explained the school years became a downward spiral of bullying, intimidation, truancy and reduced literacy skills. By the time he commenced work at Firebrand John’s school experiences had shaped much of the way he interacted with others. John was aware he had problems with orthodox literacy tasks. In addition, he had also been driven into isolation because of the bullying he had experienced at school.

**Task**
Before he started work at Firebrand John had undertaken tasks that were routine and relatively discrete and had limited and predictable outcomes, including mechanical repairs and fruit picking. None of the jobs involved orthodox literacy skills although some listening and conversation could have taken place. There is evidence that John avoided tasks that involved writing, although he found recording numerals was relatively simple (John, 1). At the time John commenced at Firebrand his task competence would have been at an assisted level.

**Technology**
As a result of doing odd jobs and car maintenance at home John had some technical competence in the mechanical sense when he started work at Firebrand. He was not, for instance, frightened by machines and knew the basic tools that a trade assistant might be asked to fetch or find. John’s stage of performance on the task aspect of competence at the time he started working for Firebrand would be assisted.

**Organisation**
Organisational competence at its entry-level stage refers to undertaking activities in the knowledge that they are relevant to the organisation. Implicit in performance of
the task is comprehension of the contiguous relationships that are immediate to the individual worker. In the four years between leaving school and signing on at Firebrand John had two experiences with organisations. First, as a recipient of social security payments (unemployment benefits) he would have had contact with one or more individuals who interpreted current policy on John’s behalf. He had to demonstrate compliance with system goals to receive unemployment benefits for more than six months. Second, he had worked seasonally as a fruit picker, demonstrating knowledge of those who were superior and immediately inferior to him (such as untrained pickers). These experiences indicated an assisted level of organisational competence.

IDENTITY
In terms of the identity aspect of competence John chose not to communicate with others, even his immediate family (Bill: 31-40), about his literacy problem. Experiences at school had reinforced the notion that other people would harass him if they discovered that he could not read. His efforts to prevent bullying and humiliation precluded any interest in the people or organisation around him. His focus was on concealing a non-literate identity. Since he could not separate his persona from his perceptions of a good worker, he had negative identity competence.

GROUP
The time John had spent accessing a rule-based system, such as social security, had taught him the benefits of knowing and abiding by system rules. It reinforced the value of compliance he had learnt as a child from his experiences of being bullied. Further, he would have had first-hand experience of the exercise of power by people in positions of authority. As a result by the time he was taken on at Firebrand he was compliant and submissive, accepting rather than questioning procedural rules and decisions made by people in authority. This behaviour is characteristic of a worker demonstrating an assisted level of group competence.
COMMUNITY
As might be expected of a person trying so hard to protect himself from the taunts of others, John did not demonstrate any community or public competence.

The competence stages discussed above are shown in Table 7.5. The data analysed to determine these stages of competence included information on John’s school years and short-term work experiences up until the time he applied to work at Firebrand.

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<th>Collaborative</th>
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Dasher
Where most primary participants had worked at one or two jobs over a period of many years, Dasher has had many jobs for shorter periods. Originally trained as a heating and ventilation plumber his first job on completion of his trade training was in the petrochemical industry and unrelated to plumbing. Since then he had returned to his trade and a range of tasks in the building industry interspersed with periodic unemployment. At the time he was recruited for the study he was a shop steward. Experiences from his earliest school years until the completion of his apprenticeship shaped Dasher’s literacy and language competence.

TASK
The data indicated that Dasher actively attempted to hide his literacy difficulties while he was at school and during his apprenticeship training. At school he felt dumb and stupid, not knowing what was going on (Dasher, 1: 74). At technical school he used to go to the toilet … or crouch down and hide to avoid reading aloud (Dasher, 1: 79-80). When questioned about school Dasher commented that he could not remember any of his teachers who, in his perception, were not interested in him (Dasher, 5). The evidence supported this view. First, on the basis
of Dasher’s educational achievements he was streamed into technical training at school. This indicated that the teachers did not feel confident that Dasher could complete an academic stream. Second, Dasher talked about missing out on learning vowels in his early school years because he was absent owing to prolonged ill health (Dasher, 1). He does not recall receiving any help from his teachers and had tried unsuccessfully to teach himself (Dasher, 1). He cited this as the reason for his lack of confidence in literacy, regarding it as a disability. In Dasher’s opinion his teachers did not share this view, since he claimed the data collection process was the first time that anyone had listened and believed that he had disabilities in literacy (Dasher, 5: 506).

As a consequence of what Dasher regarded as an unsupported struggle with literacy, when he commenced work he was able to undertake fixed and routine physical jobs at work but avoided literacy tasks which he found difficult (Dasher, 3). The simple duality of performing physical tasks and avoiding literacy tasks was belied by his frustration at having to study sanitary plumbing, indicating an ability to think strategically. The data demonstrated that while Dasher entered the workforce with an assisted level of plumbing task competence his literacy competence was negligible.

TECHNOLOGY
Technical competence is an expected outcome of trade training and the data indicated that this was the case for Dasher. Apart from this limited context, knowing the technicalities of his trade, including ordering tools and hardware and invoicing clients, it was difficult to assess his technical competence on a broader scale. Other aspects of literacy that appear to have been part of Dasher’s early working life included discussing tasks using appropriate technical terminology, writing invoices and ordering and collecting plumbing supplies. Initially, he found this very difficult and needed support from other apprentices (Dasher, 3). Functioning in this manner suggested an assisted level of technology competence.
However, Dasher’s first job after he had completed his apprenticeship was not as a plumber. It was in the petrochemical industry. Dasher demonstrated that he was able to transfer skills learnt in plumbing to a different context. In particular, he was able to show that he used the learning on-the-job techniques typical of apprenticeship training for learning new skills in the petrochemical industry. Dasher endorsed the practical immediacy of on-the-job, hands on [learning] because you can see and do, [and] touch (Dasher, 2: 217 and 219). When workers use technical knowledge or ways of learning in different contexts to solve new technical problems they demonstrate an independent level of technical competence. Consequently, when he entered the workforce, Dasher exhibited skills at both an assisted and an independent level of technical competence.

Organisation
Dasher commenced work with minimal to assisted organisational competence. Having struggled to gain an apprenticeship and then enduring eighteen months of unemployment in a dog-eat-dog world (Dasher, 1: 123) before finding a job (in the petrochemical industry), Dasher’s interest was his own subsistence needs rather than the enterprise (Dasher, 2). If he showed any interest in an organisation, it was the trade union movement in which he had always been active (Dasher, 1: 226). Paralleling his personal needs and union involvement was the knowledge of contiguous roles, a legacy of the master/novice apprenticeship nexus typical of traditional apprenticeship models.

Identity
Applying personal discipline to finding a job was not a priority for Dasher. Being young [and having] just got my [driver’s] licence he was initially not very concerned about finding a job (Dasher, 1: 119-120). However, with a downturn in the industry and increased competition for a limited number of places Dasher began to see his literacy problems as a barrier to employment: I did find a couple of jobs, but I wasn’t fast enough. I wasn’t quick enough … if you don’t compete, you don’t keep up with the standards they’ll sack you (Dasher, 1: 122-125). If, at the assisted
level of identity competence, individuals are able to separate their identity from enterprise expectation, then, because he could not make this separation, Dasher was not able to demonstrate an assisted level of competence.

**GROUP**

Dasher’s trade training taught him to comply with authority figures, to know rules and to follow instructions. Another outcome of his apprenticeship was that Dasher learned the importance of working in teams. He regarded the ability to work and learn in teams as imperative, particularly on big sites where it aids safety (Dasher, 3: 274). The ability to work effectively in teams, particularly when it involves problem solving, indicates an independent stage of competence. Through his union activities Dasher also demonstrated an independent level of competence.

Experiences as an apprentice when he had hammers thrown at me and was kicked up the bum, hair pulled (Dasher, 3: 258) aroused an interest in Occupational Health and Safety. Thus by the time he commenced work he was beginning to question employer compliance with Occupational Health and Safety legislation.

**COMMUNITY**

There were few data about Dasher’s community competence prior to commencing work. His contacts with groups such as school and technical college teachers and vocational counsellors indicated very little engagement. This could be attributed to his perception of having disabilities in talkin’ to people properly (Dasher, 5: 14) that often resulted in workplace conflict. In his pre-work years Dasher did not demonstrate adequate community competence.

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Key: c = communication
The stages of literacy competence Dasher developed up until he completed his apprenticeship are shown in Table 7.6. The period covered includes primary, secondary and high school as well four years of trade training.

**George**

Having learned to fight at school, George decided to leave school and home. He moved interstate and started work at fourteen years of age. As he was always confident of his ability, particularly in the field of mechanics, he worked intermittently (when he needed money to buy something) until he commenced at Firebrand at the age of nineteen. He worked there for thirty-three years, never undertook trade training and was made redundant when the section where he worked was closed in 2000. Of all the primary participants George was the most vociferous in separating personal attributes from the ability to read or write.

**Task**

Discussing his experience as a fourteen year old working on refrigerators he made no reference to other workers:

**MK:** So how did you learn to do the refrigeration work?

**George:** *Just makes sense.*

(George, 1: 70-71)

His facility with practical projects, particularly those involving engines and the methodical approach he took when working (George, 2) with them, indicated an independent level of task competence. He repaired and built engines from a sense of individual achievement and demonstrated personal accountability. However, this methodical and structured approach was completely lacking when the task involved literacy and numeracy. George was completely dependent on others for the interpretation and comprehension of written texts. For example, his wife completed his application form for Firebrand (George, 2). Thus, on the task aspect George had negative competence in regard to literacy.
**TECHNOLOGY**

Technology, in particular mechanics, was a matter of visualising *where everything goes* for George (2: 17). His mechanical skills included the ability to understand specific parts and explain the way wear in one part would affect not only the performance but also reconstruction of an engine. He had never studied mechanics or read a repair manual. Despite this George had little difficulty working with engines in different contexts, demonstrating a personal sense of achievement and accountability. These are indicators of an independent level of technical competence.

**ORGANISATION**

The question of organisational competence for George was interesting. He had, for example, always understood contiguous relationships in the context of school and at work. In his mind, teachers were characterised as people who ignored and alienated an aggressive student with learning problems (George, 2), classifying him because of his literacy or his behaviour. They represented organisations that George had no time for. At work George recognised the role of his various bosses and understood the reporting structures inherent in a hierarchical structure. For example, when his boss asked him to paint something he knew that it was important to get the colour correct even though it was *impossible* to read the colour names (George, 1: 125). Performing tasks, however, was based more on the need to earn money for a particular purpose than to comply with any corporate goals. So George’s organisational competence while at an assisted level in some respects had a personal focus in other respects.

**IDENTITY**

George had been harassed at school and used fighting as a means of demonstrating his objection to being labelled on the basis of literacy skills. He recognised that people began to view him as *illiterate* (George, 1: 112) and stupid. This did not match his self-perception. Consequently, most of his energy was expended on protecting the integrity of his identity. By the time George commenced work he
had developed a repertoire of skills that allowed him to function in workplaces but conceal his literacy difficulties. Apart from fighting, tactics in this repertoire included watching, listening, getting to know who you can ask and who you can’t (George, 1; 125), admitting to forgetting a non-existent pair of reading glasses and feigning confusion over the content of a document (George, 2). By memorizing instructions at work George found that he was able to avoid reading ninety-nine percent of the time (George, 3: 266). While George was able to employ personal strategies and discipline to meet organizational needs he was unable to conceive that the workplace would value him if he did not have orthodox literacy skills. Thus, in terms of the identity aspect, George had negative competence.

**GROUP**
Although George found it beneficial to work in teams where some members were able to support him, the biggest problem he had with teamwork was that others would discover his secret. This occurred when he had to take lunch orders to the shop or when other workers gave him something on a piece of paper and say, “What does that say?” (George, 1: 117-118). He regarded incidents such as these as traps and was constantly on guard against them. The most effective way to stay on guard was to comply with workplace instructions and work within the rule of a particular site, indicators of an assisted stage of identity competence.

**COMMUNITY**
The only evidence in the data of public communication from the work perspective prior to starting at Firebrand is George’s twelve-month engagement at the refrigerator factory. There he worked in the showroom on Saturday mornings selling refrigerators. In his private life he communicated with doctors, dentists and people in the street who helped him with directions (George, 1). He relied on many people to help him access many areas of literacy (forms, flight arrival and departure screens at an airport, timetables) so that his level of competence on the community aspect could be assessed as assisted.
Table 7.7 represents George’s stages of competence as described up until he commenced work at Firebrand. This period includes his school years and his first job as a refrigeration mechanic.

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**Sam**
School did not engage Sam. He decided to leave at the end of Year 10 and train as a cabinet-maker like his father. He chose this industry because of its practical nature which suited a person who has always been good with his hands, avoided reading and was troubled by poor spelling.

**Task**
When he commenced work at the conclusion of his apprenticeship Sam was able to achieve most cabinet-making tasks at an independent level. He credits his apprenticeship training with developing in him the systematic behaviours and ‘neat habits’ that have become routine in his work. Additionally, he worked in the building industry with his brother for a short time, in particular learning carpentry skills. Although he may have required some support to complete tasks he was able to achieve beyond familiar routines and stressed the importance of individual accountability in undertaking tasks (Sam, 1 and 2). These attributes are typical of performance at an independent stage of task competence.

In regard to literacy, particularly spelling and writing, Sam demonstrated an assisted stage of competence. While he chose to write letters independently, for example to his girlfriend (Helen), she sometimes found interpretation of them difficult because of the spelling errors. The support she gave was not in correcting the errors. Instead she regarded the letters as a form of expression rather than an
exercise in accurate spelling. When the pressure was taken off Sam to spell correctly, he paid less attention to errors and made fewer (Helen).

**TECHNICAL**

As a cabinet-maker Sam entered the industry at the end of his apprenticeship with orthodox literacy skills that enabled him to complete cabinet-making tasks satisfactorily. These skills included using a tape measure accurately and correctly, reading and interpreting plans and using and caring for specialist tools appropriately. He was able to perform a range of tasks from the cabinet-making and carpentry fields and demonstrated initiative in solving technical problems. In terms of technical communication Sam demonstrated an independent level of competence.

**ORGANISATION**

The area in which Sam had had the opportunity to demonstrate organisational competence prior to commencing work was in road cycling. This is a very disciplined team sport requiring individual riders to comply with tactics that aim to benefit the team as a whole. A review of Sam’s cycling career (available through a range of websites) indicated that he consistently rode as a team member, sometimes relinquishing an opportunity to win in favour of another cyclist in the team. Road cycling races have a set of designated tactics. *The way the tactics work is very complicated and very, sort of, smart and generally … you should know what to do* (Sam, 5: 250). By conceding to the system of tactics typical of road cycling, Sam demonstrated that he was functioning at an independent level of organisational competence.

**IDENTITY**

Whether it was cycling or gaining his trade qualifications Sam demonstrated that he could apply personal discipline to achieve enterprise outcomes. He was able to separate his persona from system expectations. For example, he did not link his cabinet-making or cycling skills to his literacy ability and was surprised when I
indicated to him the range of literacy tasks he engages in on a daily basis (Sam, 2). Sam’s identity competence was at an independent stage.

**GROUP**

Sam’s group competence was manifest in his cycling. First, he had to follow the instructions of the team coach with respect to tactics and racing conditions. Second, he had to work in a team where it was assumed that *everybody knows what to do without anybody saying anything* (Sam, 5: 252) to achieve a fixed and defined outcome. Discussion centred on the task so that the team could achieve a single group identity. In terms of group competence, performance at this level was independent.

**COMMUNITY**

Sam did not discuss work-based incidents around community communication prior to commencing work as a kitchen installer. He did, however, maintain contact with his girlfriend Helen (now his wife) while they lived in different cities in Australia and while he was cycling in Italy. Sam was supported in this endeavour in a very interesting fashion. Helen felt that the most important factor was that he wanted to write letters (or emails from Italy). *It took him a long time to write the letter. Much longer than it would have taken me to write him one. So, I’d never pick on his spelling* (Helen: 25-27). In doing this Helen allowed letter writing to be a social activity and not a skill-based exercise. A consequence of this approach was that *the more he wrote, the better he became* (Helen: 38), enabling Sam to demonstrate an assisted level of community competence.

Sam’s stages of competence are displayed graphically in Table 7.8, indicating that Sam had achieved an independent level of competence for many aspects of competence. This is particularly evident in those groups (family and cycling) where he had a specific and defined role. However, his feelings of uncertainty with spelling skills impacted negatively on his task competence.
Peter
Peter is a plumber, recruited to the study from a meeting of shop stewards. As noted in Chapter 5 Peter was an avid reader who struggled with spelling. He enjoyed being challenged in his career and had a pattern of changing jobs, sometimes within the same enterprise, every two years. Where other primary participants undertook a range of professional or vocational courses through the course of their careers, Peter set out with a plan of study as soon as he had completed his initial trade qualification. To contextualise the following discussion, apprenticeship or trade training refers to his initial qualification. All other training mentioned refers to courses he had undertaken while he has been in full-time employment.

Task
In terms of literacy Peter entered the full-time workforce with generally high skill levels. His difficulty lay in how he perceived his spelling ability. So while reading, listening, thinking, discussing and debating were skills in which Peter excelled he found writing very difficult. The greatest amount of effort I ever put into school was … getting all my ideas down on paper (Peter, 1: 6-7).

Peter engaged in continual training since completing his apprenticeship. He explained that this was possible because of the style of teaching and examination. The essential components of this were a series of prepared notes distributed to students from which the students need to respond to multiple-choice questions. This suited Peter because he could read and memorise the notes, particularly new and technical unfamiliar terms (Peter, 1). Examinations that use multiple-choice
questions assess particular technical knowledge, not spelling, and specifically prevent candidates from writing answers.

Owing to his successful study record, the TAFE college sent him to do a Computer Aided Design (CAD) course in the engineering faculty of a university where teaching was less structured. He described what happened when the scaffolding, typical of TAFE, was not available:

*I did a CAD, Computer Aided Drafting course at the Engineering Department … I found that a bit more of a struggle because the teacher, I didn't think he was a very flash teacher, he didn't give us any notes. I couldn't refer to any notes. He just expected you to dictate everything and I couldn't do it. It wasn't that I couldn't do the actual CAD drawings. I couldn't keep up with the class because we had to dictate everything and that's why I didn't pass the class in the end.*

(Peter, 1: 128-137)

This incident illustrated the importance of structural supports for Peter’s written communication. That is where he had access to printed materials that he could read, revise and use as a reference he was able to complete courses, particularly those with a multiple choice final assessment task. However, when he needed to take (dictated) notes he failed the class. The data indicated that, apart from issues such as whether Peter knew how to take notes, his habit of writing a *word out three or four times* (Peter, 1: 230) in an attempt to spell it correctly would have made taking notes very difficult, if not impossible. Thus, while Peter’s performance in most literacy areas was at a collaborative stage, his written language was assisted.

**TECHNICAL**

As noted previously, Peter’s major area of literacy difficulty was in spelling, affecting his written communication. There is evidence in the data of various strategies that Peter used to assist his writing prior to commencing work. First, when Peter needed to spell accurately, such as on a gift card, he wrote a draft message and had it checked before writing on the card (Peter, 1). Second, he used the notes from TAFE courses as a resource he could *refer back* to when he needed
to spell specific terms (Peter, 1: 141). Third, he used a dictionary to assist his spelling (Peter, 1). Peter could not write accurately and to his satisfaction without these aids. As such his written literacy competence on the technical aspect was at an assisted level.

**Organisation**

The two organisations that Peter had most contact with prior to commencing work were his school and the TAFE college he attended. His comments on these organisations demonstrated opposing views. In Peter’s perception school was uninteresting. The teachers were pretty self-interested (Peter, 2: 90), they just about beat the shit out of us most days (Peter, 1: 41) and the study regime was strict. In response he acted out, as was noted on his school reports (Peter, 1). School did not engage Peter and he did not have much time for the teachers (Peter, 5: 527) apart from one. Since he could not speak in positive terms about his school Peter demonstrated less than an assisted stage of competence.

He started his apprenticeship with a different attitude. Having been identified on the Master Plumbers equivalence examination as having a genuine aptitude towards the trade he had chosen (Peter, 1: 36), Peter was keen and committed and worked hard:

> I really enjoyed what I was learning ... I really enjoyed going to school [TAFE] and then night school. I went as much as I could to get through all my exams and everything. I just liked, always liked, metal work when I was at secondary school and this is like a big version of that with a lot of science in it. And I really enjoy science. So I really enjoyed going to school [TAFE].

(Peter, 2: 99-104)

In general he found that TAFE teachers treated students in a more adult manner than his school teachers had done. Critically, the emphasis in written work was more what you’re writing than how you are writing it (Peter, 2: 126). From this perspective the focus was removed from spelling and placed on content, which suited Peter. He demonstrated his satisfaction with the TAFE system by returning
to study a range of subjects at night school (Peter, 1: 122) for most of the eight years since he gained his plumbing qualification. Peter’s high regard for his trade training and subsequent course work, evidenced by his acceptance of the TAFE culture and its value systems, was indicative of an independent stage of organisational competence.

**IDENTITY**

The evidence demonstrated that Peter was a highly motivated and interested trade student. In retrospect he understood how this contributed to a positive learning experience:

> I was so keen with my job. I wasn't a little smartarse or anything like that when I went into the school [TAFE]. I just went in to work and they [the teachers] appreciated that.

(Peter, 1: 115-117)

Rather than depending heavily on support structures at TAFE he seemed to have created his own in the form of two filing cabinets at work and one at home (Peter, 1: 140) that contain the notes from TAFE. He used them as a reference source for spelling unfamiliar or technical terminology. Peter commenced apprenticeship training determined to succeed. He decided to continue studying after he had completed his initial training because he wanted to be a knowledgeable, skilled and well-rounded plumber. He was proud of his achievements in the building industry, acknowledging that his determination to succeed in spite of his spelling difficulties had been rewarding. Peter confidently discussed his attributes as a student who engaged in ongoing learning, focused on long-term outcomes rather than immediate gains. This and his willingness to create new study opportunities are indicators of a collaborative stage of identity competence.

**GROUP**

Peter indicated poor group competence in regard to his school teachers. However, his relationships with his TAFE teachers did indicate an independent level of group competence. The shift from an assisted level of compliance to the independent
stage of working in limited group relationships aimed at meeting a common goal are illustrated in the following comment:

I was never any trouble to the [TAFE] teachers. I was always so keen and if anything I settled the class down. Especially when I got a bit older and was sick of going to [TAFE] in my own time and listening to idiots talk all the time. I’d just turn around and tell them to shut up or I’d boot them in the bum, sort of thing. And that’d settle down the class for a little while.

(Peter, 2: 119-123)

COMMUNITY

At school Peter had many friends who were surprised that he wanted to leave before completing Year 12 (Peter, 1) and his does not seem to have been the basis of any form of public communication about either the school or his literacy problem. The data illustrated how his fluency in oral language made other students think he was capable of completing Year 12:

I suppose the kids I had in my class when I was at school, they probably knew I got bad grades. But there’s some people when I was at school that I actually didn’t share a class with all the way through. Because they could talk to me they actually always just assumed I was really clever and I was going to go to school all the way through. Which is why, when I left school and told everyone I was leaving, a lot of people probably thought, “Oh, gee, why is he leaving? sort of thing. Because they didn’t know how bad my grades were, I suppose.

(Peter, 1: 207-214)

Peter claimed he could talk a leg off a chair (Peter 2: 135) but could not write down what he was saying because he could not spell the words. The evidence that he communicated this to his TAFE teachers is scant. He described the attitude of one teacher who commented on his spelling as very condescending (Peter, 2: 130) and reflected that the other teachers were more interested in content than in spelling accuracy. There is no evidence of Peter representing either his school or his TAFE college publicly although he had the oral language skills to do so. In terms of discussing his spelling difficulties the evidence is that he chose not to disclose this either at school or at TAFE. An assessment of Peter’s community competence placed him at a negative stage.
Table 7.9 displays Peter’s stages of competence prior to commencing work. Also included in this analysis were Peter’s reflections on his ongoing learning program.

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Key: s = spelling

**Summary**

The analysis reported in this chapter focused on events and incidents prior to when the nine primary participants started full-time work. It drew on experiences including those of school and training to determine the stages of each aspect of competence each man took into the workplace. One characteristic feature of all cases was the way that literacy skills had impacted on education and work choices. All of the men indicated that an inability to demonstrate adequate standards of orthodox literacy was significant in the decision to leave school or take up apprenticeship training. Some participants, such as Charles, George and James, for example, were skilled at mechanical repairs and could even speak about and explain mechanical repairs. However, they were unable to read technical texts or write about mechanical problems. Those participants who were able to read found that difficulties in other areas of literacy, such as writing, spelling or comprehension, influenced career choices.

Another feature of this analysis is the low level of community competence. For example, Charles, Stalin and Dasher had few opportunities for demonstrating public competence while Sam, James, George and John maintained a persona that precluded public communication. Robert had opportunities for demonstrating community competence but was often over-aggressive and hot-headed.
Chapter 8 reports the next part of the within category sorting step of analysis. It repeats the process reported in this chapter. However, the focus shifts to literacy competence in the working years. By comparing the two parts a fuller picture of skills development over time emerged.
CHAPTER 8

MAKING MEANING: LIVES, WORK, LITERACY AND LEARNING

INTRODUCTION
Analysis for the study reported in this thesis in the first instance needed to establish first, that the primary participants engaged in a range of literacy practices prior to starting work and second, that this range expanded as a result of their workplace experiences. The previous chapter analysed data to determine the stages of literacy competence each of the nine primary participants demonstrated prior to commencing full-time work. In this chapter, analysis focuses on literacy competence in the workplace. Using the same within category sorting procedure as Chapter 7, it asks what activities the men undertook that indicated a range of literacy practices. The systematic approach taken here establishes that men who self-report literacy difficulties access and engage in the workplace literacies.

Charles
Charles left school and started work in the meat processing industry where he worked - apart from a short period as a truck driver - for 26 years (Charles, 1). Work on a meat processing chain is hard and physical and requires deft hands and quick thinking to avoid the ever-present hazards (Charles, 2; Jack). Before long his colleagues recognised him for the good worker he was (Jack) and respect for him grew. Earning respect didn’t mean having to read or write or anything else like that. It was how good you could use a knife and how you treated your fellow workers (Jack: 148-150), two attributes that were characteristic of Charles. Recognition, getting some accolades (Jack: 347) and earning respect at work encouraged Charles to try new tasks. The question to be investigated was: how have the activities Charles participated in at work impacted on his literacy engagement?

TASK
Orthodox literacy skills proved to be a barrier to Charles’ demonstration of task competence. The data illustrated that he could plan and carry out practical tasks at an independent or occasionally collaborative level, showing initiative and
resourcefulness such as deciding on priorities for maintenance jobs or creating new tasks, for example welding. However, he was unable to demonstrate the same capabilities for any tasks that require writing, reading or spelling alphabetic script.

The methodical approach that Charles took when repairing machines or carrying out maintenance was evident in the job he did that required the most orthodox literacy—interstate truck driving. He gained the appropriate drivers’ licence by memorising the instructional manual as a family member read it over and over (Charles, 1). He kept his logbook current by copying from a sample page that a family member had completed for him (Charles, 1). By not altering the route he always took, his mandated rests occurred in the same towns, so he could copy the name from previous logbook entries (Charles, 2). When unsure of where he was he used the initial letters and word lengths of town names to guide him. Alternatively, if he couldn’t find the name or couldn’t recognise the name in the town, I’d follow my way in the map. And I knew in the map where it was. So I’d just copy it down out of the map (Charles, 3: 23-25). Occasionally, he failed to stop at a vehicle checking station because he could not read the ‘Open’ sign but mostly he knew when a stop was open because of cars, trucks and flashing lights (Charles, 2). If he got lost looking for a delivery site he’d pull over and ask someone … just ask the passerby (Jack, 243-244). When he made the delivery he knew that on one part of the delivery docket there was a word beginning with ‘s’ followed by a dotted line (Charles, 2 and 3). None of these tasks could have been achieved without support structures. In effect, even though his decoding and encoding skills were poor he approached orthodox literacy tasks in the same methodical manner as he did practical activities, but without the same success. Activities that required orthodox literacy skills were achieved only with strong and sustained support. It can be concluded that when performing tasks that involve alphabetic literacy Charles functioned at an assisted stage.


**TECHNOLOGY**

Assessment of Charles’ technological use of language indicated that he had achieved all three stages of competence on the technology aspect. At a collaborative stage he was able to explain and discuss site-specific incidents. At the independent level he demonstrated initiative and a personal sense of achievement and accountability. At the assisted level he described how others supported his use of literacy.

In the environment of an abattoir, *when he puts his mind to anything* [Charles] *can do it* (Jack, 55). The forcefulness of this comment became apparent when Charles had to learn new skills in a new job that he started during the data collection period (Charles, 2 and 4). He estimated that it took him three weeks to learn how to prepare boned meat into *every cut in the body* (Charles, 3: 247) so that he was able to work on any part of the slicing line. He commented that it was important to learn new skills so that he gained a broader knowledge of his industry (Charles, 2). His ability to learn and use new skills in a variety of situations and communicate them (particularly to a novice) placed Charles at the collaborative stage of competence for the technology aspect.

When he needed to find novel solutions to problems Charles acted from a sense of satisfaction and a need to be personally accountable. For example, Jane noted that whenever Charles ran into difficulties with a maintenance job he preferred to think the problem through and then, maybe discuss or explain the solution, sometimes using sketch diagrams (Jane, 61-113). His brother-in-law noted that Charles’ solutions to problems rarely failed (Jack, 340-341), particularly if he had control over the process and procedure.

The example of interstate truck driving (above) is illustrative of the way Charles used a number of aids to assist him with orthodox literacy tasks. While there was an element of personal accountability in the strategies he employed. At the same time he used other technologies such as road maps and less traditional literacies,
like recognition of lights and colour to support him in completing tasks that require literacy. Their use indicated that in terms of the technology of literacy, he performed at an assisted stage.

His attitude to literacy tools was best exemplified by his attitude to the computer he bought for his family. He commented that his wife and daughters constantly used it to play games and that they would assist him when if he wanted to use it, yet he also noted that he had been too busy to experiment with it (Charles, 5). His comments and his body language suggested a reluctance to engage with a new technology, particularly one that did not have the simple structure of an engine where he was able to control the procedural processes (Field notes, 28/04/01). Jack considered that because Charles did not understand how computers worked and feared that he might *stuff something up* (Jack, 431), he would never try to use one.

**Organisation**

The meat processing industry is very competitive. Over his years in the industry various employers have treated Charles both fairly and harshly (Charles 1, 2 and 5). He was under no illusion that his efforts were always appreciated or rewarded but, as a realist, he recognised that his work was of most value to himself. Despite this the data demonstrated that he was always keen to work efficiently, accurately and neatly believing that putting *out a nice product* (Charles, 5: 343) was an indicator not only of his high standards but also reflected well on the enterprise in the market place. He was grateful that his current company took on a retrenched forty-year old with no trade qualifications and he worked hard to learn the new tasks that were required of him.

At the same time he recognised that he had working, practical knowledge that was superior to his boss (Charles 5). Although Charles rarely referred to organisational goals, as an employee he represented the values and culture of the enterprise in which he worked but had not reached a point of making suggestions about
workplace systems. Thus, Charles demonstrated an assisted stage of organisational competence, with indications that he was moving toward an independent level.

**IDENTITY**

The data demonstrated that Charles actively broadened his personal knowledge by accessing others, an indicator of an assisted stage of identity competence. The most striking example of this in the data was his report of learning to weld. While he recalled that one day at work he *picked up the welder* [and] *taught myself* (Charles, 2: 18-19) because he had always wanted to weld (Charles, 2) there were others around who tutored him and whom he watched. He was permitted to try any welding jobs that needed to be done and a *couple of other blokes there that were welders* (Charles, 2: 34) gave him tips or hints while he was welding. They were also available when he sought clarification of solutions to problems. This was not explicit theoretical, book-centred learning. It was authentic, onsite, problem-based learning. The result was that in regard to oral literacy, Charles demonstrated some of the attributes of an individual at a collaborative stage of identity competence. In the data this was manifest in his description of the welding process. I know nothing about welding but he was able to describe the intricacies of the process at a level I could comprehend (Charles, 2). In a subsequent interview he was also able to clarify points I raised about welding (Charles, 3). This did not surprise Jack who commented that Charles *can explain um the workings of most things to the lay man who has no idea of what he is talkin’ about* (Jack, 171-172). For a description by Charles of learning and explaining a new skill, see Appendix E.

**GROUP**

In the early days of working in an abattoir Charles learnt to follow instructions from experienced slaughtermen. However, the instruction was limited. *They’d show you what to do and then just leave you with it. Virtually, so you just learnt on the way, as you went along* (Charles, 1: 143-144). For a thirteen year old it must have been daunting working in a *pretty rough sort of area …* [where] *there is a heck of a lot of dangerous things. You stick your hand in the wrong spot [and] it will come off*
Learning teams and workplace training were not common when Charles started work:

*You started at the bottom and if you wanted to work your way up well you just took notice of what other people were doing and just learnt that way … if you were to step up it was a good chance that someone else had to lose their job. So everyone was pretty keen on not losing their jobs. So they weren’t over helpful in actually showing you … and] then if you didn’t pull your weight you weren’t there the following day.*

(Charles, 1: 150-161)

To succeed in this environment Charles had to develop a network of relatives and associates to support him. When a dispute arose at work, for instance, it was Jack who told him how to contact the relevant union (Jack: 118). Over the years this network broadened according to Charles’ needs, so that, he began to shift from compliant group relationships to developing work-related teams for specific purpose. This was illustrated in his truck-driving career when his poor literacy skills resulted in fines, as he described in the following interchange:

**MK:** What happens if you don’t get your logbook correct?
**Charles:** You get fined.
**MK:** And did you cop many fines?
**Charles:** Yeah, quite a few.
**MK:** What did you do about it?
**Charles:** In the end it got that bad that I actually went down to the RTA [Road Transport Authority] it was at the time and spoke to a bloke there and explained the situation to him. And whenever I got fined for a spelling mistake or something (if I’d gone over my hours or something like that, well that was on my head). If it was a spelling mistake or something like that I just used to just ring him up and he’d fix it up for me.

(Charles, 2: 111-121)

This incident was important because it indicated Charles’ ability to establish teams with a particular focus. Jane had recognised this change in behaviour over a few years. She considered that because *increasingly he believes in himself* (Jane, 320) and his achievements, he is less dependent on constant assistance in order to function in and communicate with groups beyond the family circle. As a consequence of his growing confidence Charles’ family and friends now try not to
offer ... information unless he asks (Jane, 336). This change represents a development in Charles group competence which has shifted to a stage of independence.

Additionally, as Jane has noticed, of late he is more likely to tell people about his literacy problems when it is necessary for them to know. She believed the reason for this was because once he thought he was stupid ... and now he knows he’s not. Maybe he’s more confident that it’s OK because he’s proved himself in so many other areas (Jane, 177-179). The realisation that he has skills and capabilities that are useful to others in diverse contexts is indicative of an individual who understands “how one’s standpoint, purposes, background and activities can contribute to the larger goals of a group” (Cope and associates, 1995: 49). In terms of the group aspect of the Framework this signifies movement toward the collaborative stage for Charles.

COMMUNITY
Charles was a member of various groups—his extended family, his co-workers and his friends who shared his passion for working on car engines. Generally, Charles’ cooperative communication was kept within the real close circle (Jack, 292) of friends and associates with whom he confided. He was able to engage in limited interactions with people beyond this group, initially mediated by a trusted individual, as illustrated in the following comment:

I know what it’s like going in with him to order something for lunch or whatever. He’ll generally, the first thing he’ll say is, “What are you havin’?” And then I might go through a bit of a list. We’ll just quietly standing at back and I’ll just tell him what’s there. I know we’ve been to hotels and stuff like that and the first thing I’d say is, “What are you having?” And I’ll tell him what I’m thinkin’ of having and then I’ll tell ... look we’ve sort of been that close together. I sort of know what sort of food he likes. And he sort of knows what I like. So yeah I might say, “Oh there’s this or that” and he’ll make his own mind up.

(Jack: 262 – 371)
Interchanges, such as this were typical of the way Charles negotiated public literacy engagement. However, on occasions that Jack joined Charles on his interstate trips, he noticed that Charles would have the confidence to ask strangers to direct him. What motivated these community literacy engagements? The data suggested at least two alternative answers. First, Charles did this because time is money in the trucking industry and he wanted to save time. This type of individual accountability indicated task competence. Second, he was conforming to commercial expectations of drivers and representing the enterprise. If the latter is the case it must be conceded that while there are instances of these attitudes in the data, their occurrences are not frequent enough to place Charles beyond the assisted stage of cooperative communication.

Summary
The workplace provided many opportunities for Charles. In the meat processing industry he learned how to process a complete animal carcass (Charles, 3), maintain a range of industrial machines (Charles, 2) and deliver orders on behalf of the company (Charles, 2). As an interstate truck driver he learnt to navigate using maps, complete standardised forms and driver logs, seek help when necessary and make accurate deliveries (Charles, 2 and 3). From his private life he brought an ability to repair and rebuild all types of engines (Charles, 1) to his work environment. All of these activities enabled Charles to engage more regularly with a range of literacies. A comparison of his stages of literacy competence before he started work and in the workplace is represented in Table 8.1.

| Table 8.1: Comparison of Charles’ Stages of Competence Over Time. |
|----------------------|----------------|----------------|------------|-----------|-----------|-----------|
|                      | Task         | Technology    | Organisation | Identity  | Group     | Community |
| Collaborative        | ●            | ●             | ●           | ●         | ●         | ●         |
| Independent          | ●            | ●             | c           | ●         | ●         | ●         |
| Assisted             | ●            | ●             | c           | ●         | ●         | ●         |
| Nil                  | ●            | ●             | c           | ●         | ●         | ●         |

Key: c = communication
● = before work
● = at work

As the table illustrates Charles engaged in many more literacies and at higher levels of performance at work than he did before he commenced work. Remembering that
he was thirteen years old when he left school, some of this increased engagement
could be attributed to growing maturity. However, work offered him many more
experiences than were available at school and he used these to gawith respect,
demonstrate the value of his practical knowledge and, as both Jane and Jack noted,
grow in confidence. As Charles commented, I don’t have a big hang up over
[literacy] any more … I probably did when I was younger (Charles, 5: 565).

James
The data indicated that the competence stages James demonstrated prior to starting
at Firebrand did not abate immediately. James made few comments about this
period although he did note that it was tough because you don’t want people to
know that you didn’t read (James, 4: 334). On the other hand both William (James’
colleague for many years) and Mick spoke about this time. It appears that in the
section where James worked for many years he had a history of disruption …
largely by [other] guys firing him up (Mick: 113-114). The motivation for this was
that he was considered dumb because of his partial literacy skills (William: 68) and
was consequently bullied. As James saw it when you had arguments or anything,
you settled it. Like you just went out the back and settled it and no one was worried
(James, 4: 337-338). Despite this propensity to settle arguments by fighting, over
the years James became highly skilled in operating a machine that made barbed
wire (the barb machine) and had, by default and not certification, become a senior
operator.

However, around the end of the 1990s (fifteen years into his time at Firebrand) an
incident occurred at work that changed the way James perceived his role in the
workplace. He described this incident and William confirmed it, noting the huge
change (William, 65) it had made in James’ attitude and focus. In essence, despite
their concerns about his disruptive behaviour, Firebrand management were forced
to transfer James as the senior operator into a new area managed by Mick. Being
new to the site Mick had not come in contact with James but knew him by his
unfavourable reputation. James’ accounts of the lengthy and acrimonious
negotiations are in Appendix E. If all three participants interviewed for this case
note a change in character, what were they and how did they impact on James’ literacy engagement?

**Task**

In many ways literacy engagement had crept up on James. For example, he was not able to explain fully how he came to know or comprehend what the routines or signs, such as safety signs that proliferate in heavy industry, were except to say *you just know what it is* (James, 1: 85). Nor could he explain how he learnt to do the literacy tasks associated with one barb machine (his task on the former site). In the new barb shop he has control of up to eight machines where he was:

*required to do a tally sheet at the end of the shift where they just add up all the reels that they’ve made, number of second grades, record the machine delays on the sheet. Once a week the shift is required to do their quality assurance checks on the product off the machines which requires them to measure the barb spacings and record numbers on pieces of paper. He’s required to organise the other two guys on the shift.*

(Mick, 76-82)

In addition James engaged with literacy in a number of routine tasks that were his responsibility. First, he did much of the training and assessment in the barb shop to a very high standard (Mick, 95). James used a teaching style that involved explanation, modelling and supported practice (James, 4), recognising the diversity and difference characteristic of Firebrand. Although he had not read the training manuals, he discussed them with the men. In his opinion *half the things in them are wrong* (James, 4: 238) because they did not accurately reflect the skills the men had learnt on a variety of different machines that do the same task. Nor do the manuals make any concessions to different learning styles, an element that James factored into his teaching (James, 4). Apart from ensuring that trainees could operate the machines efficiently and safely, teaching entailed assessing the progress of each trainee and reporting back to Mick. Each trainee needed to reach a certified standard and James expressed concern that his literacy skills impacted on his ability to certify trainees (James, 4). At the date of interview Firebrand was reluctant to allow an employee who could not read training documents and reports to sign off
the paperwork (Mick, 84). As a result James was training staff and another team member was confirming certification, a situation with which he was not happy.

James' second type of literacy engagement surprised him. Mick observed James and noticed that he had a fair bit of influence [with the men and] a bit of the gift of the gab (Mick, 106-109). On the occasions when industrial or personal problems with the operators (Mick, 105) compromised output, Mick asked James to negotiate with the men. James cited this as one aspect of work that he had never considered he had ability in. He was surprised that it all worked out [and he was able to] play both ends (James, 4: 301), i.e., union and management.

Safety standards at the old barb mill were so poor that James was put in charge of safety, thus introducing him to a third opportunity for literacy engagement. Initially, this meant raising safety issues within the shift and promoting a concept of safe work practices. Achieving this meant meeting the men, formulating ideas, acting on them and reporting on local goals. With an improvement in safety he was able to hand responsibility to a colleague. However, in the new barb mill he has progressed from the mill Safety Officer to membership of the mill safety committee and at the time of data collection was a member of the site-wide safety committee. On this he represented the mill at meetings that discussed safety concerns across the Firebrand complex. Literacy tasks involved a higher level of negotiation, comprehending issues outside areas of the company that are familiar to James, following meeting procedures, becoming cognisant with problems within the mill, presenting them appropriately at meetings and reporting meeting decisions to workers at the barb mill. As a result of his record as a safety officer he gained First Aid accreditation during the data collection (this was not volitional) and became the First Aid officer for the mill. When asked how he would write reports on treatment he reasoned that all he would need to do was:

*put the names in the book and the date and the department. So I can handle that, I can do the date, the department won’t be any trouble 'cause I know most of them like barb and wire drawing and that.*
They're all initials mostly. The only thing will be the names. I'll work on that [laughter]. It shouldn't be too bad, I hope.

(James, 2: 334-338)

The importance of this statement was the number of literacy tasks that James knew he could do. His initial concern about undertaking First Aid training, which was biased towards people who could read overhead slides and takes notes, was replaced by a confident conviction that he could manage any ongoing literacy demands.

With recognition of his ability and knowledge James participated in other periodic activities that made demands on his literacy skills. For example, in his role as a senior operator James had a note pad [on him] all the time (James, 3: 355) to jot down memos that helped him remember specific tasks he had been asked to do, production counts or ideas about improving production that came to him. Figure 8.1 is an example of a memo he wrote to help him remember a task he created himself aimed at presenting a better, more recognisable product.

**Figure 8.1 A Memo Written by James**

This memo illustrated the way James used a type of shorthand to help him remember jobs. The numbers refer to the thickness of the barbed wire. s,p means spools. Green and red refer to the colours he wanted to paint the timber spool the wire ran onto. James gave no explanation for MUP.
In addition, on more than one occasion he made individual oral presentations to mill personnel (Mick, 155-156) during team meetings. Frequently, these presentations required James to present technical data, a task that requires careful preparation (Mick) and an ability to explain complex ideas simply.

The variety of ways that James engaged in literacy resulted in significant shifts in his task competence. While he indicated and assisted level of competence in some areas such as reading meeting minutes (James, 2), in others he demonstrated a collaborative level. This higher level is exemplified in James’ attitude to undertaking literacy rich tasks as part of a broader organisational process (high quality training results in high quality products) and his keenness to reflect on current processes and reformulate them (training manuals, safety programs). At an intermediate or independent level of competence James demonstrated individual accountability for achieving corporate goals, exemplified by his insistence that the product you run off has got to be a good product (James, 2: 25). Further, James’ new responsibilities impacted on all other competence levels as mapped on the Framework.

TECHNOLOGY
James emphasised knowledge of technology, stressing the importance of knowing and understanding how the old machines worked and operated (James, 2) in order to produce quality barbed wire. Since he has operated barb machines for more than sixteen years his level of competence on the barb machine in the technical aspect has advanced. In the process his technical skills and knowledge and his physical capability on the machine were harnessed into the literacy skills of reporting on the machines and teaching others to use them. The quality of this transformation was indicated not only by the excellence of his teaching as reported by both Mick (94-99) and William (116-121) but also by his very detailed description of the teaching process and the attitude of his students to the task and the technology (see Appendix E). Specifically, he indicated that he was well aware of the types of human issues that impact on machine use. For example, James encouraged his
students to relax so that they handled the wire appropriately (*very soft*, James, 4: 45), feel part of a team by sharing their perspectives on operating the machines and work safely without slavishly copying his technique (James, 4). These are indicators of a collaborative stage of technical competence. Furthermore by recording production figures about each of the 24 machines in the mill and writing memos about particular functions (see Figure 8.1), James demonstrated an independent level of technical competence with respect to literacy.

**Organisation**

For most of his time at Firebrand James understood his place, knowing that *if you [didn’t] fit into that hierarchy that’s virtually it* (William: 77-78), that is, you lose your job. He performed tasks relevant to Firebrand that were mandated at his level, grateful for and comprehending the *value of having a job* (William: 190) after years of unemployment. Since the move to the new barb mill his organisational focus has shifted from absolute self-preservation to some consideration of the organisation. He was quite specific in defining the period of change, namely the time when he was asked to solve problems in commissioning the new barb mill, the time that he decided to *give ’em a second chance* (James, 3: 276). In the period since then, he claimed to have *mellowed* [and] *changed* (James, 3: 162) from a brash, aggressive and disruptive employee to *a very effective operator* (Mick, 120). As a result he developed a broader recognition of the company and its relation to other systems. This was illustrated in his approach to mediating industrial and personal issues in the mill. James’ membership of site-wide groups such as the safety committee allowed him to invest elements of his individuality into the system, create alliances and adopt a participatory and active relationship with the systemic structures at Firebrand.

Another incident that illustrated a changed focus was the background to the memo about painting spools (Figure 8.1):

*I want to paint one green, painted one red, so I just run ’em on the barb. So it’s just tellin’ me I wanted a green spool, a red spool and I run them on the barb … so you can tell the difference. The main*
idea of that was for marketing. It was me own idea. We were marketing in a blue wire (well, zinc oxide) - well that’s painted. That scratches off, where the other stuff comes - it doesn’t scratch off - what we used on the barb machines. But it was going on the ordinary barb spools, 180 barb spools, which were only a clear timber, raw timber, you know, not painted. And I thought to meself, well, if we put them on a coloured spool it would make them, because the blue’s like a grey, if you look at it. It’s real dull colour. It is blue but it doesn’t look like blue. And I thought, if we put them onto a colour spool like a red spool or maybe a green spool (I like the green) the green spool and make the colour stand out, so they can market it better. Well, I talked to the marketing bloke about it and … he said it was worth a go … so I brought a tin of paint meself and I took two spools home. … That was the idea of it. To make that product, it’s only a new product, stand right out.

(James, 3: 378-408)

In terms of the organisation aspect of literacy engagement the significance of this statement is that James was confident enough to discuss an idea with people outside his immediate work environment. Having discussed it, he then went ahead and prepared a prototype. His focus was not on James but on the enterprise. Incidents such as these described in this section are indicators of a collaborative level of organisational competence.

IDENTITY
In his early days at Firebrand James worked hard at projecting the image of a literate person or at least not being picked out as non-literate. Using his sporting prowess, he played for Firebrand’s cricket and football teams. William, who observed James’ workplace behaviour, described it as aggressive behaviour; [a] bit pushy. A bit right with some things. [for example] my way’s the right way … I’m pretty good at this and someone else, if they want to try, they might be as good (William: 50-55). When individuals exhibit behaviours like those noted by William, working in teams is difficult.

However, the events of the second chance opportunity demonstrated to James that they [Firebrand management] actually wanted me, where before no one wanted me
(James, 3: 322) and resulted in changed behaviours. Mick’s comments reflected the positive contributions James had made to Firebrand over recent years. His is an example of reversing the valence-expectation intersection (Tuijnman and Van Der Kamp, 1992). As noted in Chapter 2, when employees fail to value workplace programs and have low expectations of their ability to achieve, barriers to participation are created. In the case of James, his supervisor, Mick, had high expectations and has provided structure that helped to develop James’ confidence. As James reflected, the most important thing about it is that someone thinks that I can do [it] and keep it going (James, 4: 311). The sociocultural implications of Mick’s behaviour are examined in Chapter 9.

High expectation on Mick’s part and the consequent increased confidence James referred to were reflected in literacy engagement. For example, at an independent level James identified with organisational values and culture. This was best illustrated by James’ responses to working conditions in the new barb mill. Originally, he was contemptuous of the proposed new culture [because] … they wanted the blokes to … work twice as many machines and do everything until they dropped (James, 3: 234 and 248-250). Two years later and recognised as the leading trainer in the new barb mill he tacitly agreed with Mick that operating twice as many machines was the nature of the job and that’s the way they’ve [the operators] got to work (James, 5: 146).

At a collaborative level James indicated that he recognised and could negotiate diverse personalities. He demonstrated how recognition of the diversity of the workplace was becoming apparent in his own work. For example, he spoke about the teacher/student relationship:

You know, you’ve just got to be nice to the people. Like you mightn’t like them that much. They might conflict. You can, as soon as you see someone, say to yourself, “Oh this bloke’s going to be a failure.” And he is. You know, like a bit of a rat. But you just can’t do that. You’ve got to, you know, you’ve got your job and you’ve just got to try, you know. So, it’s very hard.

(James, 4: 162-167)
It is difficult to estimate whether these skills were inherent in James or whether they were evidence of Mick’s influence. James conceded that Mick’s intervention and guidance played a big part (James, 5: 355) in refocusing his identity. Asked to reflect on Mick’s qualities, James listed a willingness to sit, listen to and absorb issues raised by his team, negotiate problems, encourage innovative thinking and have realistic expectations of the operators.

GROUP

Having his senior operator skills recognised and given responsibility to run the shop (Mick, 124) was pivotal for James. He was able to demonstrate that he was a responsible worker who could “take initiative, negotiate, effectively, deal with cultural, linguistic and gender differences” (Cope and associates, 1995: 46). Since transferring to the new barb shop he learned to regard his work as purposeful. Further, his frequent referrals to the quality of the product, the need to reduce waste and the time he spent negotiating safety issues for members of his shift and the mill as a whole indicated that James recognised that he could “contribute to the larger goals of [the] group and the mission of the organisation” (Cope and associates, 1995: 9), a standpoint antithetical to his fourteen years of aggression and disruption.

Of all the tasks required of James in the new barb shop, those most closely associated with orthodox literacy were presentations to the team. Mick described a situation that arose in the new barb mill:

We wanted to create some official trainers. And James was the logical candidate for the barb area because of his previous history and the fact that he wanted to do it … One of the requirements, apart from a written acknowledgment that he wanted to do the thing, was he had to stand up and do a five minute presentation. Why he wanted to be the trainer, why he thought his attributes were better than others, his understanding of the wireworker training model and something else … So he did his presentation which was pretty good. It was all verbal.

(Mick: 150-160)
For activities such as this James relied on his wife in the preparation and rehearsal of material, assistance she had provided for many years. However, he demonstrated an independent level of competence by establishing a team for a specific purpose, tapping into the resources of the team to prepare a safety presentation. As Mick explained, the boys had generated graphs and stuff for him and sent some information. He presented and put it up and he could talk about it, ’cause he just memorised it. (Mick: 308-310). Accepting and responding to the challenges inherent in public presentations placed James at an independent level of the group or cooperative communication aspect of competence.

**COMMUNITY**

Increased familiarity with meeting procedures and more confidence in meetings, particularly at work, led James to demonstrate a broader repertoire in the community or public communication aspect of competence. After many years as a member of a local rifle club he took on the role of club captain, a task he had always wanted to do (James, 4: 853) but had not done so because of his literacy. In explaining that when you feel like it’s your turn to do something, you just can’t freeload on the club all your life with someone else doing all the work (James, 4: 879-881) James demonstrated awareness of both organisational and community aspects of competence. While he needed help from his daughter and wife in the literacy tasks associated with this role he was demonstrating an independent stage of competence in performing other tasks associated with this position.

**Summary**

When James commenced full-time work at Firebrand he was functioning at the assisted competence level of the identity or personal communication aspect and the independent level of the technology or technical communication aspect. Owing to organisational changes opportunities opened up for James and he has been able to demonstrate a broader repertoire of competence. His technical communication is at a collaborative level, as is his personal communication (identity), organisation (systems communication) and procedural communication (task). In the community (public communication) and group (cooperative communication) aspects of
competence James is functioning at an assisted to an independent level depending on the task. This comparison is presented graphically in Table 8.2.

<table>
<thead>
<tr>
<th>Task</th>
<th>Technology</th>
<th>Organisation</th>
<th>Identity</th>
<th>Group</th>
<th>Community</th>
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<td>Independent</td>
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Key: c = communication
w = writing

= prior to working at Firebrand
= working at the new barb mill

Stalin
After seventeen years at Firebrand Stalin was forced to find another job in the complex. He applied for and gained a position in the reconditioning yard where Ray was his supervisor. Stalin had maintained the habits he had brought with him to Firebrand and had developed a reputation of being slow to learn. It was his way of keeping out of trouble so that he was not bullied. Ray assessed him as being scared [and] unsecure [sic] (Ray, 376-378) when he commenced in the reconditioning yard.

Being in a new worksite, Stalin commenced at entry level and had to learn many new skills to reach level 3, the highest grading for semi-skilled workers in the reconditioning yard. Stalin described the reconditioning yard as very organised, influenced by Ray who was a very straight shooter … you never tried to put anything over Ray (Stalin, 5: 1276-128). Despite thinking he would never gain a Level 1 certification (Stalin, 3) with the support of Ray on the shop floor and Joan in literacy or training classes Stalin achieved a Level 3 grading by the time the reconditioning yard closed.

Already aware that Stalin had problems learning, Ray decided to take him under my wing because he seemed like a person that needed a bit of coaching (Ray: 6). It was an important decision that had long-term implications for Stalin. Ray’s philosophical stance, that with a little bit of time and little bit of encouragement
[most trainees] seemed to go a lot further than what they [had believed they could] (Ray: 59-60), suited Stalin and was evident in all aspects of competence.

**TASK**

By the time Stalin arrived at the reconditioning yard his self-confidence was so low that, he wanted to do nothing … He didn’t really want to get in there and do a real lot. Whatever was the simplest or easiest for him (Ray: 349-351) would do, even sweeping the floor. However, in an era of multiskilling, Ray knew that Stalin had to start from the bottom and he had to go from Level 1 to Level 3 (Ray: 39-40). Achieving Level 3 entailed learning many new skills including the operation of heavy machines such as cranes and grinders. Competency assessment was a requirement for all heavy machines. For Stalin this meant study, practice for a mandated number of hours and passing a test. His supervisor Ray discovered that Stalin had:

*... done things but he always needed a little bit of help to get along. So therefore it wasn’t just necessarily just showing him once or twice. It was showing him quite a few times how to do things. And in some aspects of it tended to get like a little bit annoying, I suppose, at times. ‘Cause you could actually show him things one day and the next day he was back asking the same questions. So you had to be, sort of; fairly persistent, I thought, with him because, as I said, it could get annoying. It could get a bit frustrating. (Ray: 48-55)*

In the reconditioning yard, Stalin functioned, procedurally, at an independent level. He demonstrated to Ray that, once trained, he could “complete tasks independently … find and access familiar and unfamiliar textual and other information sources as necessary and … understand how [his] work activities fit into the overall goals and practices” (Cope and associates, 1995: 49) of the enterprise.

Among the certificates Stalin gained were *forklifts ticket, crane driver’s ticket, slings ticket, bobcats ticket, backhoe’s ticket* (Stalin, 4: 232-233), grinder, furnace doorman and thermomatic operators’ tickets. Joan linked the modules for each of
these certificates or tickets to developing orthodox literacy skills. The more certificates Stalin gained the more confident he became of his own ability:

*He … went from working just say basically on the floor, to grinders, to crane driver, to thermomatic operator, to inspector, to all these things he, sort of, as he kept going and he kept building on it his confidence built more and more all the time.*

(Ray: 226-229)

As a result of his increased confidence Stalin began to demonstrate higher order skills of analysis and negotiation. This was evidenced in his work on the Transitional Steering Team (TST), the committee charged with establishing *infrastructure* (Stalin, 3: 192) to facilitate an easy transition, managing the closure of the plant and the redundancy of the workers. Ray asked Stalin to attend TST meetings even though Stalin believed he had nothing to contribute. In order to gain the best redundancy conditions for himself and his colleagues he became a very active member of this committee. Stalin became so committed to the TST that eventually Ray handed over responsibility for the reconditioning yard on the committee to him.

Other benefits of working on the TST were that Stalin found that he was constantly engaging with documentation (Stalin, 3 208-214). This included taking and making notes, reading, interpreting and discussing charts and graphs, arguing viewpoints, providing explanations, lobbying and public speaking. In addition he improved his comprehension skills, owing largely to the work on the TST. Typically, tasks entailed high level literacy skills, such as creating hypotheticals, using inferences, interpreting, validating and verifying data, all of which are premised on full and detailed comprehension. In other words without improved comprehension Stalin could not have succeeded in this role.

Mapped onto the Framework (Cope and associates, 1995) Stalin demonstrated a range of task competences. When learning to operate new machines he functioned at an assisted stage, supported in the reconditioning yard by Ray and in learning orthodox literacy skills by Joan. When he gained certificates he was able to show
that he focused on performing tasks based on enterprise requirements, that is, at an independent stage. On the TST he worked hard to achieve the best redundancy outcomes for himself and his colleagues. At the same time he took on the perspectives of other people in the organisation and created new tasks. This is characteristic of a collaborative stage of task competence.

**TECHNOLOGY**

At the time of data collection the evidence indicated that Stalin functioned at an independent to collaborative level in the technological aspect of competence. By achieving a Level 3 grading at work he demonstrated that he could operate and explain a range of technologies. At the same time he was able to work collaboratively with others in demonstrating the operation or maintenance of specific machines.

Stalin reported that his proficiency as an operator improved and that he noticed he had an increased ability to help other workers with specific operational problems (Stalin, 4: 411-416). For example, some specialised machines that he never thought he’d be able to do (Stalin, 3: 78) took up to a month to learn. Since they were old machines they often broke down. After he had been operating them for a while he got to know what these breakdowns might be. Before you’d call a tradesman you had to go and check certain things (Stalin, 3: 98-100). In addition, during his period in the reconditioning yard his proficiency and confidence in the use of specific, complex machines enabled him to describe their use competently and at a level suited to a novice listener (the researcher). On the technical aspect of competence Stalin functioned at an assisted level when learning new skills and an independent level as a proficient, multiskilled operator.

**ORGANISATION**

Stalin’s work on the TST awakened a latent interest in and concern for his colleagues and taught him a great deal about management perceptions of the shop
floor. It was the first time Stalin had envisaged work from the organisational perspective.

He demonstrated that he is able to relate and interpret events outside the sphere of work to and in terms of actions and behaviours in the workplace. For example, he was able to link changes in his workplace to global change that included the disintegration of the Iron Curtain and political change in South Africa (Stalin, 4: 175-177). He also demonstrated that he understood how globalisation and the collapse of world trade barriers had forced Firebrand to close a part of the enterprise (Stalin, 1: 96-101).

As a member of the TST Stalin advanced his competence in system communication. He cites this (Stalin, 2) as one of his major learning achievements - discovering how a large enterprise works and thinks. Making this discovery would have placed Stalin at the independent level but, in seeking out management personnel independently and getting to know them, he chose to engage with individuals in the organisation. Some colleagues on the TST even considered him to be too company minded (Stalin, 4: 302)! This, in the aspect of system communication, places him at the collaborative level.

**Identity**

Under Ray’s patient tutelage Stalin’s *confidence just got bigger and bigger all the time* (Ray, 137-138). He entered the reconditioning yard meek, yielding and unwilling to attempt new tasks. By the time he left the yard he had established a reputation as a worker who was interested and enthusiastic and *was willing to have a go* (Ray: 126). He actively participated on the TST, questioning decisions, searching for answers in discussions outside meetings and meeting in his own time with management personnel in order to answer his colleagues’ concerns (Stalin, 4). As a delegate he became outspoken and tenacious and felt confident participating in meetings and giving opinions based on his research (Stalin, 4). He described the resolution of an incident on the TST shortly before closure:
There was a lot of blunt talking and there was a stalemate. And I decided that we had to bloody well get things back on the track. So I had a talk to my foreman. I said, "Look," I said, "I can’t, ... My spelling’s atrocious. But what I want to do [is this]. I want to ask you to get on the Internet and get this message across to everyone. And get like a couple of photostat copies and speak to people." And basically I used the philosophy about the Palestinians and the Israelis. At the end of this thing I basically sort of said, ... I raised issues. And at the end I basically said, "Look, even the Israelis and Palestinians are talking to each other. So, if we really care about our fellow workers, it’s about time we got back together again and started talking."

(Stalin, 3:172-182)

In terms of the identity aspect of competence this incident demonstrated that Stalin understood the importance of recognising that negotiations should occur in spite of diverse identities, motivations and individual attitudes. These high level skills are characteristic of a collaborative level of identity competence. Supporting this judgement was Stalin’s ability to “recognise, evaluate and mediate from a diversity of perspectives” (Cope and associates, 1995: 49). Importantly, instead of seeing himself as isolated his experiences in the reconditioning yard taught him that he has skills that could be transferred to other contexts.

GROUP

Stalin had little conception of positive group dynamics, would not attempt new tasks and was fearful, based on experience from his previous worksite, that everyone in the department would ridicule him if he made a mistake when he started work in the reconditioning yard. The latter was a problem that Ray worked hard on because:

that sort of thing seemed to worry him. He thought that he was the only person in that yard that somebody was laughing at because he buggered up. But they weren’t ... but he took it more personally, I think.

(Ray: 401-403 and 408)
Ray believed that Stalin’s involvement in the TST process was the catalyst for Stalin believing that he could be an active and valued team member. In Ray’s opinion Stalin began to understand group dynamics and was less affected by negative comments from his peers. This was well illustrated by his reaction to a question about the response of other committee members to his negotiating a solution to the stalemate that arose. He commented that he consequently got a bit of negativity … but it didn’t really bother [him] too much because … we went from a stalemate back to dialogue (Stalin, 4: 289-291).

In preparing arguments for TST meetings he was influenced by news items (Stalin, 3 161-162), such as Palestinian/Israeli peace talks (Stalin, 5: 180) or the breakdown in communication that resulted in beheadings in Indonesian Borneo (Stalin, 4: 292-298).

One incident that drove home to Stalin the value and importance of teamwork was when he gained his driver’s licence. He was in his thirties and his parents were still driving him to work. Despite believing he would never get a licence he approached Joan who obtained a computer program of road rules. With support from other men on his shift who helped him practise his theory at lunchtime or supervised him when he was test driving (Ray; Stalin, 5) Stalin passed his licence test. All of them shared his excitement when he finally drove to work on his own, although he thought that none of his colleagues was surprised at his achievement (Stalin, 4).

Stalin’s cooperative communication, the group aspect of competence, ranged from assisted to collaborative. He demonstrated an ability to value the team in a workplace setting. With Ray’s guidance he became more team-focused in the yard and his position on the TST gave him skills in negotiating outcomes that suited the diverse group he represented. This is particularly demonstrated in him seeking to overcome the stalemate that had occurred so that six new members of the team were given the opportunity to gain optimum gradings prior to closure.
COMMUNITY
Prior to working in the reconditioning yard Stalin had few opportunities to respond
to the broader cultural and social trends that impact on literacy practices at work.
The data indicated that Stalin was interested in current affairs and could relate
events at work to incidents in the wider world. He frequently made reference to
figures of history, such as Stalin and was able to explain how global commerce had
eventually resulted in his redundancy (Stalin, 1). The only time that he was able to
use his current affairs and history knowledge was when he represented his shift at
meetings of the committee. There, in incidents, such as the stalemate outlined
above he prompted the team to view their dispute from a different perspective,
drawing on the diversity of opinions and cultures that characterised Firebrand.

Becoming aware of the perspective of management through the TST meetings was
also important for Stalin. He became aware of problems and corporate positions
that are not always readily apparent to frontline workers. During his time at
Firebrand and particularly in the reconditioning yard Stalin developed a
competence in public communication that was not discernible earlier. By the time
he had left the reconditioning yard Stalin had achieved a collaborative stage of
community competence.

Summary
Most of the time Stalin worked at Firebrand he maintained the low level skills and
the attitude of subservience with which he commenced work. The five years he
spent in the reconditioning under Ray’s supervision proved to be a turning point.
The evidence was that Ray had high expectations, which Stalin met and sometimes
exceeded. In those five years Stalin’s competence stages in all aspects improved.

A comparison of Stalin’s stages of competence over all aspects of competence is
shown in Table 8.3. The gains that he made are quite obvious. The next stage of
analysis (in Chapter 9) examines the sociocultural factors that could explain such
gains.
Robert Disenchanted with school, Robert left after completing Year 10 and took up a horticulture apprenticeship. At the same time he joined a trade union and an associated political party. Analysis reported in the previous chapter indicated that his trade union affiliation led eventually to his appointment as an Industrial Officer, dealing with disputes and representing members in the Industrial Commission. The next part of the analysis focuses on this period.

**Task**

For a man whose trade revolved around outdoor activities, Robert’s new position was a complete contrast. It had a high literacy component, particularly reading, composing, writing, analysing, arguing, debating and discussing. Since he does all the industrial cases [for his union] that need to go to the Commission (Scott: 12) he needed to understand and kept abreast of industrial law as well as Commission procedures and protocols. Scott noted that academic literacy is very important once you get past the point of not resolving [an issue] and going to the Commission (Scott: 445-446). Additionally, Robert should be able to communicate industrial issues to individual members, local organisers and union delegates in a manner that is comprehendible. Robert achieved these tasks, although he required some support.

In preparing cases going before the Commission Robert was required to determine a course of action based on evidence and use appropriate courtroom techniques in presenting his case. Although he had never done this Robert undertook training in industrial law (Robert, 5) and used the performance of others at the Commission,
including legal teams and presiding officers, as models for his own presentations
(Robert, 2 and 3). While critically thinking and analysing, structuring arguments
and reading were not difficult for Robert he struggled with expressing himself
orally and in writing. Three years into the job he considered that some of the
dispute notifications and letters he wrote early in the job leave a lot to be desired
(Robert, 1: 165). Being able to reflect appropriately on his performance helped to
improve Robert’s writing so that after three years his letters are a lot better (Scott:
220).

The evidence was that in the early days of his job he maintained a stance of not
requesting assistance but tried to do everything on [his] own (Scott: 184).
However, although he may not have requested support the data demonstrated that
Robert incorporated several tools to assist his early performance of tasks associated
with his job as an Industrial Officer. These included Commission personnel,
clerical staff and books.

At the time of data collection Robert demonstrated an assisted stage of task
competence with regard to expressive language owing to the scaffolds he put in
place to aid him in doing his job. More recently he began to seek assistance
overtly, not by asking but by putting up a proposition for others to comment on
(Scott: 340). This not only demonstrated that Robert sought assistance but also that
he respected other union officials’ opinions. Although this behaviour helped him in
his tasks it also had implications for group competence. In indicating respect for
more experienced officials Robert acknowledged that he conceived of his tasks as
relevant to and linked with broader union culture. This is typical of a collaborative
stage of competence probably developing at the time Robert was interviewed.

TECHNOLOGY
On the technical aspect Robert noted that his skills as an orator and writer
improved. He may still write two or three drafts of letters (Robert, 2: 128) but their
complexity, in terms of orientation and technicality, were superior (Robert, 3: 158-
166). Scott supported these comments, adding that Robert’s letters had become *a bit more mature* (Scott, 222-223), not as poorly phrased or as blunt as his earlier examples.

Robert’s presentations before the Industrial Commission improved because he had overtly undertaken education. His completion of an industrial law course gave him a deeper knowledge and a broader understanding of the historical underpinnings of the field in which he worked. By taking time to sit in the court and watch the mannerisms and body language of the Deputy President of the Commission (Robert, 5: 314-330) he became much more attuned to the Deputy President’s thought processes and from this learned to moderate or intensify his advocacy. Finally, he learnt from other professionals. In interview 3 he recounted an incident where a barrister for the opposition used techniques that resulted in Robert’s client perjuring himself and subsequently losing the case (Robert, 3; 51-69). While disappointed at the loss, Robert was full of admiration for *the style and technique* (Robert, 3: 68) employed and determined to appropriate them into his own practice, transforming *them to suit different situations* (Robert, 4: 169). Incidents such as this illustrated Robert’s willingness to improve his familiarity with the type of complex technical communications necessary in his job.

Robert’s keenness to learn the technical aspects of his new job, the initiative he showed in finding opportunities to learn and his willingness to enhance his technical capacity by integrating social and cultural attributes of others into his practice are indicators of technical competence. The latter was at an experimental phase, but all the others were entrenched in Robert’s everyday practice. Thus his stage of competence in the technology aspect was at an independent stage, moving toward a collaborative stage.

**Organisation**

By focusing less on himself Robert has also demonstrated competence in organisational or systems communication. However, this is tempered by the
perception that *he can always achieve better* (Robert, 3: 75-76). The implication of this perception is that when he believes that an outcome is personally less than adequate he has not only let himself down, but also *let the organisation down*. *It’s let the people that you’re are representing down* (Robert, 3: 101-102) or *it cost the organisation money* (Robert, 3: 135). So although Robert has gained an awareness of the organisation through his years of union activity he has not proceeded beyond an assisted stage because he is unable to separate system goals and responsibilities from personal ones.

Scott was working at changing Robert’s deeply held sense of personal responsibility. He argued that Robert was gradually *learning that he can’t win everything and at the end of the day you do your best and that’s all you can do* (Scott: 493-495). Robert allowed a glimpse of his growing recognition of his place within an organisation when he discussed his reasons for tendering his resignation (which was not accepted). He highlighted the complexity and difficulty of the task he did and the necessity for a strong support network (Robert, 2: 177-195). While this action had its genesis in his personal perception of the situation there is evidence from the data that he was much more likely to consider other people’s perspectives as he evaluated and mediated highly charged industrial matters. In a work context that was completely different from anything he had experienced Robert demonstrated that he could perform tasks, aware that they were relevant to the organisation (assisted competence). He also demonstrated that he could represent the culture and values of the union (independent competence). Rather than insisting that his performance was the gauge of the organisation he developed skills in creating alliances in order to take on the role of system designer. This collaborative competence was at an early stage.

**IDENTITY**

Robert’s appointment to the position of Industrial Officer placed him on a … *learning curve* (Scott, 314) that has *been hard and fast and … huge* (Robert, 4: 46-47). Scott was critical of the organisation, claiming that *they stuck [Robert] in the*
job ... with no experience and expected him to swim (Scott: 305-307). At first he responded at an independent stage of competence distinguished by identification with the common values of the trade union and on Robert’s part by an inability to negotiate diverse abilities. Two factors tended to exacerbate the latter. First, Robert’s determination to succeed without assistance and surprise at his appointment gave him a bit of a cocky attitude (Scott, 387-388) that manifested itself as difficulties in communicating at a personal level. In the early days he clashed with six organisers who he believed were trying to undermine him (Robert, 2; Scott) and a secretary who did not understand his ways of working (Robert, 2). Second, his passion for social equity, at times, got in the way of solving things (Scott: 278). As a result Robert forced issues, did not take advice from more experienced colleagues and took issues personally. The phrase Scott used was that Robert acted like a spoilt kid if things didn’t go his way (Scott: 397).

As Robert settled into his job he responded differently, recognising the diverse perspectives and motivations that exist in any discussion. He explained that:

how I look at things is a lot of times different to how (a) I looked at them when I was a delegate or (b) when I was an organiser ... When the guys are looking at it they’re looking at it from the organiser perspective. And when I’m coming to write a case it certainly changes.  

(Robert, 5: 187-191)

Being able to recognise different positions and negotiate different perspectives resulted in a change in Robert’s functioning. Initial negativity from other organisers and some administrative staff began to fall away as Robert became more communicative and collaborative. This change indicated that he was demonstrating a collaborative stage of identity competence.

GROUP
For Robert the identity and group aspects of competence have always been linked. As long as he believed that he had to achieve all his goals on his own, his ability to communicate cooperatively was going to be poor. As noted above he had difficulty
coping with failure, often blaming himself for not showing enough leadership qualities (Robert, 3: 142). There were also occasions when he spat the dummy (Scott, 224) when he did not win an argument, making relationships and cooperative communication in a small office difficult.

Industrial Officers need to think more strategically than organisers or delegates. Understanding this forced Robert to seek more satisfactory and possibly more complex solutions to problems. In order to do this he read and researched more deeply. Inevitably, this resulted in Robert seeking out the comments of peers and superiors, a pattern of behaviour that he had rejected since his high school days.

Over time, realising that the principles of one case might be the same as another, Robert looked beyond his comfort zone (Robert, 5: 177). In doing so he recognised that others who had run similar cases or come across similar situations may have expertise to share with him. By writing his ideas about arguments and proposed courses of action for a particular case on the whiteboard in his office and Scott’s office he invited comments from Scott and sometimes other staff members. Scott notes, however, that Robert never asks for help. He comes in and says, “Oh, you know, I’m thinking of doing this, this and this.” And he waits ... for your reaction (Scott, 337-341).

With this change in attitude and behaviour, Scott saw a distinct change in Robert’s relationships with others he came into contact with in the course of his duties. He’s actually having more interaction with the guys, with our organisers, a lot better than it was before (Scott, 389-391). He is now more willing to speak to the solicitors (Scott, 194), learning from their experience. As a result he approached cases more tactically with arguments that were more reasoned, logical and rational (Scott, 398). Developing competence in cooperative communication (to a stage of independence) also meant that Robert’s personal communication moved to a collaborative stage. He was much more aware of how his words and actions affected others.
COMMUNITY

Robert’s long hours allowed him little time to participate in activities beyond work, although he maintained a strong bond with all his family members and close friends. His links to both his union and the ALP were still strong and this was the major avenue for his public communication. For the final, individual activity, Robert was asked to respond to a letter of his choice published in a national daily newspaper. He chose to respond to a letter from a representative of the Shires Association. The first draft of the letter was a succinct argument in three well-defined points (see Appendix D). Given time to develop beyond the draft stage it would have been a good letter in response.

At work he comprehended the need to represent the union, rather than himself, in communicating with professionals outside the organisation. Importantly, he acknowledged that individuals with different academic training, such as solicitors, have a different understanding or they read something differently to how it reads and you’ve got to try and put that into perspective (Robert, 4: 25-26). In addition he recognised that workers in the field have a different view of how they read the awards and their agreement (Robert, 4: 29).

Although he was keen to win cases and won some that people thought he wouldn’t win (Scott: 392) Robert gained a different insight into his role as his network widened. He recognised that unlike a solicitor he did not have to win cases. Because the Industrial Commission is a court of conciliation, a court of resolution there’s an obligation that the parties confer with a view to reaching a conciliated … viewpoint (Robert, 5: 50-54). Thus he found that the imperative was on communicating and reaching a mutually agreed position. This represented a reversal of the argue-to-win attitude of Robert’s youth and highlighted the realisation that there’s a line to be drawn in the sand (Robert, 4: 148).

When he reflected on his new job Robert acknowledged that the way he looked at things now compared to when I was a delegate or organiser has changed (Robert,
5: 186-191). He was much more accepting of the perspectives of others, more willing to understand the cultures of others, such as organisers, workers and solicitors and was developing a network of support. From the perspective of a supervisor Scott recognised that Robert had made good progress since he started in the job, acknowledging his move towards a collaborative stage of community competence.

**Summary**
When he was appointed an Industrial Officer Robert possessed generally high levels of orthodox literacy competence. However, the specialist nature of his job forced him to learn new skills. Some of these he obtained through formal training, such as a course in industrial law. Skills in talking to and about clients and colleagues were much more difficult to learn given Robert’s defiant attitude to accepting help. Although he still had a long way to go in learning these skills, Robert found that a more collaborative attitude resulted in better outcomes for him, his clients and his organisation.

A comparison of Robert’s stages of competence over time is represented in Table 8.4, indicating the complexity of his situation. For example, while Robert’s task competence was high during his training years, taking on the position of an Industrial Officer meant that he returned to an assisted level of competence to learn about industrial law, writing dispute notices and court processes and procedures. His new job forced Robert to reconceptualise his notions of group and community competence, resulting in a new perspective and higher level skills.
John

Although John was at Firebrand for twenty years he was almost always regarded as an unskilled trade assistant whose role was to assist a range of tradesmen. He moved from section to section, eventually working in most of the site’s production areas. While this may have given him broad experience he lacked the stability and influence of a mentor such as Mick (James), Ray (Stalin) or Wayne (George). The effect of this was to limit the range of opportunities he had to engage in more complex communicative and literacy tasks that require higher order thinking.

Task

When he started at Firebrand and on occasions when he did not know what to do John copied off everybody else (John, 1: 76-77). He undertook new tasks under conditions of explicit direction and overt assistance characteristic of workers at an assisted level of task competence (Cope and associates, 1995). Over the years he started to take on tasks that were more complex than fetching and returning tools from the tool store, such as organising the oxy cart and scheduling oil checks on the turbines. At one stage he taught other workers how to set up an oxy cart, although he is unable to explain the teaching process he used.

The most important, life-changing experience for John during twenty years at Firebrand was the opportunity to undertake literacy tuition. The significance John placed on this was gauged by his reference to it in every interview (John, 1: 17-22; 2: 206-210; 3: 65-67; 4: 16-25 5; 46-51). These classes occurred at two different time periods. The first, about three or fours years into his employment, helped him learn to read and spell. Consequently, he discarded the notebook in which he had written lists of words he routinely used, such as ‘switch’ and ‘danger’. John reported that he began to read and comprehend safety signs rather than simply recognising generic symbols, such as a sign encircled in red warning of danger. He was also able to undertake work tasks that involved more orthodox literacy skills, for example oil and grease storeman. Through these experiences he expanded his repertoire of procedural communication (task competence), such as writing non-
compliance reports about forklifts. He even altered the schedule for checking oil levels of the turbines out of boredom.

At one stage he was transferred to the tool store against his wishes. Although he had no difficulty locating and selecting tools requested by a range of departments he could not record who had borrowed them or write telephone messages. Having already informed the managers that his literacy would be a barrier to him being a storeman, he was philosophical when they realised I wasn’t fine and they got somebody else to do the job (John, 2: 79-80).

The data indicated that, for the most part, John required some form of structured assistance to undertake tasks with limited and predictable outcomes at Firebrand. At times he indicated an ability to undertake tasks at a higher level of competence. For example he was able to cite his literacy as a reason that he would not make a successful storeman. On another occasion he surprised a welder by handing him some equipment that he required. The tradesmen were more used to having to ask for tools and equipment (John, 2). Incidents like these suggested that John was capable of demonstrating an independent stage of task competence but lacked opportunities.

**Technology**

In the workplace John used tools with which he had some prior familiarity in new, practical contexts typical of technical competence at an independent level. He also learned the use of new tools and in the case of setting up the oxy cart was able to teach another employee how to undertake this task.

In terms of orthodox literacy competence, John transferred classroom learning under Joan’s direction to workplace contexts. As noted previously he discarded many of the notes that he used to copy from, instead writing routine tickets independently. At other times he devised written schedules by himself, for example the oil checking roster. It should be emphasised here that most of the writing John
did involved numerals or abbreviations. There were no occasions that John wrote prose or connected text, such as letters.

John’s technical competence advanced from an assisted to an independent stage while he was at Firebrand. This applied to the use of industrial tools and the technical tools of writing.

ORGANISATION

John was always mindful of and compliant with organisational requirements. There was no evidence that he fought with other employees or was aggressive or disruptive: he’d rather back down than have somebody fight him (Bill: 217-218).

The only incident of dissent arose as a result of being transferred to the boilermaker’s shop. After six months of teaching himself to operate a hammer driver, during which he experienced blistered feet because of the hot floor, he requested a transfer (John, 4).

Although he spoke about moving constantly from department to department (John, 2) the evidence indicated that this was not always the case. For example he was in the power department, where he became a senior operator for nine years (John, 4: 302). Despite this he was still more or less just doing labouring work (Bill: 120) when he was made redundant.

Like other Firebrand employees John gained vocational certificates in line with the policy of multiskilling. He undertook courses in oxy cutting, boiler making, forklift driving and backhoe and bobcat operation, not from any sense of progressing his career but in compliance with orders:

Well, you’re employed by Firebrand. So they just say, “Right, you go there and you get your ticket. If you pass you pass. If you don’t well we’ll just have to send you again until you do eventually pass.”

(John, 4: 322-324)
John’s twenty years at Firebrand were marked by compliant behaviour. He accepted sudden transfers, worked with many different tradesmen without belonging to long-term teams and was not offered opportunities to progress beyond a (senior) labouring role. These were responses typical of an individual at an assisted stage of organisational competence.

IDENTITY

John recalled feeling very nervous [and] ashamed [of this problem] (John, 2: 85) when he started work, fearing that his colleagues would think he was pretty thick (John, 2: 204). His worst fear was that his secret would be revealed and the bullying of his childhood would resume. His personal communication competence as he concentrated his efforts on portraying himself as a literate man “working under direct assistance and surveillance” (Cope and associates, 1995: 51) placed him at an assisted level.

In order to achieve recognised workplace competency levels, John in his last few years at Firebrand, like most employees, was sent for specific vocational training. He attended these classes dutifully (John, 4: 322-323) because he saw them as part of an overall corporate plan. While acknowledging this he also recognised that there was no pressure on the employee to learn since individual employees had no say in the courses they attended and they could repeat the courses, at company expense, as often as they liked until they passed (John, 4: 324). Essentially, they became literacy classes whose outcome was a vocational certificate. A major influence in John’s development of identity competence arose as a result of attending these classes.

First, he discovered that he was not very different from his fellow students who had gone through the same trouble at school (John, 4: 433). Second, he preferred the teaching style at Firebrand because the teachers:
... stayed on one subject for a couple of hours. Instead of school, you know, a couple of minutes here reading, a couple of minutes writin' and then mathematics.

(John, 4: 461-464)

Third, in Joan he found a literacy teacher who did not become irritated when he made mistakes. With her assistance John successfully completed several courses. The following extract indicated why John had such confidence in Joan:

She sat down and, if you got it wrong she ... just kept on going over a word 'til it gets stuck in our head. She was doing it all the time ... She wouldn’t get angry or nothing like that. She’d just say, “Well, try it again.”

(John, 5: 459-465)

John enjoyed the classes with Joan and demonstrated an understanding of Firebrand culture. To him training meant learning a repertoire of skills that served a particular function in the enterprise:

At Firebrand, you know, they taught you a certain way and, you know, you weren’t allowed to take any shortcuts, you know, because it would go hard against you. They could sack you and stuff like that. And you weren’t supposed to change things.

(John, 3: 135-138)

In his early days at Firebrand John learnt individual literacy skills to enable him to do his job. In his later years he went to classes because it was expected and he found that it identified him as a Firebrand employee. This change in perspective indicated a shift from an assisted to an independent stage of identity competence.

GROUP

Over time John found that there was a group of fellow workers with literacy problems similar to his and, as he reported, he began to open up (John, 2). Eventually, trying to hide his difficulties became a bother (John, 5: 160) and a nuisance. Because he was not ridiculed and taunted over his literacy problems, he openly asked for help when he had to read or write, for example sick leave forms or borrowing tools from the store (John 2 and 3). In terms of the Framework this resulted in a shift from a cultural orientation that was essentially personal to a group
orientation. Expanding his circle of confidants allowed John to expand his repertoire of skills and knowledge and subsequently his levels and range of competence. For example, he began to see himself as a member of a team as he worked with various tradesmen in different sections. He enjoyed being *part of the gang* (John, 4: 472), particularly when co-workers approached him for assistance or advice. This novel experience assisted in developing his cooperative communication.

**COMMUNITY**

The data suggest that John’s public communication competence revolved around immediate family concerns. His family links were still very strong as evidenced by the joint house renovations his father and he undertook, the dependence he had on his wife in building his reading skills, his ongoing interest in his children’s growth and wellbeing and a continued reliance on his sister (see, Bill) for complex written tasks.

**Summary**

Working at Firebrand for those twenty years suited John because as he says:

> *When you joined Firebrand at the beginning they told you what to do. You did it. But in the end of Firebrand, when it closed down finally they wanted you to think and use your own initiative and stuff like that.*

(John, 4: 385-387)

A comparison of John’s competence over time is provided in Table 8.5. The occasions where two marks are given indicated a change in competence stages over the period he worked at Firebrand. After twenty years John’s range of communicative tasks had increased to include Organisation (systems communication) and Group (cooperative communication). His level of competence did not extend beyond independent in any aspect. The major achievements for John have been rediscovering and enhancing the reading ability he lost as a five year old and opening up to the possibilities life-after-Firebrand has to offer. He knows that
he has not been able to demonstrate this level of thinking over a sustained period and possibly believes that he never will.

**Table 8.5: Comparison of John’s Stages of Competence Over Time**

<table>
<thead>
<tr>
<th>Task</th>
<th>Technology</th>
<th>Organisation</th>
<th>Identity</th>
<th>Group</th>
<th>Community</th>
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<tbody>
<tr>
<td>Collaborative</td>
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<td>Independent</td>
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<tr>
<td>Assisted</td>
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Key

= before Firebrand
- the Firebrand years

**Dasher**

Dasher, a qualified tradesman, had a range of employers during the data collection period and has previously worked outside his chosen industry. He has also had intermittent periods of unemployment. Recruited as a shop steward, he relinquished this site-specific position when work at that site was finished. In terms of work he is the most mobile of all the participants.

**Task**

In the course of his routine work Dasher found few opportunities to engage in tasks rich in aspects of literacy and language. However, the data indicated that he regularly read maps, talked and listened to a range of people and used a variety of tools to help him read and write (Dasher, 1 and 2). In addition, he claimed that he generally worked in a small team and communicated with team members only when there was a problem. The person he approached most often was the foreman - the frontline between the workers (Dasher, 3: 25) and site managers who was expected to be a problem solver (Dasher, 2: 172). When there was a problem he was up front with whoever I’m working with. *If I don’t know anything that I’m doing, I’ll ask* (Dasher, 1: 131-132).

Being a shop steward brought roles and responsibilities. First, Dasher attended training that he remembered because of the use of role play. Although he noted that this was the best way to learn (Dasher, 5: 170) he was unable to articulate why. Second, he had to familiarise himself with Occupational Health and Safety laws.
Since he could not memorise these he often referred back to the book in which they were published. Third, he had to negotiate with employers or their representatives. Frustrated by an inability to speak articulately, Dasher reported that the only way he could make his point was by screaming, shouting and using colourful language. He found that this tactic, or ammunition (Dasher, 5: 13), got him off side with bosses and the union. Fourth, as a Shop steward when there was a workplace incident he jotted down basic points in a diary (Dasher, 4: 47-48) which he referred to on the occasions the he was required to write reports. In order to do this he had to have a dictionary next to me (Dasher, 2: 194) to help with spelling.

He was passionate about Occupational Health and Safety and had done a lot of Occupational Health and Safety courses (Dasher, 1: 144-145). Even though he was no longer a Shop steward, much of his time away from work was spent with a friend searching the Internet for sites that would inform him of solutions to potential problems in regard to Occupational Health and Safety. With encouragement he talked about these problems (Interviews 1 and 3) but failed to capitalise on his findings. He put this down to lacking confidence (Dasher, 1: 95), inadequate typing skills (Dasher, 3: 301-302), no one to assist/teach him (Dasher, 4: 136) and insufficient knowledge about the functions of computers (Dasher, 4: 137-141). The data indicated that Dasher demonstrated an assisted stage of task competence in terms of undertaking tasks and talking about tasks.

**Technology**

Dasher recognised computers as useful tools (Dasher 1: 249) that should be in homes and available for everyone’s use. He commented that he was not able to see ways that he could become fluent in the use of computers because of his problems with vowels and the poor teaching that was offered to trainees. He searched the Internet on the basis of key words but often found the material too complex to read or understand.
Moving from site to site and from industry to industry indicated that Dasher was capable of performing a range of related tasks. His Internet research also enabled him to demonstrate an ability to identify and locate technical problems. For Dasher technical competence showed different competence depending on the focus. When the technical purpose was written or oral literacy Dasher demonstrated an assisted level. When it was physical work tasks of using trade-based skills to locate and identify problems Dasher’s competence was at an independent stage.

**ORGANISATION**

Dasher was derisory when discussing employers’ attitudes to Occupational Health and Safety, claiming that cost cutting on worksites endangered lives. As an example he cited a building site where signs such as ‘danger’, ‘no access’ [and] ‘incomplete scaffolding’ were not displayed (Dasher, 2: 235) or have just been drawn out in pencil (Dasher, 2: 240). He argued that increasingly workers have to compromise, turn a blind eye (Dasher, 2: 223) or lose their jobs.

Even as a true believer in the union movement (Dasher, 5: 36), Dasher was concerned union officials were not as effective as they could be in regard to Occupational Health and Safety. He made passing reference to an incident at a dockyard in which the union did not support the action Dasher and his men had taken. He also had no response from the union about the online research he and a friend had conducted around issues of the safety of plastic pipes.

As he questioned the motives of union officials he suggested that they were adopting a position close to corporate managers (Dasher, 5). Consequently, Dasher adopted an attitude of complying with company policy, not relying on the union and working to support his family (Dasher, 5). This is the attitude of an individual at an assisted stage of organisational competence, working as directed and not contributing to the enterprise.
IDENTITY
Dasher’s perception of his identity interfered with his relationships at work and in the community. For example he felt uncomfortable about his young son passing onto him the computer skills he was learning at school (Dasher, 4: 144-145) because his son might fathom out that he had better literacy skills. At work he felt constrained in speaking out about breaches of safety regulations because he feared ongoing actions would eventually indicate his poor literacy competence.

The data illustrated how Dasher engaged in a number of different literacy practices, outlined earlier. However, he was unconvinced that these represented adequate or appropriate literacy. This was particularly evident in his reaction to the letter he drafted for his final activity:

*I don’t think it’s too good, to tell you the truth ... I don’t think it is completed yet. If that was going to go to a bank manager or the Lachlan minister, he’d pick it up and throw it away.*

(Dasher, 5: 481-485)

Dasher had no difficulty demonstrating assisted identity competence and some aspects of independent competence. However, because he was unable to find mutual meeting points with other union members or employers, he had not yet reached a stage of independent competence.

GROUP
Language and literacy interfered with the direction Dasher would like to move his career, that is, towards advocacy for occupational and community health and safety. On two occasions he discussed possible ways of refocusing his career. On both occasions when support from the union was not forthcoming or family pressures became paramount he gave up, saying *that someone else is going to have to do it* now (Dasher, 5: 396).

Teamwork for Dasher was about work. While he recognised that he needed to keep abreast of new products and processes in his industry he relied on others to teach
him and help him if he gets in[to] trouble (Dasher, 3: 103). There was no evidence that he actively taught others.

The overall picture of Dasher’s group competence was of a one-way relationship. He felt his literacy limitations precluded him from many workplace activities and that the union no longer supported him owing to previous belligerence (Dasher, 4 and 5). A total reliance on others to direct team activities is indicative of an assisted stage of competence.

**COMMUNITY**
As previously mentioned Dasher’s opportunities to represent the union often ended in vitriolic misunderstanding. On several occasions he implied that he has a poor reputation amongst employers (Dasher, 2, 4 and 5). Successful completion of an anger management programme assisted him to re-evaluate his public communication. However, he did not have the opportunity to check the efficacy of his new strategies during the data collection period. At the time of interview Dasher demonstrated an assisted level of community competence.

**Summary**
Dasher’s competence levels were the most difficult of all the participants to map. For him each aspect was so closely related that it was difficult to distinguish among them. He was sensitive and defensive about his ability to manipulate textual forms of English – reading, spelling, writing and vocabulary – and to recall specific vocabulary over the long- or short-term.

Dasher was at an assistance stage on every aspect of the Framework. He was able to demonstrate an ability to respond to the opportunities around him, such as the camaraderie he has with his friend during Internet searches, or the friendship and guidance he had from a previous employer. However, he saw himself as a victim of lost opportunities, deteriorating eyesight, imperfect keyboard skills or unsympathetic associates for failing to advance his career.
Table 8.6 graphically illustrates Dasher’s stages of competence over time. While he had achieved gains in task, technology and community competence, organisational and identity competence were static. Group competence indicates a decline.

<table>
<thead>
<tr>
<th>Collaborative</th>
<th>Technology</th>
<th>Organisation</th>
<th>Identity</th>
<th>Group</th>
<th>Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assisted</td>
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<tr>
<td>Nil</td>
<td>c</td>
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Key
- c = communication
- ▪ = at completion of his apprenticeship
- ○ = competence in the working years.

probably because once out of the workforce and moving in and out of work he lost contact with, and thus the camaraderie of, his school or technical college peers.

**George**

Commencing at Firebrand had very little effect on George’s behaviour. He continued using and extending for twenty years his repertoire of avoidance strategies—anything to avoid having to engage with literacy—described in Chapter 7. One day he was sent on a course where there was an activity that involved reading a script. George withdrew from the course because he could not read. Back at his worksite his boss of 10 years, Wayne, was surprised. *He said,* “I realise you are a bit slow and everything.” *And I just said,* “No, I’m not slow. I just can’t read.” (George, 1: 212-213). The following analysis focuses on the time around this incident and afterwards.

At work, a situation developed which in his perception reflected on his identity. Years later at work he used body language as a form of communication in a noisy, dirty and dangerous workshop to protect himself and his co-workers from injury.
There are three facets of George’s engagement in terms of procedural competence—the physical tasks at work, literacy in the worksite and literacy classes at work. For the 33 years George was at Firebrand he worked in the same forge shop as a blacksmith’s labourer, undertaking every job in the section over that period of time (George, 1: 151). For at least the last ten years he was the senior furnace and press operator. Working conditions were hot, dirty and noisy and jobs needed physical strength. George was:

only a little bloke … Some of the blokes … were huge guys … and George was in there amongst the rest of them. For his size, what he could do was remarkable.

(Wayne: 52-60)

The role of a press driver was to press shapes out of hot metal by manipulating a joystick and two gauges. As the press driver George was very procedure-oriented (Wayne: 160). He worked close to a 100% accuracy rate, making only occasional mistakes. He was also a thorough teacher who used techniques of step-by-step demonstration, modelling, explaining procedures, asking clarifying questions and persevering with students who were struggling (Wayne: 201-223). While the procedural manner in which George operated and taught about the press suggested an assisted level of competence his ability to teach about the press (discussing, explaining, questioning and responding to questions) indicated an independent stage of task competence. His skills in explaining the operation of the press to a novice and his comprehension of the difficulties learners encounter (George, 4: 260-291) indicate that George is functioning at a collaborative level in this aspect of competence.

In the days when Wayne and George worked together Firebrand had a policy of having everything … on paper (Wayne: 146), making life difficult for workers who could not read and bringing George's avoidance strategies to the fore. Included in those strategies was forgetting his glasses even though at that time he didn’t have glasses (Wayne: 28), forgetting his pen, getting Wayne to complete
forms or read important information memos and taking paperwork home to read when he was not so busy. Wayne believed that George's wife read this paperwork for him (Wayne: 84-96). He also utilised a *photographic memory* (Wayne, 158) to retain much of the information that was disseminated throughout the plant.

The tactics George used were often misunderstood by his co-workers and could sometimes have been *perceived as trying to get out of work* (George, 1: 247). This was exemplified in another aspect of the paper trail at Firebrand: borrowing tools. There were occasions when George had to fetch tools from the machine shop store where tools were signed out:

> If you were borrowing spanners as a loan you had to fill out a job card. You’d build up a bit of a rapport sort of thing with the storeman. “What’re you bludging this time?” He’d give you a spanner. “I’ll bring it back in five minutes, I’m flat out”. You’d pretend. It was a real illusion. He’d give you the tool. He’d fill out the card, stick your name on it and put it in the place of the tool.

(George 3: 58-64)

George never read publicly, believing that this would tip his hand (George 4), a card game term for letting players know what you have. He liked to discuss with Wayne many things—procedures, workplace occurrences news and current affairs items he had heard *on the radio on the way to work on the bus* (Wayne, 366). On occasions Wayne observed George look at a newspaper [and] flick through it, but never read it (Wayne, 361-364).

The forge shop had warning signs everywhere (Wayne) that George had to understand. He recalled, for example, how he watched and waited until someone questioned the use of the words ‘authorised personnel’ in a high risk area (George, 4: 50-59) and then stored that information away in his remarkable memory (Wayne: 82). Aligned with this is the way he systematised and codified information. Signs around the workplace were coded in his mind by colour and then shape or position. For example an exit sign *has green and white writing* [and] *an arrow pointing towards the direction that the exit is* (George, 2: 119-122). George also used the
context of the sign to provide extra information, particularly in the case of generic caution signs (George, 2: 125-148). He demonstrated these same skills of systematising and codifying in approaching the street directory activity (George, 4: 383-536). His mode of operation was systematic and with a little guidance he was able to locate two streets whose names he was unable to read or describe, without effort, a route between them providing landmarks on the way. The high level of support, verbal or non-verbal, George needed to access the routine literacy inherent at Firebrand was characteristic of an assisted stage of competence.

After George's literacy problem was revealed he lost interest in most memos, except those offering details of training courses where he could work on his emerging literacy skills with Joan, the literacy teacher. Attending rewarding (George, 4: 134) work-based classes signalled a change in George’s reading behaviours. The systematic decoding skills he learnt provided a framework for limited orthodox literacy competence. Having learnt to break words into sounds and read simple words (George, 1: 4) he found that he was able to read the detail on caution notices (George, 4: 329-345). He reported that he no longer memorised everything (George, 4: 372-374). In addition he discovered a facility with mathematics. He reasoned that, like motors, this was because numbers make sense (George, 1: 45), creating sequential and logical patterns. Additionally, while he still struggled with written English because nothing’s what it seems to be (George, 1: 47-48) he continued to take lessons after being made redundant in a bid to advance his skills.

By his own admission George gained competence in literacy tasks. The sense of personal achievement was palpable in George. He was so proud to be able to read, even a little. He reported that he could read rather than memorise a procedure that was demonstrated in the individual activity. Although lacking fluency, he demonstrated early decoding skills as he read from the BMX journal (George, 5: 166-184) (see Appendix D). The systematic approach to decoding multi-syllable words and the use of contextual cues manifest in this activity indicated transference
of the methodical tools he was taught in literacy classes. Yet because he had not gained fluency in reading George was still functioning at an assisted level. That is, he could read and comprehend some simple sentences but requires assistance with more phonographically difficult vocabulary where he often lost the meaning or intent because he concentrated on phonemic elements.

TECHNOLOGY

In terms of technology George always had a familiarity with and a good grasp of the complexity of engines that made his transition into the Firebrand workforce unproblematic. He achieved his operator status because he could do everything he had to do … Once he was instructed how to do things, there was no problem (Wayne 80-83). Working with Wayne, as a two-man team … working as a pair (Wayne, 130) with a pretty good working relationship (Wayne, 227-228), George discussed routine operations of the press. When faced with complex or difficult jobs they would share ideas (Wayne, 234) based on George’s experience and Wayne’s training. There was, however, no evidence that George carried out running repairs on machines, as James did.

George demonstrated that he was able to explain the process of working with machinery and engines. Essentially, he carried a three-dimensional picture of the machine in his mind to establish a mental image of what the complete item looked like. Then, as each component was removed, he mentally pictured where it had to go back (George 2). When removing components he laid them out in sequence and returned or replaced them in reverse order into the exact same spot that they came out (George, 2: 41). George was not only able to operate heavy machinery and rebuild engines but also able to describe the process. These skills placed him at an independent stage of technical competence.

In terms of literacy, George could perform specialised operations in decoding and encoding phonetically simple single-syllable words (Activity 4 in Appendix D). He also had the opportunity to use a computer when studying for his bus driver’s
licensure in order to read and answer questions for the test (George 5). George was never required to start the computer nor compose documents using a computer. While this was another example of George completing a highly structured, clearly defined task, characteristic of an assisted stage of competence, he did mention it to Wayne, implying that George’s interest in the possibilities of computers was stirred.

**ORGANISATION**

George's organisational competence should be viewed from two perspectives. The first of these was his attitude to top-down company policies, particularly safety campaigns. Safety information came in frequent memos (mentioned earlier) or safety talks. George was contemptuous of safety campaigns, calling them just political garbage [that] never changed the accident frequency rate (George 2: 155-157). He learned to listen for the key points [and] block out the nonsense [or] mumbo jumbo (George, 2: 158-159) of instructional talks. Data indicated that this was a successful strategy because once he was instructed and he knew how everything worked, he was fine [and] ... he was one of the few people which followed every step (Wayne, 156-159), reflecting his systematic approach to tasks. Many company procedures such as reading memos and signing for tools required orthodox literacy skills. George found ways to comply without actually engaging directly with the printed text. In this respect George did demonstrate compliance with company policy and procedures at an assisted level.

The second perspective related to how George responded to errors at work. I personally tried not to make errors (George, 5: 62) but he did. Both George and Wayne regarded mistakes as a waste of their own and the company’s time and energy. If George had made an error in pressing a job everyone in the forge shop knew about it and it could take up to six hours to redo the blank. In expressing a dislike for making errors George tacitly acknowledged that he was undertaking tasks that had relevance to the company, an assisted stage of organisational competence.
IDENTITY
Prior to his literacy difficulties being revealed George engaged in a range of literacy avoidance strategies in the workplace and was also known for his short fuse (Wayne: 218) when the pressure of work increased. As was noted in Chapters 6 and 7 George had learned how to fight at a young age and kept this up in his early years at Firebrand. As Wayne recalled: I remember from the first time I started as an apprentice, if anything happened concerning George, he’d come off swinging before anyone else would (Wayne: 48-50). In retrospect Wayne conceded that the temper and the fighting might have been more of a reaction when George didn’t understand (Wayne: 47) what was happening.

Having hidden his literacy problem for so long, George was very concerned about his colleagues’ reaction to its revelation. He likened this concern to the sickening fear that engulfed him at school, reviving memories.

I was like a little kid not wantin’ to go to school … I felt embarrassed and ashamed … just a fool … I did tell one of the bosses that I wouldn’t take any crap of the blokes … they had a lunchtime meeting, minus me. I was just basically just told, there’s nothing unusual about it, the fact that you can’t read.

(George, 2: 85-91)

To his relief everyone accepted it pretty readily (Wayne: 108) and his fears of bullying were groundless: the blokes never harassed [me], like they did at school (George, 2: 97-99). In general they treated him as being [reliable, trustworthy] George (George, 2: 82) and were more concerned that, like them, he qualify for the highest possible redundancy.

Since he did not have to focus his energies on concealing his literacy difficulties at work, George has become less aggressive, mellowed and opened up (Wayne), and became more aware of his co-workers. Importantly, he became committed to the training courses offered at Firebrand. Over five years of taking these courses he worked hard with Joan, learning to read and write while he obtained qualifications
in areas such as welding, gas watching, forklift and heavy vehicle operations and a bus driver’s licence.

George acknowledged that he could not have achieved this without the support of the team in the forge shop. He recognised the extra load he placed on a shrinking forge staff as he attended more and more courses. Wayne believes that this worried George because he knew that everyone had to cover for him and ... he thought ... he was letting the side down because he wasn’t going to be [in the forge shop] (Wayne, 136-136). This concern related to the reputation of reliability, honesty and integrity George had built up. Wayne noted that George always pulled his weight. He wasn’t a man which could be left behind. He was right up there with the rest of the guys (Wayne, 409-410).

Understanding the efforts others contributed to developing his literacy skills was an important indicator that George's identity competence was at an independent stage moving toward a collaborative stage. He was able to demonstrate that he moved from a self-focused world of work to negotiating the cultural patterns of the worksite.

GROUP

The impression gained from the data obtained from both George and Wayne is that the forge was a difficult, dangerous and fairly self-contained and closely knit unit within the Firebrand enterprise. Wayne summed up the attitude of the forge shop workers when discussing the number of courses George attended:

Towards the end ... we all had to help each other because we all wanted to get pushed up this ladder to make more money. So we all wanted to do that. And towards the end Firebrand come up with all these good ideas to let you go and do all this stuff, so why should you be held back. They didn’t seem to care about what happened. So neither did we.

(Wayne, 252-257)
George liked the forge shop and his close bond with Wayne. He particularly liked feeling *part of the team* (George, 5: 106). Functioning in a team structure enabled George to discuss procedures, engage in problem solving and offer suggestions based on his first hand experience. The other valuable relationships he developed were with co-workers, especially those who assisted him. He spoke of the importance of having a reputation of being honest, trustworthy and reliable (George, 3: 70-100). In his case it enabled him, amongst other things, to borrow tools from the tool store without completing a tool card and attend literacy classes. After his literacy problem became known George’s competence on the group aspect of the Framework (Cope and associates, 1995) was at an independent stage in the context of the forge shop.

Data indicated that George considered the forge shop a special place. The fact that his literacy problem was revealed there did not mean that George chose to disclose it elsewhere. For example, he reported an incident at a job site where he was asked to go to the shop and purchase the morning tea orders (George, 1: 130-139). As it was a new, casual job he was not confident of the reaction of his co-workers to his difficulty. So he pretended he could read the order and subsequently had to cover up when an error was made. Incidents such as this indicated that George was currently at an assisted stage of development in the identity aspect of competence.

**COMMUNITY**

George demonstrated community competence in several respects. First, over the years George was employed at Firebrand he became heavily involved with the state branch of a national sporting body. His wife recorded the sport’s rulebook onto audio-tape and George learnt all the rules, utilising his memory to enforce them when adjudicating competitions. As an executive of the sport’s governing body he grew familiar with meeting procedures and was required to present oral reports to the board.
Second, he prepared and presented a speech at an end-of-year presentation at Firebrand. When Joan asked him to speak on behalf of the students, illustrating the benefits of literacy classes he characteristically responded that he couldn’t speak on behalf of all the students [because he] didn’t know all the students (George, 4: 73-75). However, despite feeling scared (George, 4: 79) when approached he gave the speech to an appreciative audience that included senior Firebrand staff members.

Third, data indicated that George engaged in well-considered criticisms, demonstrating a clear understanding of wider community issues. He was highly critical of the literacy program he was now required to attend in order to continue on unemployment benefits (George, 2:243-256). These criticisms centred on the qualifications, knowledge and experience of the teacher-in-charge and the quality and appropriateness of the learning tasks, which he described as kindergarten stuff, based on kids rather than adult themes (George, 3: 234). Worksheets shown to the researcher were typical of the ‘drill and skill’ activities for preschoolers commonly available in bookstores.

In the third common activity of the data collection (responding to headlines) rather than simply rejecting the headlines, George elucidated his criticisms. He expressed no opinion of the individuals referred to in the headlines, instead taking a wider view of the effect removing (or reducing) dole payments would have in a community context. This demonstrated a degree of analysis that George may have always possessed but was unable to articulate. Essentially, George’s arguments extended from his own personal situation at the time of the interview and demonstrated an understanding of broader community issues. These opinions were not from someone disconnected from the world. Although he was no longer in the full-time workforce he maintained his community activities with the sporting association at a non-executive level. These acts were symbolic of an individual whose engagement in the community aspect of competence was at a collaborative stage.
Summary
Although he has never doubted his intelligence, George has doubted his capability to achieve in tasks that involved the written word (George, 1: 73). Wayne admires George because he held a pretty high job as a furnaceman. (Wayne, 79-80) for a long time despite very poor literacy skills. George, too, speaks with pride of being in charge of the furnaces and [a] press driver (George, 1: 153-154), a status he could not have achieved without growth and change. On the personal level in the workplace George learnt more appropriate social skills. Instead of wanting to fight in an environment where everyone was hot and tempers were short (Wayne, 62) he learnt to control [his] aggression (George, 2: 62). He reflected that over the years he has been able to survive in life not being able to read and write but there’s obviously heaps of things I’ve missed out on in my life because I couldn’t read and write (George, 5: 156-158). With regret Wayne noted that George was very capable to do whatever he wanted to do (Wayne, 399) but was held back because of his lack of literacy skills.

George's competence stages over time are displayed in Table 8.7, demonstrating the areas of growth indicated by the data. Skills that he gained, particularly in his last thirteen years at Firebrand allowed him to gain competence in all aspects, especially task and identity.

<table>
<thead>
<tr>
<th>Table 8.7: Comparison of George’s Stages of Competence Over Time</th>
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<tr>
<td><strong>Task</strong></td>
</tr>
<tr>
<td>Collaborative</td>
</tr>
<tr>
<td>Independent</td>
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<tr>
<td>Assisted</td>
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<td>Nil</td>
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Key
f/p = furnace/press
l = literacy
t = teaching
● = before Firebrand
● = in the forge shop at Firebrand

Sam
When recruited Sam was a kitchen installer. A qualified cabinet-maker, he had completed an apprenticeship interspersed with several seasons of road cycle racing
in Australia and overseas. During the data collection process Sam took up a new position in the kitchen fabrication company for which he worked.

**Task**

Initially, Sam claimed that he did not engage with literacy as a kitchen installer and was surprised when the data showed that he routinely read maps and plans, maintained and accessed files and measured and converted scaled measurement. Further, on the occasions he made an error he would discuss the problem over the telephone with a colleague. All of the above skills are characteristic of literacy required of a tradesman moving to different job sites.

Sam’s new job, as a kitchen detailer, built on these skills and also required a new set of skills. The immediate difference was that instead of installing kitchens onsite he worked on a computer at the company offices. Instead of working on his own he was part of a small team. The complex job of detailing entailed Sam using the plan:

... that’s on a rough bit of paper of … what the designer has sold. Everything sold with it … will be coded. So I’ll see different cabinets all around the room [on the sketch plan]. Every cabinet will be coded and from that code I know what size the cabinet is, how high it is, how deep it is and what’s in the cabinet, all from one little code. So from a floor plan I put that into the detailer, give him a perspective view of the top elevation and floor plan and take it out to the client and go through the features, their appliances, how big everything is to make them fit. And then [I] go back, put in any adjustments that I need to do [such as] wall dimensions, if the designer hasn’t measured the walls properly (which is 99% of the time) and to overcome the problems that the designers [make]. As they’re not cabinetmakers they don’t know about [these problems]. Then I have to pick up any problems out on site. I go to see them and say, “Well, no, you can’t do that because of this reason.” And they want to know why, so you’ve got to back your reason. So technically we go out there and tell them, “Yes or no you can’t do that” and how all the process goes. [I] go back and put it all into the detailer, produce a cut list, produce a panel, optimise it for the guys to cut it, [product installers] to know what to do with each and every individual part that’s cut and store orders, door sizes and benchtop sizes orders and any other additional parts, special parts that I need.
On reflection he admitted that although he used many cabinet-making skills he probably didn’t realise how much reading and writing I’d have to do (Sam, 5: 20). Much of the plan preparation was done on a computer, which did not deter Sam because he had used computers before. However, he found daunting the number and complexity of the software programs he had to use.

Despite a two-week training program Sam was anxious about mistyping one of three letters into a variation of contracts program because if he made a mistake he didn’t know how to get out of it (Sam, 3; 30). Another program that proved difficult was one that showed isometric projections on X and Y axes. Sam found it difficult to orient the Y axis with each new projection. He managed these problems by writing instructions on sticky notes and putting them on the wall for reference (Sam, 3).

Three months later he was comfortable with those troublesome areas, coping with the work easily enough but a bit slower than the other tech detailer [who’s] been there for three years (Sam, 4: 65-67). In addition he was less reliant on the other detailer for assistance but found it useful to talk over problems or solutions to get another perspective. He was also learning more about the carpentry aspects of buildings that are problematic in kitchen design.

Sam found that working as a detailer challenged his spelling skills (Sam, 3). After three months of writing instructions for installers he found that through constantly reading some words he could remember what they looked like and was picking out spelling errors (Sam, 4). For his final activity Sam was asked to comment orally and in writing on a kitchen design. His response was confident, knowledgeable, concise, cogent and sensible with only one error in the written text. His colleague, Peter S noted that Sam made spelling errors on his plans. However, he believed
they are insignificant when compared to the quite thorough (Peter S, 108) quality of the plans produced by someone who has worked in the field and knows how to make things easier (Peter S, 111) for installers. His written comments in the final activity contained only two minor spelling errors (see Appendix D).

Changing jobs took Sam away from a practical career in kitchen installing. The range of literacies inherent in a detailer’s role challenged him but he demonstrated new task competences. As an installer he disassociated literacies from routine tasks. In his new position he drew on the literacies he used as a cabinet-maker and learned new ones. Initially, these were around new computer programs but within a few months included carpentry and building knowledge and writing technical statements (instructions). At first he need strong support structures (assisted), worked to achieve a level of product that suited the organisation (independent) and then used his knowledge to rethink the way he approached tasks (collaborative).

**Technology**

In a matter of months Sam learned the computer codes he needed at work. Achieving this enabled him to undertake his pivotal role in the kitchen design and installation process. From the field, installers reported that the quality of his work made their jobs easier (Peter S).

He was frustrated that the spelling of vocabulary he used routinely has not improved as fast (Sam, 5). There was no evidence Sam used a computerised spell checker, principally because the computer at work did not function as a word processor. However, since the company had not raised spelling as a major issue he believed that it was not as important as he had thought or others in the factory implied.

From another perspective he had also improved his use of specific industry-focused technological language and literacy, allowing him to relate to clients, installers and
workshop employees. As an installer he had limited contact with a range of clients but the new position broadened this interaction.

Within a few months Sam could perform the specialised technical operations expected of a detailer (assisted stage). Further, he was taking the initiative in identifying problems, particularly with spelling (independent stage). He had not demonstrated that he could cope with the technology in new and unfamiliar situations (collaborative stage).

**Organisation**

As a kitchen installer Sam’s reaction to installation errors reflected an independent stage in system communication. He believed that errors were costly to the company but they also reflected badly on him. This attitude stayed with him as a detailer and was reflected in the reasons why he did not mind help:

*If I get it wrong and it gets made [and] goes out onto site and the installer installs it and the client comes home and it’s wrong then it’s going to cost the company a lot more than me just going and asking.*

(Sam, 3: 98-101)

Sam’s decision to apply for the detailer’s position was motivated in part by the damage two inept previous incumbents had done to the company. This kind of reasoning is typical of a worker who acts and thinks consistently with the value systems of the enterprise and placed Sam at an independent stage of competence. His short experience as a detailer allowed him to envisage the possibilities of designing and redesigning systems. To this end he was considering studying for different and higher qualifications. When workers break down traditional organisational boundaries, ‘investing something of their own persona as a redesigner’ (Kalantzis and Cope, 1997: 127), they demonstrate a collaborative stage of organisational competence. The evidence suggested that Sam was moving in that direction.
IDENTITY
As an installer Sam demonstrated independent identity competence. This was particularly evident in the manner that he identified with organisational values expressed in his motivation and commitment. The additional tasks he undertook as a detailer required him, amongst other things, to negotiate diverse personal attributes. While he worked on his own as an installer there was little need for this. In his new position, however, he had to deal with a number of other groups.

Included in these groups were other workers in the company who needed Sam’s detailed plans and installation instructions. Originally concerned that he might be dismissed because of poor spelling Sam soon began to realise that he was putting too much store on spelling accuracy:

_They know I’m not a good speller ’cause they see my writing … As long as they can understand what I’m trying to say, it doesn’t worry me. I’ll try and improve it all the way but it doesn’t bother me._

(Sam, 5: 34-37)

After a few months as a detailer Sam had realised that, from an enterprise perspective, accurate, easy-to-install designs with a few spelling errors in the installation instructions were more cost effective than poorly designed and executed plans. Sam negotiated his spelling as one of the diverse characteristics of his workplace. An installer who used Sam’s instruction commented that the few errors that Sam made are _no big deal_ (Peter: 348) and did not need to be indicated to him. He said the quality and detail of Sam’s designs far outweighed the insignificant spelling errors, adding that it was important to read Sam’s notes. Ironically, reading the notes was not something Sam routinely did as an installer (Sam 1).

Less than a year into his job as detailer Sam was more confident. His wife noticed that the lack of self-confidence that affected him in all aspects of life had disappeared. She gave the example of filling out application forms for jobs:

_He would bring it home for me to help him with it. Whereas now I don’t think he would do that because he feels as though he can do it. And I think through having more confidence he did more, which then_
Sam began to plan a career trajectory and was considering taking further training. He investigated some options and had not ruled out a university degree enabling him to progress through the industry, indicating identity competence that had advanced to a collaborative stage.

**GROUP**

Sam was a member of various teams. As installer he would ring his friends rather than his boss if a problem arose. Under the pressure of working with *the client watching you from behind* (Peter S: 235) thinking through and resolving complex problems can be puzzling. The installers used discussions and problem solving sessions:

> Sometimes it can be just the one off thing: “Well, I think you should do it that way” … but otherwise it can go back and forth quite few times and then you work out the right strategy and do it. Because there is a lot of problem solving in our job, because if the tech detailers don’t do it right … ?

(Peter S: 246-250)

Since the installers generally worked independently, these strategies were established for a specific time to undertake a defined task, namely sorting out a problem with an installation. The common meeting point was the problem that the installers wanted to solve without informing the boss. As such they were indicators of an independent stage of group competence.

Cycling also provided a means for Sam to develop group competence as was indicated in Chapter 7. In particular it taught Sam to work under pressure for the sake of the group. When he started as a detailer and was working up to twelve hours a day to learn the computer programs (Sam. 3) the skill of coping with *getting tired and focusing* (Peter S), gained as a result of his cycling experiences, was invaluable. He seemed to have an insatiable appetite for focusing on becoming
excellent at his job. This was illustrated by the way he had negotiated with a friend to work in his own time on a CAD program that he had found difficult to learn at home.

As a detailer he worked in a broader team. His closest associate was the other detailer, but he also worked with the sales staff, the installers and the factory staff. An incident arose when an installer found some spelling errors in Sam’s instructions. He highlighted them and displayed them publicly. Sam, understanding that the man had acted foolishly, removed the papers and asked the man to speak to him personally if there were any future errors (Sam, 3). This incident focused on the new assurance Sam gained and it emphasised the way Sam was able to negotiate and use internal differences, an indicator of developing collaborative group competence.

COMMUNITY

One of his biggest challenges in undertaking the role of a detailer for Sam was communicating empathetically with clients on site. He found that:

They can get quite upset before I even get there ‘cause [there’s problems with their kitchen design]; ... they want the world. They want a rectangular hole to fit in a square box, so to speak and it’s just not going to work sometimes ... Before this I wasn’t very good at communicating ... I suppose in the past, going to talk to bosses or something like that I’d be very nervous, whereas now it doesn’t worry me.

(Sam, 5: 137-146)

There was no evidence that Sam had any training in this important area. He learnt to take on a straightforward speaking style with confidence about a field with which he was very familiar. He seemed to enjoy representing the organisation and its products. At the same time he recognised that some clients would be disappointed with his observations. In a new area of competence Sam was making good progress. He was by nature affable and approachable and his expertise meant that he commenced work as a detailer with the ability to work at an independent stage
of competence. His sensitivity to clients’ needs indicated that he might be moving towards a collaborative stage of community competence.

**Summary**

Sam initially elected to undertake a carpentry apprenticeship because he perceived that it required minimal literacy skills and had a practical, hands-on focus. By interrupting his studies to develop his competitive cycling skills Sam gained competence in group competence. When he moved from installing to detailing kitchens Sam drew on all his prior competences and developed new areas of skill. The change in Sam’s levels of competence as a consequence of his workplace choices are shown graphically in table 8.8. The subtle, yet important, sociocultural factors that influenced the advancement of Sam’s stages of competence are discussed in Chapter 9.

<table>
<thead>
<tr>
<th>Table 8.8: Comparison of Sam’s Stages of Competence Over Time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task</strong></td>
</tr>
<tr>
<td>Collaborative</td>
</tr>
<tr>
<td>Independent</td>
</tr>
<tr>
<td>Assisted</td>
</tr>
<tr>
<td>Nil</td>
</tr>
</tbody>
</table>

Key
- s = spelling
- ◦ = before work
- ◯ = as an installer and detailer

**Peter**

Peter left school in Year 11 to take up a plumbing apprenticeship. Although articulate he was dogged and confused by spelling difficulties throughout school. The trade training course he took focused more on content and less on spelling and used an assessment technique that did not require candidates to write connected prose. On graduation Peter decided to continue studying in his own time. Over a period of eight years he successfully undertook numerous trade and vocational courses, all the time challenging himself to succeed despite a spelling problem. Mapped against the Framework (Cope and associates, 1995) Peter’s competence development was impressive.
One of the ways that plumbers engage with literacy is through reading plans. Early on in his career as a plumber Peter routinely referred to and interpreted house plans which he learned to use after being shown a few times during his apprenticeship. In terms of literacy he found that he might struggle with a couple of words the first time, but [since] you're always using the same words every day (Peter, 1: 89-90) they became a part of the vocabulary. From this experience he moved onto much more complex plans for multi-storey buildings – as many as eighty plans to a single site. He had good chaps to work with who took me under their wing and showed me the ropes on the major projects (Peter, 3: 205-206). He learned to use effectively the particular jargon displayed in the legends of plans on a daily basis.

His appointment as a shop steward and safety officer required him to write much more than he would be expected to do as a regular plumber. When he needed help with spelling he turned to a Croatian friend who was an excellent speller in addition to using dictionaries, spell check programs, technical manuals, work diaries, pro formas and also secretarial staff at work. As a shop steward and safety officer he was also required to consult and negotiate with a wide range of people on and off-site including workers, employers, product distributors, Worksafe officers and union officials. He learned all the skills necessary to participate actively in meetings and also gained a greater understanding of company policy and procedures.

Assessing Peter’s stage of task competence is difficult. For example at the assisted level while he needed support to spell accurately he performed tasks more complex than those typical of an assisted stage of performance. In both his work and most writing tasks, apart from spelling, he demonstrated that he could perform tasks from a sense of the organisation’s needs, an independent stage of competence. At the collaborative stage he demonstrated that he conceived the long-term outcome of processes that were linked to a range of perspectives. Since he demonstrated many attributes of a collaborative stage of competence he had most probably reached that
stage. In terms of spelling, despite requiring assistance and struggling with basic words he was able to navigate around this problem and find different, if less sophisticated but appropriate vocabulary.

**Technology**

Owing to the extra training Peter undertook he had a good grasp of the technology of all facets of the plumbing industry. He was able to teach practical plumbing skills effectively while demonstrating consideration for his apprentices’ physical and psychological safety. Additionally, as a result of further education Peter understood and supported legislation aimed at preventing the bastardisation of apprentices and encouraging safe working practices. Since his interest in and knowledge of the technology of plumbing was something he was driven to share he demonstrated a collaborative stage of competence on this aspect.

Technology failed Peter when it came to spelling. He perceived his spelling difficulties as something that he alone must overcome and although he found correct spellings from various sources he had not fully integrated new digital technologies in his repertoire of spelling aids. At work he did not have the use of a computer. At home he operated a computer as a word processor or he used the spell check but not the auto correct facility. In this regard his use of appropriate technology placed him at an assisted level of competence.

**Organisation**

Peter’s success as a shop steward and safety officer arose largely as a result of his ability to view events from both the union and the employers’ perspective. For example, he advocated adherence to safety standards because he did not like collecting money for dead blokes’ [families] (Peter, 4: 323-324) but regarded disruptions to schedules because of industrial action over safety as expensive delays to work.\(^1\) Relating to and taking into account the perspectives of employers and

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\(^1\) Peter became involved in safety at a time when the state government has deregulated industrial safety inspection. Owing to a reduction in inspections safety standards fell away and, on average,
workers as he negotiated placed Peter at a collaborative stage of the organisation aspect of the Framework.

**IDENTITY**
When Peter talked about himself and his achievements it was generally in a positive light. He was proud of his gains, particularly in advancing professionally despite difficulty with spelling which embarrassed, confused and constantly dogged him. In all aspects of literacy and language Peter functioned at a collaborative level on the identity aspect with the one exception of spelling.

**GROUP**
Peter chose to work from a union perspective, requiring him to learn and refine techniques to engage workers and employers in sometimes tense negotiations. Although he believed this was made easier because of the good reputation he had with his employer, his task was made more difficult by his fear of making a ‘dill’ of himself in writing documents littered with spelling errors. When he spoke with others concerning work issues Peter functioned at a collaborative level of cooperative (Group) competence.

**COMMUNITY**
When Peter wrote about work or industrial issues he was on the cusp of the independent stage. This was because he could write well but perceived that his need to check spelling frequently represented a personal failing. In other words perceptions of the inadequacy of his own spelling interfered with his writing. This was clearly illustrated in his final activity where the words he actually wrote were not the ones he wanted to write. Much of his writing time was spent seeking alternative vocabulary that he could spell and convey a similar intent.
Peter applauded the efforts being taken to educate the general public about work safety. In his final activity he chose to write about the new advertising campaign for workplace safety that was to be launched the following week. He welcomed a new approach to safety, arguing that previous campaigns had focused on punitive consequences for employers. The new campaign focused on the value of training for workers. Peter regarded workplace safety as a community issue rather than solely a worksite issue. He believed that injury or accident affected all the associates of the worker involved and as such it was a problem that must invoke a community response.

From a more personal perspective he believed that he needed to master spelling by the time the children he and his wife were planning reached school age. His perception of a responsible citizen included proficient spelling and it worried him that the community at large may regard him in a negative light because of spelling errors.

While Peter’s response to alerting the community to the issue of workplace health is commendable and placed him on the collaborative stage of community or public communication, he was at an assisted stage in terms of his own spelling problems. With greater use of and knowledge about the tools available to him on computers Peter was capable of fulfilling a community role, such as executive member of a school or sporting committee. Given Peter’s demonstrated ability to meet new challenges this goal was conceivably achievable.

**Summary**
Through his considerable efforts and positive outlook, Peter developed collaborative competence in all facets of competence. Much of this related to the practical or social aspects of his work. This should not be surprising as the data demonstrated that he always had a high self-concept and a determination to progress through his chosen industry. Spelling remained problematic for Peter, as Table 8.9 illustrates. While he was outgoing and assured in many ways he still needed assistance in spelling accurately from other people or his own resources.
The confidence that Peter expressed in his ability to continue learning, however, suggested that he would not give up trying to spell accurately.

**Table 8.9: Comparison of Peter’s Stages of Competence over Time**

<table>
<thead>
<tr>
<th>Task</th>
<th>Technology</th>
<th>Organisation</th>
<th>Identity</th>
<th>Group</th>
<th>Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaborative</td>
<td>✶</td>
<td>✶</td>
<td>✶</td>
<td>✶</td>
<td>✶ p</td>
</tr>
<tr>
<td>Independent</td>
<td>✶ s</td>
<td>✶</td>
<td>✶ TAFE</td>
<td>✶</td>
<td>✶ w</td>
</tr>
<tr>
<td>Assisted</td>
<td>✶ s</td>
<td>✶</td>
<td>✶ s</td>
<td></td>
<td>✶ s</td>
</tr>
<tr>
<td>Nil</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✶ school</td>
</tr>
</tbody>
</table>

**Key**
s = spelling
p = participation in union campaigns
w = writing for work
s = spelling at work
✶ = before work
✶ = since initial qualification

**Concluding Remarks**

This long chapter systematically introduced and discussed a large number of data that provided examples of the opportunities each of the nine primary participants had to engage in a range of literacies at work or in the working years. Incidents or opportunities were shown in terms of the six stages of competence on the Framework (Cope and associates, 1995) in order to make comparisons with the school and training experiences analysed in the previous chapter. Each individual analysis concluded with a table graphically illustrating the comparison.

By making comparisons this chapter answered part of the research question, demonstrating that men who self-report literacy difficulties access and engage in a variety of literacies at work. The next chapter continues the data display phase of analysis with an across-category sorting procedure (described in Chapter 4). It draws all nine cases together and examines the data as a whole.
CHAPTER 9

LITERACY COMPETENCE ACROSS CASES

INTRODUCTION
This chapter continues data display - the second phase of data analysis. The previous chapters introduced the nine primary participants (Chapter 5), analysed the data for each of them to determine the aspects of competence each man demonstrated (Chapter 6) and, through further analysis, illustrated the development of stages of competence over time (Chapters 7 and 8). Analysis to date verified first, that each of the participants entered the workforce with competence in particular aspects of literacy and second, that each participant enhanced his repertoire of literacies in the workplace. To answer the research question—what are the issues of identity and social interaction that allow men who self-report literacy difficulties to access and engage in the workplace literacies? - this step of analysis drew the nine single cases together. It examined more closely possible motivations for engaging with literacy and the range and levels of literacy demonstrations.

There are two parts to this chapter. Part 1—across category sorting (Miles and Huberman, 1984: 22)—revisits the comparison of stages of competence over time (Chapter 8) and draws together nine single cases to determine the range of literacy practices in the men’s work experiences based on Hull’s (2000) metacategories for literacy function. The process of drawing the cases together entails examining the types of literacies that the men engaged in or practised at work. Hull (2000) identified eighty metacategories of literacy functioning, illustrating the diversity of
### Table 9.1 Metacategories for Literacy Functions

<table>
<thead>
<tr>
<th>Performing Basic Literate Functions</th>
<th>Using Literacy in Explanations</th>
<th>Taking Part in Discourse Around and About Text</th>
<th>Participating in the Flow of Information</th>
<th>Problem Solving</th>
<th>Exercising Critical Judgement</th>
<th>Using Literacy to Exercise or Resist Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completing forms</td>
<td>Analyzing</td>
<td>Citing</td>
<td>Coaching</td>
<td>Brainstorming</td>
<td>Assessing</td>
<td>Taking action</td>
</tr>
<tr>
<td>Copying</td>
<td>Contextualizing</td>
<td>Constructing rules</td>
<td>Constructing</td>
<td>Calculating</td>
<td>Bestowing blessings</td>
<td>Admonishing</td>
</tr>
<tr>
<td>Correcting</td>
<td>Demonstrating</td>
<td>Highlighting</td>
<td>Giving instruction</td>
<td>Categorizing</td>
<td>Identifying</td>
<td>Assigning</td>
</tr>
<tr>
<td>Identifying</td>
<td>Dramatizing</td>
<td>Mimicing</td>
<td>Invoking</td>
<td>Conjecturing</td>
<td>Critiquing</td>
<td>Constructing rules</td>
</tr>
<tr>
<td>Keyboarding</td>
<td>Elaborating</td>
<td>Perusing</td>
<td>Practicing</td>
<td>Creating</td>
<td>Disputing</td>
<td>Deterring</td>
</tr>
<tr>
<td>Labeling</td>
<td>Exhibiting</td>
<td>Presenting</td>
<td>Providing linguistic assistance</td>
<td>Gauging</td>
<td>Evaluating</td>
<td>Fudging</td>
</tr>
<tr>
<td>Locating</td>
<td>Explaining</td>
<td>Outlining</td>
<td>Requesting or providing clarification</td>
<td>Justifying</td>
<td>Highlighting</td>
<td>Causing concurrence</td>
</tr>
<tr>
<td>Looking up</td>
<td>Illustrating</td>
<td>Accounting</td>
<td>Planning</td>
<td>Inferring</td>
<td>Causing reactions</td>
<td></td>
</tr>
<tr>
<td>Matching</td>
<td>Role-playing</td>
<td>Referencing</td>
<td>Seeking direction</td>
<td>Problem solving</td>
<td>Interpreting</td>
<td>Giving direction</td>
</tr>
<tr>
<td>Notetaking</td>
<td>Doing show-and-tell</td>
<td>Reflecting</td>
<td>Seeking instruction</td>
<td>Representing</td>
<td>Using irony</td>
<td>Granting permission</td>
</tr>
<tr>
<td>Practicing</td>
<td>Signifying</td>
<td>Summarizing</td>
<td>Hawking</td>
<td>Validating</td>
<td>Interpreting</td>
<td>Invoking</td>
</tr>
<tr>
<td>Proofreading</td>
<td>Providing documentation</td>
<td></td>
<td></td>
<td></td>
<td>Using irony</td>
<td>Proposing</td>
</tr>
<tr>
<td>Reciting</td>
<td>Requesting documentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Protecting</td>
</tr>
<tr>
<td>Recording</td>
<td>Tallying</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Neonomanding</td>
</tr>
<tr>
<td>Source: Hull, 2000: 651</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Requesting action</td>
</tr>
</tbody>
</table>

Source: Hull, 2000: 651
literacies in contemporary workplaces. Each function was classified according to seven broad categories that describe the purpose of particular practices (see Table 9.1):

- Performing basic literate functions
- Using literacy to explain
- Taking part in discourse around and about text
- Participation in the flow of information
- Problem solving
- Exercising critical judgement
- Using literacy to exercise or resist authority.

The metacategories were a useful tool for examining the range of literacies evidenced across all cases reported in this thesis.

Part 2—stages of literacy competence—examined the combined data, exploring the types of literacies the men engaged in and the stages of competence at which particular literacies manifested themselves. The aim of this analysis was to demonstrate the range of competence of any literacy and the way in which some participants made more progress than other participants.

**PART 1 - ACROSS CATEGORY SORTING**
The second step of the data display process, across category sorting, grouped the data from all cases in terms of metacategories of workplace literacy (Hull, 2000). This step commenced the process of shifting from nine single cases to a single grouped case. Specifically, it questioned the types of literacy engagement of men who demonstrated varying stages of competence.

Grouping is a useful tool when considering a diverse community. The participants in this study can be grouped according to the size of their enterprise and the nature of their tasks. Stalin, James, George and John were all employed by Firebrand (a large heavy industrial enterprise) that under industry restructuring reskilled its workforce, ensuring that many employees had access to training programs for the
first time. The time frame was important here. Firebrand facilitated training for John, Stalin and George in an attempt to improve their future employment prospects and maximise their redundancy when closure of their section of the enterprise was announced. On the other hand James attended literacy tuition when workplace restructuring was being discussed but prior to the introduction of training initiatives that benefited the other participants.

Dasher, Charles and Sam were all employed in small local enterprises. Each of these men had workplace skills that enabled them to move through a range of jobs and even enterprises within their chosen industry. All three took breaks from their dominant work – Sam during his apprenticeship and Charles and Dasher throughout their careers. Like Dasher and Sam, Robert and Peter had trade qualifications. Their career paths differ because they moved, within their industry, to positions with responsibilities beyond the local worksite.

**Performing Basic Literate Functions**
All participants engaged in a variety of basic literate functions. Charles, George, James, John and Sam completed documents, such as sick leave and job application forms with the assistance of a partner or family member. At a higher level of competence Robert wrote a successful job application. Typically, participants with little confidence in their written language skills used copying as a means of assisting their workplace performance so that they could satisfy requirements of their jobs. For example, John copied a danger tag, Charles copied a logbook entry and James copied out safety slogans his wife wrote for him.

Objects that aided performance were essential to the participants. Peter, Robert and Dasher identified industrial laws or workplace regulations and Charles identified road maps. Most identified one or more individuals who were influential in their workplace performance. These may have been personnel at work such as Ray (Stalin), Mick (James), Joan (George) or family members Helen (Sam) or Pat (James’ wife).
Some participants used computers. At a basic level George used a computer program to practise for his bus driver’s licence test without knowing how to boot up the computer or open the correct program. Peter used his computer to check the spelling of handwritten reports. Dasher used a computer to surf the net with friends. At a higher level Robert routinely used a computer to write letters and reports.

All participants located information using a range of literacy skills best illustrated in the map reading activity (Appendix D). Techniques used to locate a specific place included initial letter, length and shape of words, layout of page, orientation of map, matching of co-ordinates and colour of streets. In the catalogue reading activity participants who were not efficient readers used colour, shape, content of illustrations, size of font and manufacturers’ logos to locate and ‘read’ information. Some demonstrated an ability to refer to a range of sources including newspapers, radio and television, files, the Internet, dictionaries, notes, diary entries and published material.

James was one of several participants who took notes. While he made notes in a shorthand of his own making, Robert, Peter and Stalin took notes in a more conventional style. Dasher avoided taking notes in meetings, preferring to memorise items of importance. George took mental notes of the important points raised in training sessions and Sam made many notes about the new computer programs he had to learn at work and stuck them on his office wall.

Sam liked having opportunities to practise his new skills, as did Stalin. In teaching James emphasised the importance of practice. Robert found that with practice the different oratory skills he needed at the Industrial Commission and in front of a collection of angry workers improved.

At work some participants were required to record data of various types. Sometimes it was output tallies (James and Dasher), non-compliance reports (Stalin
and John), gauge measurements (George), inspection schedules (John) or accident-
free days (James, Peter and Dasher). At other times it was colleagues’ safety or
redundancy concerns (James and Stalin), phone messages (John) or safety audits
(Peter).

**Using Literacy to Explain**
When participants used literacy to explain workplace practices they used a range of
techniques. Stalin described how he used an analogy to break a stalemate on the
TST. Analogy was Stalin’s method of choice when explaining events. Robert
frequently explained issues in the context of work. On different occasions he
referred to the Industrial Commission court room, shire worksites and the set of
offices where he was based, demonstrating different types of literacy that were
appropriate in each setting. Sam also demonstrated that he contextualised
workplace literacy by viewing the communication skills in the office as different
from the installation site.

Those participants who taught as a part of their work routinely employed
demonstration, elaboration and explanation as integral teaching tools. As James explained he could not read the manuals but he knew how he liked to learn. James, Sam, Peter, Stalin and Robert had used oral or graphic illustrations in workplace
activities. As oral and written presentations were a major part of Robert’s job he
had achieved a high level of competence. James had presented to his team on a few
occasions, usually heavily supported in preparation by his wife and at least once by
other colleagues. Stalin was asked to make presentations at TST meetings and Sam
learnt by experience how to negotiate with clients. Away from the workplace
George had routinely presented reports as a member of the state and national
executive of a sporting association.

Dasher and George were the only participants who reported any experience of role
play as a means of explanation. Dasher encountered role play on two different
training courses and found it beneficial and useful. George's secret was revealed as
the result of a role play he was asked to take part in. Apart from the ignominy and shame of the situation he made no comments about role play as a literacy tool.

**Taking Part in Discourse Around and About Text**

There were many opportunities for participants to take part in discourse around and about text. Every meeting Robert, James of Stalin attended involved discourse around minutes or notes from previous meetings. Every time Dasher, Peter or Robert consulted workplace legislation they engaged in the discourse around complex texts. Every time James or George discussed news events with Ray or Wayne they took part in a discourse around different text forms with similar content (radio and newspapers). Whenever he used a current affairs-related analogy Stalin was engaging in a discourse around texts. When George selected the key points from safety talks, he was taking part in the safety discourse. To express the meaning they attributed to and took from a particular text type each highlighted, perused, presented, recounted, reflected and summarised. This was demonstrated most aptly by James over the two days of a First Aid course when he memorised the important content and then analysed the questions he was asked in terms of that content (see Appendix E).

**Participating in the Flow of Information**

Worksites represent points of information exchange. Wayne, for example, recalled that there were always bits of paper being handed out at Firebrand. Charles, James and George relied on colleagues like Jack, William and Wayne to read information so that they were able to participate in the discourse around it. Dasher noted that discussion and some training arose from the need to disseminate information about new products.

On occasions participants participated in the flow of information by coaching, giving instructions, receiving instructions, requesting or providing clarification and seeking directions or instructions. George and James used these strategies extensively when they taught the operation of specialist machines and others, like
Stalin, valued the use of these strategies for their own learning. Dasher found many classroom teaching strategies too fast and he felt left out of the flow of information.

Some of the participants whose literacy skills were weak, such as James and Sam actively sought out information. Others like Charles and John chose not to involve themselves with the flow of workplace information. George discriminated the information he chose to listen to, rejecting information that he believed represented a political agenda.

**Problem Solving**
Stalin recalled that the TST committee used hypotheticals to explain important information more simply. He invoked the concept himself when he described a non-compliance report (Stalin, 2). Hypotheticals are devices created to solve problems, particularly involving complex issues. Problem solving at work was common. The men used a range of literacy strategies to guide their problem solving. When they were in a new or unusual situation several of the men gauged the reactions of people around them to determine who would be most helpful. George learned this at school and claimed it was one reason he worked at Firebrand for twenty years without anyone knowing that he could not read. Stalin described the concept of growing an antenna to gauge reactions. Robert spent an afternoon in the Industrial Commission watching the reactions and responses of the presiding officer.

**Exercising Critical Judgement**
During his apprenticeship Robert disputed decisions from the shire and the union because, in his critical judgement, they were incorrect. As a shop steward Dasher remonstrated, raised his voice and used inappropriate vocabulary as a means of disputing decisions that he felt were wrong or sanctioning practices that endangered the men on his site. Peter was less flamboyant in his disputation. For Robert and Peter in particular exercising critical judgement through dispute was a large part of their jobs.
Robert, Peter, Stalin, James and Dasher illustrated that their roles in the workplace entailed literacies of justifying, planning and revising. As an Industrial Officer Robert was charged with reconciling disputing parties, arranging meetings, writing dispute notices and industrial claims and providing advice based on his critical judgement of the industrial statues and the particular situation. As shop stewards, Peter and Dasher had roles similar to but less intense than Robert. They were required to exercise critical judgement around issues of Occupational Health and Safety, negotiate, assess safety, report incidents and pass on safety information to workers at fixed sites. Stalin and James were both involved in workplace committees where they exercised critical judgement around issues that concerned the men in their workshops. James, for example, decided which minute items he needed to concentrate on and respond to.

**Using Literacy to Exercise or Resist Authority**

Some of the men exercised authority while others resisted authority. Typically, they demonstrated this through taking a particular course of action. George, for example, resisted hegemonic notions of literacy by refusing to indicate overtly to the storeman that he could not write down the names of the tools he was borrowing. He fudged or used what he described as ‘illusion’ to complete a task satisfactorily. James used the term ‘bluff’ to describe the way he recovered his dignity at times when his secret might come out. Peter resisted the constraints that authority places on those with spelling problems. His upbringing had confirmed in him that people who could not spell were stupid and uneducated (Peter, 3). He was determined that he would learn and progress though the workforce in spite of his spelling problems.

At the same time as a shop steward and safety officer Peter also used literacy to exercise authority. He was successful in these roles because he was able to gain consensus in disparate and diverse groups, gauging reactions from company managers and unionists and responding appropriately. Finally, using the powers invested in him as a union official he was able to request actions such as the removal of individuals or objects from a site or permitting individuals or items into a building site.
Summary
Across category sorting drew the nine single cases together. Hull’s (2000) metacategories for literacy functions provided a structure to examine the range of literacies described across all cases. The aim of this step of the three level data analysis process was to provide examples of the diverse literacies found in the data. However, this analysis leaves more questions than it answers. The principal question is: if so many literacies are represented across the spread of cases, why did some participants develop in several aspects of competence and other show minimal development? Related questions include: firstly, what was the importance of entry-level competence?; and secondly, are there particular circumstances that promote development in the workplace? The final step of the data display level of analysis focused on resolving these issues.

Part 2 - Stages of Literacy Competence
The nine participants in this studied used a diversity of literacies for specific purposes. As Chapters 7 and 8 illustrated they also engaged in literacy practices at different stages of competence. The question that this section asked is: is there a link between the purpose for using literacy and the stage of competence participants achieved?

Assisted Performance
The data indicated that at work the men actively and routinely engaged in a range of literacy practices. At the stage of assisted competence these included completing forms, copying, locating and referring to a range of texts for information, matching, note taking and providing documentation. Completing job applications and sick leave forms were tasks that John, Charles, George, Stalin and James required assistance with, usually from a family member but sometimes from office staff. Sam, as Helen noted, had been at an assisted stage but had become more competent at completing forms. Both John and George required assistance to complete tickets when borrowing tools. John asked the storeman to write tool names for him.
George was not prepared to indicate overtly poor literacy skills so he used illusion to challenge the notion that he should be ‘literate’ to do his job.

Matching and copying were useful methods that participants used to get help from print resources. Charles matched the names of towns to those on the road map when he was driving trucks. Sam measured and re-measured, matching several trials to ensure his measurements were correct (Sam, 1). George began to match the alphabetic code he was learning to words on safety signs in the forge shop. John and Charles copied examples of text forms provided by other people. Dasher and Peter copied correctly spelled words from documents they had written earlier.

Literacy was also a means of undertaking tasks that had a fixed routine or a limited and predictable outcome. Charles, for example, copied logbook entries for the purpose of complying with legal regulations. He navigated on his trucking journeys by codifying the literacy of road signs, for example, green and white for main roads, road numbers for highways and arterial roads. He also uses his limited alphabetic knowledge to distinguish words by matching letters, rather than reading fluently, as demonstrated when locating ‘Stuart’ in the street index of a road atlas (Charles, 5: 482-492):

**Charles:** I’ve got to find ‘s’.

**MK:** Why ‘s’?

**Charles:** 'Cause that word starts with ‘s’.

**MK:** And how do you know you have to find that one?

**Charles:** Because that’s the name of the street … it’s got the number before it. So you’ve got to have a street number.

**MK:** Right, excellent.

**Charles:** …‘s’ … and the second letter’s ‘T’. So I find where the ‘S’s start.

In the same activity he indicated his rule-based approach to locating a route on a road map – orienting himself by locating the highway he would be travelling on to enter the city.
As an oil storeman Dasher recorded details of oil use and ordered oil refills by copying details off petrochemical drums. In contrast both Dasher and John disliked the task of writing telephone messages when they were storemen. For someone whose phone skills weren’t that good (Dasher, 4: 247) and who had concerns about spelling, taking phone messages was daunting for Dasher. Usually, he would try to avoid having to answer the telephone but sometimes you had to [take the calls] (Dasher, 4: 21). He found that he could remember the name of the caller and passed that on to his boss. John was not so lucky. As a storeman he was expected to respond to telephone calls, which he could not do. Within a few weeks they realised I wasn’t fine and they got somebody else to do the job (John, 2: 79-80). In his workplace practice John was also closely bound to rules. He found that the easiest way to get along at work was to learn the rules and be guided by them. In particular he liked the way that the same set of rules applied across the very large multi-faceted Firebrand site (John, 3).

Other participants performed basic literate functions and these are evidence of technical competence. George, who always worked to the rules he had been taught, used a note pad to record the height he needed to set the gauge for individual jobs on the press (Wayne). James recorded notes of tasks that needed to be done. A task that Sam found difficult as an installer was maintaining financial files. He was able to achieve this with his wife’s assistance and by keeping to a strict set of rules about filing receipts and records (Sam, 1).

Within an enterprise, workers functioning at an assisted level use oral literacy for explanation, demonstration and elaboration. George, James, John, Charles, Stalin and Dasher all report that they learnt about new products, processes or machines through oral explanation, demonstration and usually elaboration by means of questioning. Where explanation was available in the form of print text, for example, instructions on new products or special instructions on plans, Sam and Dasher indicated that they chose to disregard the text and attempt the activity based
on their own knowledge of the technology (Sam 1; Dasher, 1). James was unable to read the Standard Operating Procedure (SOP) for the barb machine, but, because he listened to other workers talking about them, he knew the text was inaccurate.

Firebrand had system-wide structures for assisting employees with poor orthodox literacy skills. James (5), Stalin (3) and Ray reported that meeting minutes were always read at the beginning of each meeting. Wayne reported that he routinely read memos aloud for the benefit of George and another employee.

John, Stalin, James, Charles and George gained new qualifications, in part, because they had assistance in learning the prerequisite skills. When they were required to take written tests all of them had assistance. One of the most memorable in this regard was James’ recall of taking the test at the end of the First Aid course (James, 2) (Appendix E). Essentially, workers at an assisted stage of development use oral skills and technological competence to negotiate literacy at work.

The way that participants at an assisted stage of development accessed text was through colleagues. Wayne knew that George did not read either the newspaper or notices at work. So he chose to read and discuss important notices to George. Similarly, James perused but did not read the newspaper (William). He was able to garner enough information from key words, as he explained (James, 5: 663-666):

I get newspapers and I try to go through it and you see things. You say people[‘s names], like or you are lookin’ for somethin’ that you heard. And then you have a go. You try to work it out and try, mostly try and some rough idea of what it’s about. But it’s not perfect.

Although he struggled to gain meaningful information from newspapers he persevered, reading the paper every day and talk[ing] about things that were in it (William: 147-148) because of its importance in workplace interactions and knowledge development. He read the paper from front to back and kept fairly well
up on world affairs, stock market, the whole lot. If it was printed and it was in the paper he’d read it (William: 156-157).

Planning is an important function of problem solving. At the assisted level this was almost always carried out in conjunction with an expert. An example of this was the way William helped Stalin to talk through possible reasons why machinery did not work (Stalin, 3). This was followed by a structured procedure to check various components step-by-step. The men demonstrated that they sometimes use other tools to assist them in planning, especially travel. Charles was able to plan his interstate trips with the assistance of a road map and closer to each destination he used a street directory to plot his route. Sam also uses a street directory to plan his travel, particularly to new locations (Sam, 1). When Dasher worked at a new work site he checked the location in a street directory and did a dummy run (Dasher, 1: 194) the weekend before to make sure he could find his way.

Dasher and Stalin found learning computer skills very difficult because of what they perceived as a lack of a systematic, step-by-step approach. The panic that overcame them is evident in Dasher’s comment:

They run through it too quick. … You just can’t see it on the screen. They’re moving over there and you’re looking at somewhere else. Did you see that? I clicked on that … Oh no! I didn’t see it. How did you do that? And they’re jumping because they do work fast. They don’t do it step by step.

(Dasher, 1: 152-158)

The rapid and random nature of instructions leaves them no time to plan and prepare, nor could they cope with continually changing screens. They needed more time to look at a screen and take in the content than was permitted. *I couldn’t keep up with everybody else changing the screens, using the cursor to change the screens and to go certain places. I got quite lost with that* (Stalin, 2: 44-46). Ultimately, these experiences convinced them that the problem was with them—*I just couldn’t do it* (Stalin, 2: 54)—and they *just haven’t got the confidence* (Dasher, 1: 95) to persevere with learning to use computers. The data indicated that Dasher
surfed the Internet but this was usually with a friend in the privacy where he could take the time he needed to read the content of web pages.

Robert, as an Industrial Officer, was charged with, amongst other things, making critical judgements. Moving up through the ranks of the union this was not one of his strengths, as he noted (Robert, 4). Scott has begun to notice an improvement in this aspect of his task and group and organisational literacy. The impetus for this change dated to the time when Robert started seeking comments from other, more experienced union staff (Scott).

Another characteristic of this stage of literacy competence was an unease and dissatisfaction that was sometimes demonstrated as resistance (Kalantzis and Cope, 1997: 68). Often viewed in a negative light, dissatisfaction or resistance was regarded by Hull (2000) as an indicator of literate functions. She argued that performance that resists and influences authority is a form of literacy that demonstrates the kinds of social identity that workers construct for themselves. Participants in the study provided different motivations for rebellious or disruptive behaviour. Where George and James were aggressive and disruptive as a means of protecting their identities, Dasher was rebellious because he was frustrated and critical of his industry—the bosses and the unions. His criticism frequently had negative consequences for him. For example, during the data collection period he lost his job at least once because he had a falling-out over workplace safety (Dasher, 2 and 4). He reflected this frustration back onto himself, blaming himself for errors at work when he had not found the assistance he needed. Generally, when participants commented about resistance to authority they indicated that they had no interest in fitting into the “limited interests of the organisation” (Kalantzis and Cope, 1997: 68) and regarded the job as a means to an end. As James (1: 152-153) acerbically noted, I’m not here for the thrill, which they know. That’s what I say to them.
Many of the men in this study regarded failures in the workplace as evidence of a deficiency in their own competence or ability to act. Robert (3: 130-142) regarded the daylong, inconclusive meeting held at his worksite as a failure on his part because he did not exercise the interpersonal skills that he believes he has to enable decisions to be made more expeditiously. As noted earlier, Stalin found it very difficult to deal with errors at work. Ray described this as one of the most difficult characteristics of Stalin. While George said he did not like making mistakes and did not admit to making any, Wayne (: 189) noted that occasionally he stuffed up. Although George normally worked precisely and accurately if he’d drove the press and squashed my job undersized, everyone knew (Wayne: 316-317). The participants did not like public displays of errors on their part.

**Independent Performance**

Training in any one skill is continuous or ongoing. Novices are expected to grow in competence and confidence and be less reliant on experts. The development of skills implies that individuals demonstrate independent, autonomous performance. In an era of multiskilling and reskilling when workers are required to learn to function in an environment of complex technology, an ability to demonstrate independent performance is essential. Performance at the independent stage is characterised by reduced direct supervision, decision-making within the guidelines laid down by the institution or organisation and a preference for working alone or with a small group. Functioning at an independent stage enabled many participants to demonstrate more complex literacy forms.

Basic literate functions become more complex and more common at an independent stage. John, for example, enjoyed the relative autonomy he had as an oil storeman. He designed a weekly schedule for checking the turbines but chose to alter it when the rigidity of it became boring: *after a while I got into a routine just doing it from Monday to Friday. And if I got a bit bored with it I’d change days round so it wouldn’t ... do this day instead of the following day* (John, 4: 193-195). When asked how he managed to write the words, codes and numerals necessary on the schedule he replied, *from Monday to Friday I just put M for Monday and T for*
Tuesday (John, 4: 244), thus using a simple but accurate system, enabling him to take personal accountability for a task.

James created a kind of shorthand, enabling him to note requests from his managers and take matters of concern to and from safety meetings (as an example see Figure 8.1). Stalin, who could read but not comprehend a technical document, such as the induction safety manual, when he commenced at Firebrand (Stalin, 1), learned about the corporate culture by giving his TST reports to the shift (Stalin, 3). As a carpenter Sam measured kitchen parts, located files, looked up addresses in a street directory and recorded details of costs independently and autonomously (Sam, 1). In his apprenticeship and his early career, his supervisor solved problems or helped him to solve them. He noted that as an installer he preferred to work on his own because he found that he gained self-confidence knowing that he had to solve immediate problems on his own (Sam, 2). This was an attitude he shared with many of the other men—a desire to demonstrate to themselves, as much as anyone else, that they could engage successfully in more complex tasks.

As Sam has learnt more about the tasks involved in detailing kitchen plans his memos on how to work with the CAD program, unused, started falling off his wall and he was too busy to reattach them (Sam, 5). He was also using his working knowledge to solve routine problems where he would previously have consulted his trainer. When he had to make decisions about things that I generally wouldn’t do ... I might ask to see how the company do [sic] it (Sam, 4: 163-164). There were even occasions when his installation procedures were not consistent with the company’s recommended procedures. On these occasions he checked to see if it’s all right if I do it [my] way ... [in case] something happens and something goes wrong (Sam, 4: 171-173).

When John used the danger tag he had copied, he did so in order to “follow … role models” (Kalantzis and Cope, 1997: 69), allowing him to merge into the enterprise culture. However, after attending literacy classes he was able to discard this tag
and the notebook that contained his glossary of everyday words and began to approach basic literate functions, with the exception of writing, autonomously. He found, for example, ways of locating the correct terminology to write non-compliance reports for the forklift. Each morning the first operator of each forklift was required to do a safety check (John, 3: 198) with the aid of a checklist in an information book with all the safety things (John, 3: 189). Any problems had to be written in the book and handed to the mechanics. John had little difficulty writing these reports, finding ways to locate the technical vocabulary he could not spell. If for example he decided there was a problem with a wheel he would, firstly, use the few basic words he could write confidently. Then he would use a dictionary or … the manual that gave the name of the part (John, 3: 228-232). George also drove forklifts but took a different approach to writing non-compliance reports: It was just unfortunate that I was never the first person to operate the forklift for the day (George, 2: 186-187).

Like George, James, Sam, Robert, Peter and Stalin, John found that increased engagement with basic literate tasks acted to enhance identity, technology, group and organisational competence. Over the years Charles appropriated orthodox literacy skills that he did not possess when he left school, engaging most with a variety of text-based literacy forms when he was a truck driver. Although he did not believe that this was an important time for literacy development (Charles, 4) Jack felt that Charles did improve his literacy skills [when he was driving trucks because] … he had to find streets and he had to find addresses (Jack: 73)—a literacy skill he demonstrated in the map reading activity:
MK: You’re looking for s-t, aren’t you?


MK: How did you know that said ‘drive’?

Charles: ‘Cause I can probably recognise ‘drive’.

MK: Excellent!

(Charles, 5: 505-515)

As participants became more involved in workplace activities they exhibited an increased repertoire of literate functions across all aspects of competence. Moving through the union ranks, for example, Robert learned the literacy of gauging and responding appropriately to reactions as he spoke at formal and informal meetings. When his skills and his potential were recognised by union officials he was given opportunities to undertake more responsible, higher-level tasks (Scott). James found that even with limited orthodox literacy skills he could run a successful safety campaign, influence others on the shift when there were industrial or personal issues and teach. With this advance in identity competence came a growing recognition of organisational structure and responsibility. As far as the organisation was concerned, for example, James developed from a disruptive and problematic employee into an asset who is held in high regard, irrespective of his literacy limitations (Mick; William).

Charles proved to be a self-starter, who with minimum supervision worked to a very high standard. Acknowledged by Jack and Jane to be a very hard worker he set himself high standards that were usually met: I’m so fussy … When I’m building something … it’s got to be perfect or I … won’t stop at it until I get [it] perfect (Charles, 5: 353-355).

Under these conditions it was not surprising to find that he taught himself welding. However, being Charles, he did not learn simply the physical skills but has also learnt the technicalities of the task, enabling him to engage in the literate functions
of problem solving and exercising critical judgement as he tackles a particular job (Charles, 2 and 3).

**Collaborative Performance**

When James taught novices to operate the barb machine he knew that the outcome of training should be skilled operators, able to produce a quality product in a team environment with minimal supervision. Learning from unsatisfactory school and work training experience he chose to:

\[ \text{…go through everything. Explain it to them step by step … You don’t leave anything out for granted that they do know. ’Cause people won’t say if they don’t know. I do it different like that. It takes longer, a lot longer, that way.} \]

(James, 5: 13-17)

At the same time he understood that all students were different. James recognised that some trainees learned quickly and some trainees needed more time and more support. Consequently he had no preconceived notions of a fixed period of tuition. His focus was on a quality outcome:

\[ \text{Once I’ve trained them, they know. They’re real good … If they can grasp it, they go good. But if they can’t … you’ve just got to tell them they’re not going to make the grade.} \]

(James, 5: 20-23)

Mick noted that James’ teaching to a range of Firebrand employees, including team leaders and labourers, was really, really thorough … He won’t let people get away with shoddy workmanship and he teaches ‘em every nut and bolt of the machine (Mick: 98-100).

James’ technique for teaching how to operate barb machines extended well beyond the physical or mechanical methods of operating the machines (for a description see Appendix E). He taught from the premise that he needed to establish a relationship with the novices and they, in turn, needed to establish a relationship with the machines and the site as a whole. For instance, James claimed that trainees could not operate or even learn to operate the machines unless they were relaxed and comfortable in the environment (James, 3). In summary, James worked hard to
negotiate a pathway from assisted to collaborative competence for all his students, regarding training as *a lot of responsibility* (James, 5: 34). In particular he demonstrated that he was able to negotiate the diversity apparent in the Firebrand workforce. These were attributes that, in some quarters, might have been barriers to learning but that were unimportant to James:

> He couldn’t speak a lot of English which doesn’t worry me. Because I’ve got to talk to them anyhow and I can’t read a lot of English. So that sort of thing doesn’t worry me.

(James, 5: 59-62)

His skill and success in teaching were acknowledged at the systems level. However, he was aggrieved that he was locked out of gaining qualifications as a trainer because of his literacy skills (James, 4 and 5). Nonetheless James brought the unique perspective of a worker who did not routinely or easily engage in orthodox literacy tasks to teaching. He based his teaching technique on how he learned and how he would like to have been taught at school (James, 3).

Robert’s skills of oration were refined as he grew into his role of Industrial Officer. When appearing before the Industrial Commission he needed to exercise all facets of Hull’s (2000) literacy category of critical judgement. At the same time he also engaged in other literacy functions, such as participating in the flow of information, using literacy to explain, taking part in discourse around and about text and sometimes problem solving. He was also able to use literacy to exercise the authority inherent in his position (Robert, 4). At times he was disturbed and frustrated that on occasions he had not shown the *leadership qualities* (Robert, 3: 137) that he perceived were inherent in his role. This was because he sensed that he has a “unique position within [his] organisation [to which he brought] a unique perspective” (Kalantzis and Cope, 1997: 70). Both of these are important indicators of literacy competence at a stage of collaborative performance.

By moving into kitchen detailing Sam refocused his literacy from the concrete tasks of kitchen installation to much more symbolic, computer-generated literacy tasks. He found that he had to learn tasks he has never contemplated, using technology
(computer programs) he had never come into contact with as a cabinet maker. He also had to learn a new mode of interacting with the company’s clients. These tasks required him to use literacy to exercise authority, make critical judgements and solve problems. His success in this role indicated that his thinking has moved to a level of abstraction typical of a collaborative stage of development. Although initially happy to be guided by his tutors, Sam increasingly saw a need to contribute his background knowledge to the procedural knowledge of the detailers. He envisaged a role where he could influence change in the enterprise. He also contemplated a change in his own circumstances and began investigating avenues for further study to enhance his career prospects within the industry, possibly within the same enterprise.

Where some participants progressed through the workforce as a result of fortuitous circumstances, Peter set out from the start of his career to position himself to take on challenging new positions. He claimed that he needed to move on every two years or so to stay fresh:

*I do something for two years. I learn the ropes until I can do it well and then I change jobs for a new challenge ... I have to learn new areas all the time. I get bored easily. I wouldn’t say I was ambitious as such but I’m driven. I love learning different things.*

(Peter, 5: 109-115)

He chose this action knowing that his difficulties with spelling could hamper him, but was driven by a love of learning (Peter, 5). On reflection he felt that his spelling had improved *over the years, finally.* *Through all the writing I do at work, through trying to do crosswords and this job, trying my guts out* (Peter, 3: 360-362). Even so he was always mindful of his spelling, circumventing words that confuse him and even attempting crossword puzzles because they *make you spell words you’re not familiar with or you don’t use every day* (Peter, 4: 173). As a result of this kind of engagement with orthodox modes of literacy Peter has expanded his repertoire of literacy skills to include most of Hull’s (2000) metacategories in his various roles – plumber, Shop steward, safety officer and teacher. He accepted the authority inherent in these roles and quite deliberately used literacy to engage in activities
that enabled him to exercise authority, such as constructing (onsite) rules, admonishing union members who flouted safety rules (Peter, 3) and proposing, in the course of discussions with employers, actions that went a long way to maintaining a safe, happy and productive building site.

To Kalantzis and Cope (1997) collaborative performance is the ultimate for workers in the late twentieth and early twenty-first centuries. At this stage of development workers recognise and value the diversity apparent in the workforce and become active participants in social and systems re-evaluation and change. This thesis argued that at the same time it represented a sociocultural vision of a level of performance that raises “each individual human personality to a higher level” (Vygotsky, 1930: 179).

Thus at this level of performance participants in this study demonstrated skills across the full range of Hull’s (2000) metacategories of literate functions, with particular emphasis on problem solving, exercising critical judgements and using literacy to exercise or resist authority. At this stage the interlinked nature of all six aspects of competence were obvious. It was almost impossible to attend to a task that did not contain elements of each aspect of competence.

**SUMMARY**
This chapter used Hull’s (2000) metacategories of literacy functions and previous analysis of participants’ stages of competence on the Framework (Cope and associates, 1995) to investigate different performance among primary participants. It demonstrated that there was considerable variation in the range of literacy practices at work and of competence developed in the workplace. This was particularly evident for those participants who worked for Firebrand. The question that arose from this analysis was: what are the sociocultural factors in the workplace that account for these differences? This question is examined in the next chapter.
CHAPTER 10

SOCIOCULTURAL FACTORS OF THE WORKPLACE

INTRODUCTION
In a process of “across-case clustering” (Miles and Huberman, 1984: 155), the third and final step of data display examined sociocultural factors of the workplace. Drawing on the competence levels discussed in Chapters 7 and 8 and the range of literacies reported in Chapter 9, it highlighted commonalities and differences that emerged from earlier levels of data analysis. These were analysed to establish the sociocultural factors that influenced issues of identity and social interaction in the workplace for men who self-reported literacy difficulties. In effect this chapter responds to the second part of the research question: what are the issues of identity and social interaction that allow men who self-report literacy difficulties to access and engage in the workplace literacies?

The strategy for analysing data at this step of the process was to ask two questions. First, given the range of literacies that were available across cases, why did some participants demonstrate greater competence more than others? Second, what sociocultural factors provided opportunities for and influenced the enhancement or development of literacy competence?

The chapter first backgrounds the analysis, demonstrating how the three stages of competence from the Framework (Cope and associates, 1995) link with sociocultural theory. Then it examines the data in terms of psychological tools and signs, the transmission of cultural artefacts and the ZPD as described in Chapter 3.

BACKGROUNDING THE ANALYSIS
Sociocultural theory explains the mediational relationship between individuals and a range of cultural, social and historical elements manifest in social interaction. Analysis from a sociocultural perspective focuses on processes - not products - of such relationships. It thus examines what happened during performance rather than
the outcome of that performance. Progress from lower to higher mental functioning as a result of mediated performance is generally described as a three-stage process.

Table 10.1: **Two Models of Moving From Lower to Higher Level Thinking**

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<tr>
<td>Overt teaching of the use of cultural tools and signs generally by a more expert tutor. At this stage learners characteristically rely on a “prodigious memory” (van der Veer and Valsiner, 1991: 209).</td>
<td>Assisted Competence</td>
</tr>
<tr>
<td>Rehearsal of new skills but shows a preference for tools in the tools/culture relationship. This stage is characterised by independent but uncritical use of tools.</td>
<td>Autonomous (Independent) Competence</td>
</tr>
<tr>
<td>The mediation of psychological tools and signs generates new cultural forms. Children co-operate in diverse and diverse groups to find novel solutions to problems.</td>
<td>Collaborative Competence</td>
</tr>
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</table>

Table 10.1 outlines two similar, parallel models of human development, i.e., moving from lower to higher mental functioning. Vygotsky's work in the early twentieth century focused mainly on development in the childhood years but also provided a basis for reconsiderations of learning in the adult years. As noted in Chapter 2 it has, for example, more recently been the foundation for adult learners of foreign languages (Lantolf, 2003; Ohta, 2000), online communication (Tuomi, 1998) and mobile communication (Mitchell and Doherty, 2004).

Vygotsky’s description of the developmental process drew on the concept of microgenesis. As described by Werner (1957) microgenesis referred to an unfolding process that may take seconds, hours or days (Valsiner and van der Veer, 2000) and explained the way individuals make use of cultural tools. The term was used to describe both the unfolding process and an “experimental procedure” (Wertsch, 1985: 55)—microgenetic method. Microgenesis characteristically draws a parallel between “ontogeny and cultural history” (Cole, 1996: 173), recognising as typical variations in human thinking from moment to moment. Implicit in
microgenesis is a notion of a developmental sequence apparent in activities such as thinking, contemplating, perceiving understanding, responding or acting.

In the late twentieth century Kalantzis and Cope (1997) advanced a theory of *Productive Diversity* utilising the basic structure of the Framework (Cope *and associates*, 1995). They argued that the shift in industrial structures from Fordism through post-Fordism to Productive Diversity tracks “the history of the development of organisations in the twentieth century” (Kalantzis and Cope, 1997: 103) and individual responses to that development.

Productive Diversity, like the Framework (Cope *and associates*, 1995), sets out three stages of performance—assisted, autonomous or independent and collaborative. Similarly, Vygotsky, writing about human psychological development in response to the telos of the rise of capitalism, used phrases such as divided and subservient, autonomous yet bound to the enterprise structure and “capable of carrying out … new forms of work” (Vygotsky, 1930: 179). Ideologies aside, the closeness of these developmental trajectories provides a bridge for linking the analysis to date with sociocultural theory.

One major point of differentiation between these two models is the entirely linear nature of the Vygotskian/Werner model. That is to say, Vygotsky (1930) implied that for any individual every aspect of development reaches the same stage simultaneously. Evidence from this study supported Cope *and associates’* (1995) contention that individuals may demonstrate all three stages of literacy competence at any one time. It demonstrated that, for adults, competence and higher mental functioning across all aspects of competence do not follow a single, simultaneous trajectory. The value of a Vygotskian or sociocultural model in this study is that it emphasises the factors that influence development, particularly to a stage of higher mental functioning, equating with the collaborative stage in the Framework.
The analysis that was the subject of the remainder of this chapter linked the Framework (Cope and associates, 1995) with elements of sociocultural theory. It examined the conditions or phenomena determining different performance within each aspect of competence across all cases. The sociocultural principles that underpinned this part of the analysis were the role of (a) the mediation of psychological tools and signs including speech, (b) the transmission of tools and signs within a social situation and (c) the assistance provided within zones of proximal development resulting in the achievement of higher mental functioning. Incorporated in discussion around each of these principles were illustrations of mediation, mastery and/or internalisation.

**Isolating sociocultural factors**
The critical incidents cited in the previous chapters illustrated that from different entry stages some of the participants were able to demonstrate a collaborative stage of competence in a range of aspects of literacy. Others achieved an independent stage of competence while some participants either remained at an assisted stage of competence or did not progress beyond some of their entry-level stages of competence for particular aspects of literacy competence.

This scattered pattern raised the question: why have these differences occurred? Sociocultural theory claims that learning or the development of higher mental functioning is the mediation of culturally determined tools and signs within a social situation (or socially constructed activity). Can the differences be attributed to variations in the quantity or quality of and accessibility to cultural tools and signs for individuals? Further, according to sociocultural theory novices make the greatest progress when assisted in a ZPD. For the nine primary participants in this study were there zones of proximal development? If so, who constructed them, when and for what purpose? Taking a sociocultural perspective to explain the differences in development of the participants required investigating the quantity and quality of these factors in all cases.
Psychological Tools and Signs
There is no disputing the importance sociocultural theory places on cultural artefacts or tools and signs in the development of higher mental functions. As noted in Chapter 3 psychological tools and signs are distinguished from the tools and signs necessary to undertake physical work (van der Veer and Valsiner, 1991).

Psychological signs are those that guide performance, serving as aids to memory. They could include physical objects such as a knot tied in a handkerchief (Vygotsky, 1978) or they may be textual and/or print-based, such as words, pictures or graphs or a reminder stored in a mobile phone. Psychological signs suggest ways of functioning or reacting.

Psychological tools are the means by which those actions or reactions are carried out. Just as physical tools are used to change and master nature, psychological tools are used to change and master behaviour and cognitive processes.

Psychological tools and signs are critical in creating new learning and in adults developing new concepts.

All the participants talked about the physical tools and signs they routinely used at work, such as tape measures, spanners, knives, computers, pen and paper and heavy machines. Charles, John, James and George were competent in the use of certain physical tools away from the workplace. For example, knowledge of engines and mechanics, learned with friends and family at home, to the workplace. All the men were able to transfer this knowledge to the workplace. Charles taught himself welding. James developed his knowledge into a tangential skill by passing on his knowledge of the barb machines in a teaching capacity. Both James and Charles used their skill in a range of settings, James at various sites across Firebrand and Charles in several meatworks and as an interstate truck driver. George learnt all the tasks in the forge shop and became expert at the press.
**Tool and Sign Use**

Participants used signs and tools for a variety of purposes that helped or hindered literacy engagement. This section reviews some of the data, drawing out instances of tool and sign use for particular purposes.

**Resistance and Dissent**

For most of his years at Firebrand James used speech as a tool of resistance. Relations with management and some labourers at the old barb mill were difficult (Mick), giving James a negative reputation. Mick heard stories about James and decided *we don’t really want this bloke* (Mick: 278-279) in the new mill. After meeting James and understanding the circumstances of the old mill, Mick decided to manage James differently. As he explained:

> The people that he worked with wouldn’t allow him to change. He was stuck in an environment that—a fairly macho environment and he had to be a hard nut and he was a fairly hard case.  

(Mick: 292-294)

Other participants who might also have been described as ‘hard cases’ used varieties of speech as forms of resistance. The forge shop was hot and noisy and *a lot of things were said ... If anyone was going to blow up it would be George. He'd fire off before anyone else would* (Wayne: 44-5). Over the years, particularly after his team knew how he struggled with literacy George tried *to use words rather than fists. People’ll have a bit of a go at you, sledger you a bit and you sledge them back* (George, 2: 71-73). In retrospect Wayne considered that George was not really angry. This was not resistance to authority but a form of self-defence; he knew that he could not understand a situation or comprehend a task owing to poor literacy (George, 2).

Dasher was self-destructive in his use of language as a form of dissent. He was bitter about the incident at the naval dockyard where his anger and actions had put him offside with both the union and his employer. As indicated previously he had
lost his job because he showed dissension and when confronted became angry and aggressive.

Dissent and conciliation were the hallmarks of Robert’s job. From the apprentice who argued with the workplace delegate or the TAFE teachers, Robert refocused his oratory skills to argue forcefully for his clients. Scott noted that after a shaky start Robert’s letters to and relations with the people he needed to deal with were less abrasive and brusque and showed less evidence of a swelled-head syndrome (Scott: 184). Robert agreed, explaining how embarrassed he felt when he read some of his early letters or dispute notices. In much the same way that James changed from a destructive to a constructive worker, Robert changed his language use from self-centred and destructive to conciliatory and constructive (Scott).

Peter used anger and aggression positively in Shop stewards’ meetings. He explained that if you’re aggressive and articulate you can get your point across (Peter, 5: 13) in a room full of noisy plumbers, challenging their perceptions and countering their arguments. This is exactly how Mick managed James. Instead of arguing with James, Mick challenged him. If James complained about a problem, Mick told him to go and see what you can do and talk to the rest of the shifts (Mick: 285-286). When production was below acceptable levels he told James to speak to the men about cranking up output. He told James to train the men. James responded to these challenges because he was given responsibility and somewhere to channel all this energy that he’s got (Mick: 295-297).

**Challenging Perceptions**

Challenging perceptions about personal ability was an important way for several men to develop their literacy competence. Sam, for example, volunteered to take on a position that challenged his spelling skills. As noted earlier he did not understand the amount of reading and writing that he would be required to do in his new job. Having started the job he persevered with excellent results. His employer
was very happy with the way [he was] going (Sam, 5: 53), his wife had noted a growing confidence and the installers liked his plans and instructions were accurate and the kitchens were easy to install. Sam demonstrated that he was using his practical installer skills to a new and higher level. He was basically teching every kitchen [writing technical details] as though he’s going to install it (Peter S.: 260).

Since he moved to the new barb shop James found he was constantly challenged. Although he enjoyed meeting the challenges he reflected that in that time there’s been heaps and heaps of pressure, more than ever in my life in the work force, [it’s been] very hard (178-180). When asked if Mick wanted him to do jobs he had never done before and thought were too difficult James laughed. I said, “I can’t do any of this.” He just said, “Do it” (James, 5: 281), leaving him little choice but to take up the challenge.

As indicated throughout the analysis, Peter constantly challenged his capabilities. He took on tasks that forced him to read, write and spell. Over a period of time he found spelling is getting better as time goes on (Peter, 5: 9). Speaking of the demands of a Shop steward he noted that he had no idea how difficult the job would be until you do it yourself. And you have got so many knockers against you all the time it gets you a bit down sometimes (Peter, 5: 141-142).

The respect James was shown changed his whole outlook on how he came to work (Mick: 123-126). After fourteen years he had tired of fighting on his own and found it easier to go with the flow [in the new barb shop because] they treated me right. They knew what I was talkin’ about (James, 5: 27-271). This should not suggest that James was always compliant:

He never baulks at doing anything. He questions some of the things that you give him to do and I’ll give him some guidance. And he puts some things to me that I don’t agree with and sometimes I can talk him out of it and sometimes I can’t.

(Mick: 318-321)
It is important to note the literacy engagements mentioned or implied in this extract. James “questions”, “puts some things” (argues a case), Mick tries to “talk him out of it” (respond to opposing argument). The tenor of these comments suggested oral exchanges, indicating that James used language for higher mental functions. Additionally, since he had a bit of the gift of the gab (Mick: 108) Mick sometimes used James’ influence with the men on the shift to solve problems. On those occasions he would go and talk to the guys in the language that they need to understand and that generally solves the problem (Mick: 257-258).

Teaching

The other major area where James demonstrated his use of speech (verbal and non-verbal) as a tool was in teaching. Being unable to read the operating manuals did not impact on James’ teaching:

He’s a good teacher… He teaches by showing. He’s got a fair bit of patience. He doesn’t mind going over things. I’ve seen him teach people. … and he shows them how to do it. He’ll pull something to bits. “This is how you fix it. This is how you fix it” again and again. “Now you fix it”.

(William: 116-121)

Teaching involved literacies that James did not know he could use at work, such as discussing, questioning, assessing, problem solving, directing, encouraging, making judgements and consulting with his own supervisor about trainee progress. At the same time that he had teaching responsibilities he was able to coordinate the multiplicity of other tasks he was charged with—producing quality barbed wire, being safety officer, preparing rosters, attending committee meetings and working at other locations onsite when requested (James, 4 and 5; Mick).

Dasher and Peter taught apprentices. Peter was open and enthusiastic about his training methods. He demonstrated, modelled, drew diagrams, explained using a floor plan, asked clarifying questions, asked planning questions (“What will we need next?”) and inferential questions (“What was dangerous about that task?”) all
the time checking for understanding and thinking skills (Peter, 2 and 3). Although Dasher learned the technique of thinking ahead during his apprenticeship (Dasher, 2) he was less forthcoming about the strategies he used to train apprentices:

> I haven’t worked with apprentices for a long time, so it’s not vivid in my mind how to teach apprentices. But … it’s just look and learn. Because I used to have things drummed into me when I was young I don’t like drumming it into apprentices.

(Dasher, 2: 78-81)

Other Communication Tasks

The data indicated that James used other speech tools to convey meaning. On occasions he used diagrams; had other people, such as his wife, read and write for him; or had the secretaries at work type and format documents. He’s finding that other people can do what [he] can’t. Doesn’t mean that you can’t have any involvement. But if you get other people to do bits and pieces that you can (William 214-215).

George used his knowledge of the people he worked and the rapport he had built over many years in conjunction with his mastery of non-verbal communication to circumvent the need to complete job cards when borrowing tools from the store. Building rapport with other workers was only a part of the illusion George developed in order to get away from that, having to fill out the card (George, 3: 178). The technique he used was carefully structured, rehearsed and mastered. It integrated body language that he had observed and appropriated for his own purposes that became an exhibition, or a performance:

> You might wander across the road and when you get in view of the store, then you increase your step. Running was forbidden. If you really get a nice, brisk walk to it and you rush up. And there might be a couple of blokes there ahead of you, so you excuse yourself and, “Hey, can I just jump in ahead of you? I need something. I’m in a real big hurry.” You make a real big thing out of it. And you were never questioned.

(George, 3: 169-175)
This charade was evidence of George’s understanding of the culture of Firebrand. From his perspective creating an illusion of haste was important to circumvent the use of orthodox literacy. To create the illusion forced George to develop and refine other literacies, including a range of verbal and non-verbal skills.

Charles had support as a truck driver from his wife, his family (who helped him practise for the test), a staff member from the RTA and members of the public who helped him with directions. When none of these people were available he copied, guessed, estimated (using colour, shape and size) and used very limited orthographic skills to match words, letter by letter, augmented by memory. He demonstrated many of these abilities in the catalogue reading and final activity as illustrated by the following extract where he read an advertisement in a car magazine:

**MK:** Do you know what this word here is? It’s obviously something to do with a car?
**Charles:** That’d be “new”. I recognise that one. ... I’m not 100 percent sure.
**MK:** Do you know any part of that word?
**Charles:** I know the letters.
**MK:** Yeah. What about the first two letters? Can you put those together?
**Charles:** (spells) b-r-a-k-e-s
**MK:** b-r-a-k-e-s, it’s an important part of a car … no. OK, well, it’s “brakes”, “new brakes”.
**Charles:** Oh, right, yeah.
**MK:** This is a tricky word, “minimal”. I wonder what that next word is?
**Charles:** That’d be “rust”.
**MK:** How did you know that’s rust?
**Charles:** Because I know whoever is writin’ about that age car, it’d be minimal rust, I’d imagine.

(Charles, 5: 145-159)

This moment showed that although Charles could spell ‘brakes’ he could not read the word. However, he correctly identified the word ‘new’ and from his knowledge of old cars knew, without hesitation, that the word ‘rust’ would be in the text. This
extract was an excellent example of how Charles approached a text-based literacy task and the higher level skills he used to interpret text.

**Work Tools**

All the men routinely used tools at work. These included specialist tools, knives and gauntlets (Charles), heavy machines, forklifts and cranes (James, George, and Stalin), computers, books and dictionaries (Robert, Dasher, Sam and Peter), drills, sanders and hammers (Sam). There was also a generic set of tools that the men mentioned, including road maps, notebooks (logs or pieces of paper), spanners, screwdrivers, welders and tape measures.

When first interviewed the men used these tools so automatically that none of them considered their use added to a repertoire of literacy skills. James spoke almost lovingly of the barb machine: *I care about what they make and how they go and always have* (James, 3: 61). He was distressed that operators would treat them harshly (James, 3). William indicated the closeness of the relationship. *He loves it... They’re second nature. He is arguably [one of] the four best barb wire makers in the country.* (William: 178-180).

For Stalin many of the machines were daunting. He was really terrified of them. However, once he had gained confidence he felt a part of the machines, learning the sound, the vibrations (Stalin: 3: 97) that indicated there was a problem. When operators use the machine to inform them of inconsistencies, then the machine is no longer a physical tool; it is a psychological tool that prompts them to act. In Sam’s case, for instance measuring was as natural as breathing. He would not do a job without pulling out his tape first (Sam, 1). Learning how to operate the new computer programs was a recursive process for him. He needed to start learning a new skill. An indicator of his growing confidence and increased automaticity with the programs was that he did not pick up the sticky note reminders when they dropped off the wall.
From a theoretical perspective when tool and sign mediate behaviour learning occurs and new levels of competence are demonstrated. Importantly, to demonstrate a collaborative stage of competence there must be a shift from physical tools and signs to psychological tools and signs. The data demonstrated that, for some of the participants, tools were the means for undertaking a defined task. In other cases tools became the means of shaping their world and changing their thinking, as in the episode of James painting the spools. In terms of cognition this equates to a shift from concrete operations to higher mental functioning. Once this shift occurs, individuals appropriate new tools and signs use into their repertoire of skills that are then transferable to other applications. The key to determining the participants’ stages of competence was recognising how they moved from the use of physical tools and signs to psychological tools and signs.

**Transmission of Cultural Tools and Signs within Social situations**
All the participants demonstrated, to varying degrees, the value of belonging to a community of learners. John stressed the importance of this when he recalled how good it felt when he discovered others at work also had literacy problems, particularly when they asked him for help. Some men reported social groupings based around work and others were based around home and family.

**LEARNING WITH A BOSS, SUPERVISOR OR TRAINER**
From a sociocultural perspective there is a qualitative difference between the assistance provided within the social group. This difference had three elements. First, the activity should be meaningful to the learner. Second, the social group needs to be accepting and patient and have high expectations and third, the social group should necessarily be stable. Stalin, for example, found these elements or conditions in the reconditioning shop.

Ray knew of Stalin’s poor work record before he arrived to work in the reconditioning yard. He decided to set targets for Stalin which he *never thought that he couldn’t do* (Ray, 117) even if it took longer than other workers. To Stalin Ray’s *expectations of me workwise were far more than I thought that I could do* (Stalin, 4: 255-256). The tasks in the reconditioning yard were meaningful to
Stalin. He knew that to achieve the best possible redundancy he had to reach a Level 3. For Ray, the tasks he set Stalin were meaningful because he was not prepared to have Stalin sweeping the floor everyday. Ray’s approach to Stalin was:

_If you can show me that you’re interested and you’ve got the enthusiasm to do it, you’ve got all my time and I’ve got plenty of time to give you._

(Ray: 119-121)

As a type of contract this arrangement provide the third element of social groups—stability. Although Stalin had worked for a long time in another part of Firebrand he did not have the stability of a sustained training period with a supervisor who had Ray’s attributes.

Unsurprisingly, Stalin cites patience as being Ray’s strength. He was called on many times to exercise patience in the years that he worked with Stalin, who seemed to lose things … he could do it one day and then the next day he mightn’t have been able to do it (Ray: 112-114). These words were reminiscent of the comments several of the participants made about school. The difference in the reconditioning yard was that Ray responded relentlessly, sometimes twenty or more times (Ray) in an effort to ensure that Stalin understood how to operate a particular machine. In addition he patiently tutored Stalin when there was a maintenance issue with a machine, as this extract illustrated:

_Sometimes he’d just come back to you and say, “Look, I’ve done this. It’s not workin’.” … and I’d go down and I’d say, “Well.” He said, “Well, I can’t understand why it’s not going.” And I’d say to him, “Look, we’ll go and have a look around the machine,” because that was part of your job to do it. And then we’d go and have a look at it. And I’d say, “But the grinder hasn’t been filled.” And he’d say, “But I did it in the morning.” And I know what he told me was true. But what he’d actually done would’ve been in the reverse. So he hasn’t actually filled it … because he hadn’t done it properly._

(Ray: 96-106)

As Stalin progressed through Levels 1 and 2 Ray was always there. He was very much a hands-on trainer who approached Stalin from the perspective of _if you can_
do 50 percent, that’s 50 percent that I don’t have to (Ray: 128). He kept convincing Stalin he could achieve at higher levels. The two most significant occasions when Ray had to convince Stalin to try something new was learning to drive and joining the TST. There was no sentimentality about Ray. He believed that Stalin was trainable and that when he achieved a goal he should be recognised, nor did he expect Stalin to thank him:

I said, “I haven’t done it.” I said, “You’ve done it yourself.” And to me that meant more to him and then when he come back in the next day or the next, he was ten times better than what he was. But it’d only take that one person to put him down and his confidence dropped so quickly.

(Ray: 541-544)

Assisting Ray on the TST was critical in the development of Stalin’s literacy competence. He knew that he was confident around Ray and, despite thinking he had nothing to offer, was coaxed onto the committee. The TST was meaningful to Stalin because he was aiming to achieve optimum outcomes for the other reconditioning yard workers—his social group. On the TST everyone had to get involved in the discussion (Stalin, 1: 226). There was nowhere for Stalin to hide. Since he was interested in what the team was doing (Stalin, 1) the amount of time he spent doing work for it increased. The result was that on an occasion that team members put him down (over the stalemate) his confidence did not drop. He was able to understand why he had been reproached. This reaction demonstrated a significant shift in Stalin’s thinking process. He had moved on from an egocentric view to a wider view where he was able to comprehend the perspectives of other people. In gaining a bit more understanding of how people thought about me [and recognising that] the other ten individual people—they had personalities of their own (Stalin, 2: 278-279) Stalin developed higher order organisational and group competence.

Dasher, on his return to work after battling a life-threatening illness, was the only other participant who needed the same level of support in the workplace as Stalin. Yet for him the outcome was different. As Dasher recalled the incident, he returned
to work physically weakened and with very low self-confidence. His boss directed him to climb a 20-foot scaffold and I’d just got out of hospital and I was weak … “Get up there, go on.” And he was watching me. I can picture him now watching me climbing up a ladder.

MK: Did you ever say, “I can’t”?
Dasher: No, no. I wanted to but … it took me a while to get up there … It was just an effort to get up there. And it worked.
MK: Yeah and what did he say when you got up there?
Dasher: Nothing, nothing, nothing.
MK: Was there another way that he let you know that he was pleased that you got up there safely, without him saying anything?
Dasher: No, not that I recall. No.

(Dasher, 4: 186-192 and 5: 251-253)

The cases of Stalin and Dasher represented two extremes of the social interaction with supervisors or bosses reported by participants. The experiences of the majority fell between these positions. Peter, for example, found his work meaningful and in John S. he found a mentor who was available to assist when he did not understand union procedures or processes. Peter constantly made efforts to improve his spelling because he believed poor spelling reflected badly on himself and also the union he represented—his social group. In many respects he was very successful because not even his union mentor John S. realised that there was a problem:

[Peter’s] such a well-spoken person and he’s a knowledgeable person on the basic things … He comes along with his notes, pads and pencils and … so I was very surprised.

(John S.: 53-60)

PRACTICAL LEARNING
Learning with a practical focus was a common theme running through all the interviews. Specifically, the participants noted that they learned best when they listened, observed, trialled, discussed and repositioned themselves while working in real life situations. Stalin was encouraged to ask for help and he asked repeatedly until he understood the task he was doing (Stalin, 3; Ray). James listened to and watched the barb machines as well as the men working with him. He encouraged them to act and work as a team, as a community (James, 4). Wayne, a qualified
tradesman, worked in partnership with George for twenty years. Yet, despite his lack of formal training, there were times when George’s more intimate knowledge of the machines helped Wayne to solve a problem (Wayne).

Sam’s social group was his family and friends. For many years his wife has encouraged him to engage with texts that had a real practical meaning and application for him. Commenting on the letters he wrote to her when they were living in different cities, she agreed that there were many spelling errors but believed that wasn’t important (Helen, 24). She considered that the time and effort he put into writing were much more important. Encouraged by her, his letters became longer and more frequent with fewer errors. With her family Helen urged Sam to promote his skills, engaging in writing and thus spelling tasks (Sam, 5). In many ways this spousal support was reinforced in his new job. Although it involved more orthodox literacy than he imagined his notes to installers were comprehensible and comprehensive (Peter S). He found that he had to tell his boss about his concerns with literacy but doing this did not worry him as much as he thought it might because he found the work meaningful and challenging (Sam, 5).

Scott was pleased that Robert has chosen to talk through his difficult cases because in many ways it relieved the tense relations that existed in the office (Scott). For Robert it was important that Scott (and other colleagues when they were available) offered sound advice (Robert, 5). One of the challenges facing Robert was to reduce his workload. Scott has taken over some of Robert’s work because of the intense effort he puts into everything, often working over 80 hours per week by his estimation (Scott, 316). As a result of reducing his workload and encouraging Robert to discuss cases Scott saw a change in Robert’s attitude to everyone he worked with. For example, he even now speaks to the solicitors a lot more than what he probably used to (Scott: 195).

James had a close circle of friends and confidants and a capable supervisor who encouraged him to work towards more complex goals. Mick’s intervention turned
James from a disruptive employee to one who was interested and motivated. This was especially noticeable when he talked about teaching. He enjoyed the work, spoke knowledgably and animatedly about it and, according to Mick and William, had a real gift for it.

Neither Dasher nor John had the benefit of long-term engagement with a work-based social grouping. John, although he had friends at Firebrand and worked for nine years in one section, did not have the supportive and collaborative experience of working for a long period in a section as George, James and Stalin did. Dasher changed jobs and sites frequently and was not able to report that he had ever built up a close working relationship with an individual or group within the industry.

Increased opportunities to learn within a workplace setting or community of learners were very effective for most of the men in this study. James, for example, was learning to read, write and spell more as his committee activities became more compelling. Sam believed that his spelling was not improving at an appropriate rate (Sam, 5). A tradesman installing from his plans is not fazed by spelling errors in the installation instructions that Sam wrote because *I can understand it* [the instructions] *so it doesn’t worry me* (Peter S.: 295). In other areas of literacy, such as CAD and interactions with clients, Sam made great strides. Robert was ashamed of the letters he wrote twelve months previously, freely acknowledging that his skill and ability at composing letters had improved just by doing his job (Robert, 3).

**Summary**

From a sociocultural perspective speech is the most important psychological tool in cognitive development. This term denotes both interpersonal and inner speech because of the different roles they play in mediating action. External, or interpersonal, speech is the most effective means of conveying cultural artefacts because psychological signs mediate it. Words are the most common form of interpersonal speech.
While speech is the most important tool in Vygotsky's conception of cultural-historical theory, the crux is the social origins of higher mental functions. The notion of social origins has two meanings. First, since “an individual only exists as a social being, as a member of some social group” (Vygotsky, 1930: 175), interpersonal to intrapersonal communications are generated from within that social group. In this way cultural tools and signs are transmitted via speech (including writing) and then internalised and appropriated. The process of appropriation is one where internalised knowledge is reconfigured, reorganised and restructured internally. The second meaning of social origin refers to the situation or the time and place in which that transmission occurs. Learning that occurs in an authentic setting involving an exchange of knowledge within a community of learners is meaningful and conducive to the development of higher mental functions. That is, higher mental functioning results from interactions within a “community of practice” (Lave and Wenger, 1991: 98).

The use of psychological tools and signs and learning in communities of practice go only part of the way in explaining how and why some men achieved more than others. The data showed, for example, that Charles, prior to changing jobs during the data collection period, had worked for a long time on the same site. While his colleagues respected him for the way he could use a knife and [the way he] treated [his] fellow workers (Jack: 150), Charles did not have the same opportunities for enhancing literacy as James. In the same vein neither Dasher or Peter had held the same plumbing job for more than two or three years. Peter was known and respected by both his employer and his union and progressed rapidly. Dasher implied that he was known to employers and the union and had completed some of the same courses as Peter, but made little progress. Finally, Sam stepped away from his small community of practising kitchen installers to take up the position of detailer where he was forced to read, write and spell on a daily basis.

Data analysis indicated that when adults have concerns about their literacy capabilities, goal-directed activity that guides performance, result in the
development of higher mental functioning. One of sociocultural theory’s “most well-known and widely adopted constructs” (Lantolf, 2000: 17), the ZPD, may explain the differences in development of competence evident in the data. The next section examines the data in relation to the ZPD. A brief recapping of the conceptual basis of the ZPD and its suitability for the examination of adult performance is followed by further analysis of the data.

**Zone of Proximal Development**

Proposing an explanation of how higher mental functions developed, Vygotsky (1978: 90) argued that:

> an essential feature of learning is that it creates the zone of proximal development[;] that is, learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his [sic] environment and in cooperation with peers. Once these processes are internalized, they become part of the child’s independent developmental achievement.

This general developmental law for the higher mental functions is a feature of sociocultural theory generally applied to studies of children’s learning processes. Chaiklin (2003) argues that narrow conceptions of this law, applying the ZPD solely to the childhood years, are erroneous. He explains, “when Vygotsky writes about ‘age’, … it is understood as reflecting a psychological category [,] not only a temporal characteristic” (Chaiklin, 2003: 48).

The inference gained from Chaiklin’s interpretation is that humans develop higher mental functions in relation to periods of psychological development that do not necessarily correspond to chronological ages. From this perspective lifelong learning extends this concept. Tharp and Gallimore (1988), for example, portrayed progress through the ZPD for any human as a model in four stages – performance assisted by more capable others, self assisted performance, developed, automatised and fossilised performance and finally deautomatisation and recursion. In other words, for adults the ZPD represents the development of new, self-regulatory skills,
reflecting “the psychological functions that need to be formed during a given age period in order for the next age period to be formed” (Chaiklin, 2003: 49).

**ZONES IN THE DATA**

This section examines the data for transitions from one period of psychological function to another. Thus movement from and assisted to an independent stage of competence represented a qualitative shift in psychological processes. For the proposition that literacy learning on the job takes place within zones of proximal developments to be true, the men in the current study, for example, need to provide examples of situations where psychological development allowed them to learn new thinking processes in the course of learning a new skill or demonstrate changed self-regulatory behaviours. Additionally, for new skills or self-regulatory behaviours to be regarded as demonstrating higher mental functions they needed to incorporate abstract relationships and conceptual thinking, such as imagination and creativity.

**Zones in the Work Site**

In most of the cases in this study where a ZPD was evident, it manifested itself in changed relationships between individuals in the worksite. This was often as a result of the worker taking on a new role, one that he had not previously considered himself capable of performing. For example, Robert applied for the position of Industrial Officer as an exercise, indicating *that he was interested in getting further* (Scott: 121) at a future date. It was a way of signalling that he did not feel ready to undertake the job immediately but was willing to undergo further training and gain more experience in the field before taking on the position of Industrial Officer (Robert, 2). His success placed him on a roller coaster of learning, on which he was being able to achieve, only because he had two supervisors who could see his potential and were able to structure situations and opportunities for him.

Robert also used and refined skills and knowledge from another domain in the role of Industrial Officer. He demonstrated during his primary school years and his
trade training that he could construct a cogent argument. However, in his current position he needed to adopt more mature forms of writing and expression so that his arguments were effective in the legal environment of the Industrial Commission. Both Scott and Robert noted these changes (Robert, 3, 4 and 5; Scott).

James knew he had a reputation as a *troublemaker* (James, 4: 351). He was also confident that he knew more about barbed wire machines than anyone else at the Lachlan site (James, 2 and 3). When he agreed to assist in commissioning the new barbed wire mill he found that his industry experience was recognised and his capabilities in other areas were challenged. James’ whole experience of and attitude to work changed when Mick, a supervisor who was sage enough to allow him to use his skills and talents, took him on. Recognising that James had untapped potential and was capable of more than he was demonstrating, Mick determined to manage *him in a particular way so that I always get a positive outcome* (Mick: 377). Acknowledgement of James’ expertise, his potential and his distractibility (Mick) as positive attributes provided James with a platform to develop his stature in the company and demonstrate higher-level thinking.

There were several incidents when James was expected to undertake tasks that he thought were beyond his capabilities—sorting out industrial and interpersonal problems, making presentations to the team, undertaking First Aid training and teaching. On most occasions Mick guided James with advice or support. At the same time Mick stressed that James was only one of fifty employees in his section and he had to solve many problems on his own (field notes: pre-interview conversation). Mick set tasks which James believed were unattainable, all of which James achieved. Many of those tasks required James to work actively on his literacy skills, demonstrating higher-level thinking and reasoning. He learned to negotiate, to listen and debate issues and to make and take notes—all literacy skills that were once unthinkable for him.
When Stalin transferred to the reconditioning yard after 15 years in other sections of Firebrand he felt, like James, that his supervisor’s expectations of him were too high. He could not conceive that he would achieve Level 3 (Senior Operator) status. His supervisor, Ray, felt from the outset that Stalin needed to know who he could trust (Ray, 361) and explicitly established a strong and positive expert-novice relationship. He argued that he believed Stalin had the potential to succeed, noting that if I never thought that he couldn’t do it … well, I wouldn’t waste my time (Ray, 117-118). Starting at a very low base level, because Stalin believed that the only task he could do was sweep the floor, Ray’s patient, repetitive advice and tutoring over an extended period of time provided the ZPD framework that enabled Stalin to achieve more than he had ever done before. With determination, time and patience Stalin moved to a Level 3 and the role of inspector (Ray).

Apart from practical considerations, like having the independence to drive his own car, Stalin proved everybody wrong (Ray, 650) by gaining many vocational certificates and learning valuable skills in negotiation, analysis, discussion and debate. Ray noted that Stalin’s hallmark confidence and capability as a conversationalist resulted from his experiences in the reconditioning yard, especially his involvement in negotiations of the redundancy structures for his shift:

This is only the sort of thing that’s happened over the last couple of years for him … Before he said, “… I couldn’t do this or I couldn’t do that”.

(Ray, 622-624)

It is worth considering the role of the supervisor in the cases of James and Stalin. First, both had and communicated high expectations of the workers in question. Second, neither contemplated that their charges would fail. The phrase I can’t appeared consistently in the data from both James and Stalin. Ray cited the use of the term in conversations with Stalin (Ray: 7, 80, 353), indicating that Stalin routinely told Ray he could not do a particular task. Mick, on the other hand, was aware of the struggle James had with literacy and was wary of demanding displays of writing or reading. However, he found that when he approached James the
response was not ‘I can’t’ (even though that was what James was thinking) but *I’d like to have a go at it. I can get me wife to help* (Mick: 173). By demanding and then supporting performance Ray indicated that *I can’t* was an inappropriate position. By allowing alternative means of presentation (oral/graphic over written) Mick supported James (Mick: 113). Third, both Mick and Ray took the time to understand the learning styles of James and Stalwith respectively and to manage their learning accordingly.

It could be argued that Mick did not ‘teach’ James anything in the traditional sense of a more expert other imparting knowledge. What he did was provide structures for James to develop more sophisticated thinking strategies through challenging practical activity, such as negotiating the settlement of disputes, teaching and organising work shifts. It could also be argued that James, owing to his expertise, came to the new barb mill with the capacity to think at a higher level about the machines so that they were tools of thinking. Mick’s mediation gave James the opportunity to use literacy skills to teach and talk about the machines and, in the process, develop the analytical thinking that allowed him to negotiate diverse personalities, backgrounds and motivations amongst the operators. Mick also recognised the informal training James received from fitters and turners over the years (Mick; 360). This enabled James to undertake maintenance on the barb machines that would normally be outside his job scope.

While Ray actively taught Stalin how to operate specific machines he also worked hard to develop problem solving and thinking skills (see the description of solving maintenance problems earlier in this chapter). Chaiklin (2000) characterised teaching of a single skill as *scaffolding*, arguing that creating a ZPD implies the development of higher order thinking. By teaching Stalin metacognitive skills in relation to the machines he was operating, Ray constructed a ZPD aimed at developing in Stalin the ability to analyse events. As Stalin demonstrated in the stalemate incident, he was able to transfer this skill to solve novel problems in contexts other than a particular machine in the reconditioning yard.
Sam, Peter and Robert provided a different perspective on ZPDs in the workplace. Sam offered his services as a detailer when his company was in dire straits. Two previous detailers had made costly design errors in terms of both materials and disappointed customers. Sam was taken on as a detailer because of his knowledge of the industry, especially the pitfalls and problems of kitchen installation (Sam, 3). He also had a reputation as a dedicated and accurate tradesman (Peter S). Although there was some banter from other workers in the factory he indicated that his immediate supervisor always expected that he could do the job (Sam, 4). Initially, he received approximately two weeks of training followed gradually reducing amounts of support and guidance as he became more familiar with the tasks he had to undertake.

Did the training Sam received qualify as learning in a ZPD? According to Chaiklin (2000), the answer is no. The training taught Sam how to use specific computer programs. Sam introduced his own ZPD when he began to analyse and question detailing procedures because there’s some things that I don’t agree with how we do it (Sam, 4: 170). During the data collection period his ZPD was at an early stage. He was able to apply his professional knowledge to solving novel problems and he sought clarification of company procedure:

I’ll go and check to see if it’s all right if I do it that way. It’s double-checking … ’cause if something happens and something goes wrong, they’ll turn around to me and say, “Well, why didn’t you ask or why did you do it that way?”

(Sam, 4: 171-175)

Sam’s clarification that three months into the job he only asked about certain things (Sam, 4: 176) indicated that the more detailing he did the more confident he grew to make decisions about changing procedures. Challenging received design systems and contributing personal knowledge to redesigning systems are indicators of higher levels of thinking (Kalantzis and Cope, 1997).
**Zones in the Classroom**

Joan provided the ZPD for George. His training classes became literacy classes where George began to learn the literacy skills he thought he would never learn, applying them to tasks that provided vocational accreditation. As time for the plant closure drew near George worked in literacy classes daily, often on a one-to-one basis (George, 4). When he returned to the forge shop he independently used the skills Joan taught him such as sounding out and using contextual clues to read unknown words on safety signs that were *everywhere* (Wayne: 77) on the machines:

> *Some of the signs have been there for seventy-five years … prior to doing literacy training … I wouldn’t even look at them because I knew I couldn’t read them. So I didn’t try. After going to the course with Joan, I’d go back and I’d actually, in spare moments between doing jobs and everything else, … sit down and work out, “Yep this is ‘Live Rails’”.*

(George, 4: 331-34)

John, George and Stalin attended literacy classes conducted by Joan. All tuition was individualised with specific aims, generally towards gaining a vocational certificate for each learner. However, Firebrand *never had literacy class training as such* (George, 4: 94). It was general knowledge around the plant that when individuals attended special classes to gain vocational certificates it *basically meant people which had literacy problems* (Wayne: 119). The learner and the teacher used the structured learning to focus on literacy skills and apply them to real workplace tasks. As such the classes focused on more than teaching a single set of skills; they encouraged applied thinking skills.

**Zones in Social Interaction**

An indicator of development through a ZPD is the demonstration of higher mental functions, incorporating abstract relationships and conceptual thinking. When individuals are able to consider and appreciate the perspectives of others, or incorporate knowledge from a range of sources and construct cogent arguments,
they demonstrate these skills. This was evident in the data for certain participants. Both James and Stalin provided evidence that they took the perspectives of others into consideration. Stalin exemplified a participant who incorporated knowledge from a range of sources and constructed cogent arguments as part of his role in the workplace. Much of this was illustrated in his work on the TST.

As a delegate on the TST Stalin worked to achieve the best possible outcome for all of his shift, not simply himself. He used communication and literacy skills to seek out answers to questions that at times were quite complex, difficult and outside his usual range of literacies (Stalin, 3). While Ray was the energising factor in Stalin’s entry into the TST ZPD, Stalin soon began to use other sources for clarification and dispute resolution. He recounted an episode when the whole committee came to a stalemate and refused to meet over the actions of a middle manager they regraded as truculent and uncooperative. At the time Stalin was following closely the negotiations for peace in the Middle East. Using this as a model he arranged and negotiated a cessation of TST hostilities and resumption of talks. He argued that this was necessary to gain the best advantage for all workers. Further, his affective response when others on the committee criticised his actions demonstrated that he was able to understand perspectives beyond his own. This incident demonstrated the degree of transference and conceptual analysis Stalin had started to incorporate into his role as a member of the TST. As Ray indicated this self-confident, self-assured behaviour was not typical of Stalin when he started at the reconditioning yard.

James indicated that negotiating had taught him to understand the different perspectives workers and management place on safety. The following extract is an example of how he might negotiate an issue over stop signs:
I’ll go out and talk to the blokes and … have safety meetings … I’ll just say to them, “Just play the game. Just for Pete’s sake play the game and be careful. And look, I know you don’t like it. I don’t like it.” And I’ll try to help things and then I’ll go back to the bosses and say, “Well, we’ve got too many of them stop signs in this mill, you know. Get rid of half these stop signs”.

(James, 5: 133-137)

In his earlier days at Firebrand he did not have the opportunities to demonstrate the tactical thinking skills that allowed him to go with the flow and play their [management’s] game (James. 5: 331). Mick’s comments about the notorious person who was asked to sort out the recommissioning of the new barb shop (see earlier in this chapter) suggested that James would not have considered engaging with management’s game prior to working under Mick’s supervision.

Issues of social equity influenced Robert as a result of his own life experiences. This was evidenced particularly by his determination to succeed on his own, without assistance from others. One of the outcomes of a workplace ZPD that was more subtly constructed than those of Stalin and James was that Robert was more willing and able to consider other people’s perspectives and accept that he could legitimately accept assistance from others (Scott). On occasions assistance from Scott was overt, such as discussing troubling cases with him (Scott: 171). On other occasions it was covert, such as watching and appropriating new techniques from colleagues in the Industrial Commission (Robert, 3).

Sam, John and Peter were able to transfer conceptual skills used and refined at work to other areas of their lives. Peter and Sam were considering furthering their training beyond their expectations of a few years ago (Peter, 5; Sam, 5). James, with the help of family members, took on the presidency of his rifle club (James, 4). Robert completed a short course in industrial law (Robert, 3) and John, with his wife’s help, continued strengthening his reading skills to a stage where he was able to read books (John, 2).
George, Charles and Dasher

George, Charles and Dasher demonstrated different patterns of development from the other participants. George never considered himself to be stupid and appeared to have used creative and imaginative thought to lead a fulfilling life with limited orthodox literacy skills. However, every day was spent negotiating a literate world. Every action was determined in regard to concealing his shame about limited literacy skills. George believed he could build on the literacy skills he learned from Joan, even though he mocked the quality of the government-sponsored reading program he was enrolled in (George, 3 and 4). In conversation he implied that his life pattern would remain the same until he had a degree of orthodox literacy that he judged was of a sufficiently high standard (Field notes: 9 March, 2001). To this extent he viewed his life choices from his own perspective and in terms of literacy was unable to take on the perspectives of others.

Charles was frustrated and to some extent resigned about orthodox literacy skills (Charles, 5). While he presented as an articulate and thoughtful person, on the subject of his own literacy he was fairly negative. For example, between the fourth and fifth interviews Charles and his family moved to a new home. Over the phone he was able to provide the new address and accurate directions. However, when asked about the name of the street his new house is in, he replied that he had never read street signs because *when you can't read, especially by the time you've got to 40-odd, I don't tend to look at [signs] any more* (Charles, 5: 97-99). A salesman who required Charles and his wife to complete the paperwork for the purchase of exterior awnings interrupted the same interview. Charles perused the papers, asked appropriate questions but did not sign anything. He commented that he and his wife would sign them when she returned from shopping. This brief incident demonstrated how, like George, Charles took the perspective that he should protect his secret from strangers. As indicated in the discussion about George, taking a position like this allows little room for considering the perspectives of others.
Dasher’s situation varied from all the other men. Because of his broken work history he never had the opportunities to demonstrate higher mental functions in conceptual skills. His ability to think through difficult and topical issues and a subsequent inability to act on them demonstrated this. Chaiklin’s (2003) distinction between scaffolding and a ZPD serves to explain Dasher’s actions. He was taught how to surf the Internet but did not exercise the metacognitive skills to analyse independently or respond to the Occupational Health and Safety issues that he read about. That is, he had the lower level procedural skills to find webpages but did not know how to use them effectively. The same absence of higher-level thinking was evident in his emotional responses to site managers when he was a Shop steward. Instead of realising that he needed to play the game, as James did, or produce cogent arguments as Robert and Peter did, he screamed and shouted.

What was so different about Dasher’s workplace experience? First, he worked on short-term contracts and had been unemployed several times. As a result, social interaction in the workplace was temporary and limited to the specifics of the task at hand. Learning focused on procedural knowledge of new products or procedures that remained tools of physical labour. Second, Dasher had no mentor, no supporter, no one to recognise his knowledge and potential at work. His perspective was that of a loner concentrating on making ends meet to support his family through hard financial times. He was unable to concentrate on the Occupational Health and Safety issues that were his passion, commenting: That’s just a side issue to me at the moment that someone else is going to have to do (Dasher, 5: 395-396).

SUMMARY
The evidence indicated that the majority of participants developed cognitive and conceptual literacy skills in the workplace. For some, particularly Stalin, James, Sam, Peter and Robert, higher mental functions gained in workplace learning provided a springboard to new skills or new work and/or study opportunities.
This study demonstrated that many of the adults in this study working within ZPDs achieved changes in cognitive skills and higher mental functions. However, there was not a consistent pattern of development. The difference among them reflected the working environment. This is not simply the physical environment but the temporal, social and emotional environments—the culture of the workplace. These issues are explored in the concluding section of this chapter.

**A TIME, A PERSON AND A PLACE**
For the participants some influences acted to change the course of development. Understanding how participants achieved particular stages of competence as a result of the structure of ZPDs highlighted the workplace factors that guided development. Construction of a ZPD represents a unique period in an individual’s ontogenetic development when learning needs and opportunities coincide. What were the opportunities that arose for or were absent for the men in this study?

**Positive Learning Experiences**
For many of the men in this study the workplace periods described in the data were the first time in their lives that they had the opportunity for positive learning experiences, at least in their perception. While the data for this study demonstrated many examples of opportunistic moments, one, in particular, stood out—Peter’s ongoing education program. He directly attributes his willingness to continue taking classes to the positive learning experiences he had at TAFE compared to school. *I really liked the teachers I had there because I was so keen with my job ... I just went into work and they appreciated that* (Peter, 1: 115-117). At the time of interview Peter had completed three extra plumbing qualifications, numerous Occupational Health and Safety courses, upgraded his First Aid qualifications every two years and gained train-the-trainer certification so that he could study to become a *Level Three First Aid trainer* (Peter, 2: 209).

Another critical incident that illustrated the importance of a positive learning environment occurred when Stalin gained his driver’s licence, described by both Stalin and his supervisor, Ray. The idea of learning to drive was not new to Stalin.
He had, like many young men, considered getting one when he was younger as a rite of passage from childhood to adulthood but decided that he was not likely to succeed because he did not like tests (Stalin, 5). However, as described in Chapter 5 (see Appendix E for a full extract) two factors forced him to rethink this decision—his parents had tired of driving him to and from work (particularly when his shift started at 2am) and Ray and other colleagues were urging him to become independent. Because he had come to a time when he realised that he would have to reverse that previous decision he immediately placed himself into a situation where instruction would be more important and powerful. The ZPD provided by Joan, Ray and his co-workers was the structure within which this powerful learning occurred.

For John the induction into literacy classes was critical. When first approached he was very reluctant and fearful (John, 1). He credited the first year of lessons conducted privately in his own home as the single factor that led him to believe that he was capable of engaging with print text (John, 1). Gaining orthodox literacy skills gave him the confidence to try new things at work. He threw away his notebook, devised a new schedule for checking the oil in the turbines and figured out a way of writing non-compliance reports for the forklifts (John, 3 and 4).

**Purposeful Tasks**

Much discussion in education today is about authentic tasks. The workplace provides numerous opportunities for authentic, valid tasks. However, for tasks to be seen as valid to the learner they must have a positive potential consequence. In this study these consequence include increased salary (Stalin, George, John, James), promotion (James, Robert, Sam, Peter), better working conditions (Robert, Sam, Peter) or new career paths (Robert, Sam, Peter). Frequently, the motivating purposefulness of the task was a combination of these factors.

**Mentors**

The participants were very clear about the attributes of their mentors. In general they were exceptionally patient, treated the men as adults, did not ridicule or
humiliate them, spent time modelling and remodelling the tasks (sometimes many times over), were firm but fair, gave praise when it was owing and had some empathy for the learners. Perhaps the most important element, particularly in the cases of James and Stalin, was that their mentors had a positive attitude and a determination to succeed despite negative reports that preceded them.

The men felt comfortable with their mentors because, as teachers, they recognised different learning styles and were able to fit that within the work situation. There was a distinct contrast between those teachers the participants valued and those they rejected. In all cases they spoke negatively about teachers who had no time to assist them, either at school or in the workplace. They referred to the school as not having time or of teachers expecting students to learn facts and concepts in short or set periods of time. Even as adults Stalin, Peter and Dasher, for example, found this to be a problem when attending computer-related courses. On the other hand, George commented that Joan always had time to spend with her students. In the same way Stalin was full of praise for the time Ray gave to help him.

Workplace mentors were remembered for their patience and calmness (Stalin, 1). James reflected these attributes in his own teaching practice. Peter noted that his mentor, John S., always encouraged him to talk problems over even though that discussion was invariably over the telephone and outside work hours.

**Time**

Another factor that influenced development was time. There was a strong indication that the men needed to build a long-lasting relationship of trust and respect with their mentor. This was where Dasher’s experience differed from the other participants. He did not have the opportunity to establish that type of relationship. At one stage in his career he worked with a plumber who was a good mentor. Dasher conceded that he would have been an excellent plumber with his own business if he had stayed with the one plumber who gave him direction (Dasher, 4).
Recognition and Respect
Recognition and respect were powerful factors in influencing development. In James’ case, for example, the fact that other personnel in the plant recognised and respected his expertise allowed him to demonstrate initiative and creative thinking. Mick demonstrated this by permitting James, the only worker without trade qualifications in the barb shop, to repair the machines (Mick). James’ knowledge of the mechanical aspects as well as his stated imperative (to reduce down time) were important reasons for Mick making this concession.

Jack spoke of the respect workers in the meat processing industry had for Charles. Ray noted the joy and pleasure on Stalin’s face whenever his work was acknowledged. James felt that his whole attitude to work has changed because the company (through Mick) took notice of him (James, 3). Robert was happy to discover that the deputy president of the Industrial Commission had commented favourably on his progress (Robert, 4). Sam’s newly acquired detailing skills were recognised by both management and installers like Peter S. who found his work easy to comprehend and the kitchens easy to install. The qualitative difference in these reports was that Charles did not have a supportive mentor in the workplace. While his ability and his attitude to other employees were admired, he had nobody at work to guide his development.

Neither Dasher nor John found any real recognition for their skills in the workplace. John appeared to have been transferred at will around Firebrand, never having the opportunity to establish stable working relationships with tradesmen or supervisors who could assess his progress or draw on his skills and knowledge. Dasher changed jobs, workplaces and employees frequently, inhibiting his ability to demonstrate his potential as a plumber and a learner. There were minimal opportunities for anyone to direct Dasher’s passionate concerns about public safety to a workable outcome, which Dasher found dispiriting.
CONCLUSION
Data analysis for this study has introduced the nine primary participants and analysed their performance in terms of aspects and stages of literacy engagement. It established that the participants engaged in many different literacies at work, demonstrating a range of stages of competence when mapped onto the Framework (Cope and associates, 1995). In addition, it demonstrated that through social interaction some men developed skills and knowledge that changed their identity in the workplace.

By examining the types of social interaction that occurred the analysis was able to demonstrate that key elements of sociocultural theory played a role in the development of higher mental functioning within this group. How important was the role of sociocultural principles in the changes in literacy engagement that have been reported? How predictable were the outcomes from a sociocultural perspective?

The next chapter, in part, concludes the data analysis by reviewing the evidence in the light of the work of sociocultural scholars who have researched adult learning. The aim is to verify the results of the analysis from a sociocultural perspective. Finally, it draws conclusions about the strength and value of the research findings as they relate to other studies of workplace learning.
CHAPTER 11

INSIGHTS INTO LITERACY AND LEARNING

INTRODUCTION
The lens of the Framework (Cope and associates, 1995) indicated not only the range and depth of language and literacy competence demonstrated by the nine participants. It also indicated a range of individual achievements, so that even within one aspect of competence a participant was able to demonstrate one or more different stages of development. An example of this was George, whose personal communication during his latter years at Firebrand was at an independent level within the forge section and at an assisted level when he needed to access the tool store. Dasher also demonstrated different stages of competence in the technology aspect. As a plumber he functioned at a collaborative stage of competence. However, when surfing the Internet he functioned at an assisted stage. Data such as these reflected other studies, indicating that when participants engaged in multiple tasks, “the assumption of widespread generality of stage or capacity is usually not upheld” (Rogers, 1999: 1).

Analysis of the data revealed that some of the predictions made by the sociocultural school were not always fulfilled. For example, Stalin’s acquisition of reading at school, through a process of explicit instruction, did not allow him to comprehend sign usage in the workplace any better than George who left school with no reading skills at all, nor did the ZPD function exactly as described by Vygotsky and interpreted by post-Vygotskian scholars (Cole, 1996; Tharp, 1988; Wertsch, 1985).

Data from the study indicated that experts did not routinely construct ZPDs for the purpose of overt instruction to novices. Enhanced literacy competence occurred when workers were compelled, through a complex network of factors, to engage in literacy tasks. Evidence from this study indicated that the relationships among individuals, language, literacy and the environment were more complex than the expert-novice interaction Vygotsky predicted. This finding has more in common
with the researchers who claim that the duality of the expert-novice relationship is too simplistic (Chaiklin, 2003; Lantolf, 2003; Valsiner, 2000).

Studies of workplace learning (Billett, 1999, 2001b; Lave and Wenger, 1988, 1991, 1996; Rogers, 1999; Scribner, 1984) and more specifically adult (workplace) literacy (Hagell and Tudge, 1999; Hull, 2000; Tuomi, 1998) emerging from a sociocultural paradigm emphasise the intersection of social activity, psychological tools and signs and historically determined culture. These researchers have extended sociocultural concepts of development to the field of adult learning, further, “modern refinements have helped make Vygotskian principles relevant to the framing of diverse social problems not apparent through Vygotsky's primarily laboratory experiments” (Lee and Smagovinsky, 2000: 3).

Analysis of the data for this study framed the complex and diverse social factors apparent in the real life experiences of the participants into three themes - change and continuity, flexible learning in work environments and new communities of learning - encompassing the broad findings of this study. This chapter explored these themes, demonstrating how neo-Vygotskian sociocultural research goes part way to resolving the tensions between sociocultural concepts and the data in this study. Additionally, it demonstrated how these behaviours illustrated a new wave of sociocultural thinking with respect to the workplace literacy competence strategies of a specific population – adults with literacy difficulties.

**Change and Continuity**

In the industrial structure commonly associated with the Fordist era the workplace was regarded predominantly as a site of productive activity. Workers, whose roles where clearly defined, were expected to work within strict organisational patterns with little input into production, planning or systems change. Production or process workers had little or no reason to engage in literacy on-the-job and rarely participated in production beyond their task specific site. Many workers were deemed to have exhausted learning opportunities (see Luria, 1976) at the
conclusion of their school years and sat at the same desk or operated the same machine all their working lives.

Many contemporary workplaces require workers to function collaboratively in teams, across a variety of sites and in a range of roles (Hull, 2000). In the light of this and contemporary research demonstrating the ability of “most adults to learn throughout life” (Schuller, 1992: 53), a reconceptualisation of sociocultural theory is required to account for “learning [that] potentially occurs all the time” (Field, 1995: 185) and human “development [that] is assumed to proceed throughout the lifespan” (Rogoff, 1991: 11). Such a reconceptualisation serves to break away from notions of a fixed or predetermined telos of adulthood and accounts for the shifts that adults are increasingly required to make in thought, practice and lifestyle.

Studies which “stress the socially constructed character of the lifespan … point to the way in which … various social factors” (Schuller, 1992: 19) serve to alter social interactions and material and social circumstances. These factors help to define the tensions of change and continuity prevalent in the modern workplace. Change relates to three factors: context, activity and the individual’s response to the demands the former two make. Rogoff’s (1984) caution that it is unrealistic to assume that an individual’s cognitive processing can be determined without giving consideration to the context of the activity or task, assumes a link between these three factors.

Workplace change, often represented as a force for good and continuity, is not always beneficial. The data illustrated four social factors of change and continuity that helped to determine the probability and efficacy of on-the-job literacy acquisition or enhancement in rapidly changing worksites.

**Ambiguity and Opportunities Around Stability of Employment**
After their initially fractured and disrupted entry into the workforce, eight of the participants found stable, long-term employment. There were two perspectives on employment stability and continuity in this study. First, there was the notion of
working for a single enterprise for an extended period. Participants who
exemplified this included George who worked in the same section of Firebrand for
thirty-three years. James, Stalin and John also worked at Firebrand for between
twelve and seventeen years. Apart from a short period as an interstate truck driver
Charles worked in the meat processing industry since he was thirteen years old – a
period of over 30 years.

Second, some participants had been continuously employed in a particular industry
but they had taken on roles that had a focus beyond their initial training. They were
all qualified tradesmen. Sam moved to the office-bound activities of a kitchen
detailer as opposed to a hands-on carpenter. Robert has transferred from outdoor
staff in local government to undertake union management of industrial issues
within the same industry and no longer undertook any of the labouring work
appropriate to his trade. Peter’s Shop steward and Safety Officer responsibilities
mean that he spent less time engaged as a plumber.

John’s work history was mixed. He worked for Firebrand for many years, nine of
which were in the power room. For an almost equal amount of time he had been
moved from site to site, gaining only a repertoire of minimal skills and no expertise
in any area. Dasher was unable to demonstrate this kind of sustained worksite
stability. Characteristically he was employed on short-term contracts of no more
than two to three years. Consequently he learned a few practical skills beyond his
trade qualifications but did not routinely have the opportunity to engage in higher
functioning activities. At the commencement of the data collection process Dasher
had been in constant employment for more than two years, a relatively long period
for him. Over the years since he completed his trade qualifications he experienced
periods of stable employment in the plumbing, building and petrochemical
industries. However, he was unable to secure employment in a large-scale
construction company with many ongoing projects. As a result he was reliant on
finding contract work with smaller companies and lost his job when the
construction project was completed. During the fifteen months of data collection,
for example, he worked on three projects with different employers and had two short periods of unemployment.

The data indicated clear ambiguities in notions of stability and continuity as a factor of literacy competence acquisition. While these perspectives helped to explain Dasher’s assisted level of competence, interpretation of the performance of other participants with continuity of employment was less clear. John, George and Charles, for example, did not demonstrate the same range of literacy competence levels as Peter, Sam, Stalin and Robert, even though all of them had continuity and stability in employment.

A closer examination indicated that James, George and Stalin worked in sections for long periods with relatively few interdepartmental transfers. John, on the other hand, apart from one nine-year period, was transferred often, frequently without prior consent or consultation. Viewed in this light John’s employment history began to resemble Dasher’s. However, this factor of change was not important for either George or Charles whose task literacy competence levels indicated a minimal range.

Change had a polarising effect. When change in context or task was negligible, as with Charles and George, there was little opportunity for workers to engage in a range of literacies practices or to demonstrate a range of competence. Paradoxically this was also the case when change was too frequent, as with John and Dasher. In environments of frequent change workers do not have the time to progress beyond the acquisition of basic skills and knowledge. However, when change introduced acceptable and achievable challenges adults who acceded to them demonstrated greater competence.

The data, for example, demonstrated that when John was transferred to the tool store he believed he could not cope with the literacy requirements of the job and was soon removed from his position. He provided no evidence that he tested a
range of strategies to overcome the literacy problem that he regarded as an impediment. By contrast James successfully trialled a strategy for implementing safety slogans in the workplace, demonstrating that he could take on positions that required initiative and responsibility.

For Charles, like Sam, working independently, as he did when he was driving trucks, was a powerful platform for progressing self-confidence and literacy competence. The kinds of text-laden situations when workers have to solve problems independently induced advancement in literacy competence levels. In Sam’s case it meant having to read and write special instructions more frequently. For Charles it meant engaging with text in the form of addresses, forms, logbooks, road speed and direction signage, street directories and place names. While some assistance was forthcoming from others at home, when he was on the road the responsibility was all his. Jack believed this was the time when Charles’ literacy competence was enhanced.

In summary the data demonstrated the benefits, for adults with poor literacy skills, of stable or long-term employment in an industry or on a site, with the proviso that continuity should offer appropriate opportunities for challenges to literacy competence levels. In effect, the likelihood of opportunities for the acquisition or enhancement of literacy competence is improved when workers have established a positive workplace identity.

**Capacity to Move on or Test out New Ideas**
Hull (2000: 650) argues that literacies learned on-the-job are not “decontextualized or neutral skills or purely psychological processes”. They are found in the literacy practices embedded in the social, cultural and historical context of the workplace where meaning is constructed through the manipulation and appropriation of psychological tools and signs. Meaning making is an important factor in literacy acquisition by adults with self-reported literacy difficulties.
Essentially, for adults, “meaning is constructed in the context of the use of text forms” (Billett, 1993: 3). This is because adults do not come to literacy practices context-free. They carry with them, as part of their ontogenetic make up, histories of literacy engagement, disengagement and circumvention. If workplaces are authentic sites of social activity and interaction, then literacy competence learned on-the-job represents “socio-culturally defined knowledge” (Billett, 1993: 4) that holds authentic meaning for each individual.

Authenticity is usually measured in outcomes. George, Stalin and John measured their achievement in literacy classes by the number of vocational qualifications they obtained. The real value for them was in the skills of literacy engagement that they learnt. George, for example, found that he has a feel for mathematics (George, 1) and John cited the literacy classes for easing the communication burden he carried (John, 1,2,3,4 and 5). These comments reflect research indicating that “when workers attend and complete basic skills classes in the workplace they indicate the greatest gains in communication, mathematics, self-confidence, morale and teamwork” (Hollenbeck, 1993: 68)—authentic and necessary skills in the new work order.

This raised the question: if basic skills classes in the workplace have these beneficial effects why do the participants indicate that they did not always take up the opportunities? Where training opportunities were offered some “individuals [like George, Charles and Stalin] may find themselves in positions where work is relatively routine” (Barnett, 1999: 34), allowing them a comfort zone in which to operate. Others, such as James and John, “may simply not be inclined to seize every learning opportunity that comes their way” (Barnett, 1999: 34).

Attending basic skills classes is a very public event, particularly if the classes are conducted in work hours and take individuals away from their place of work. Workers invariably cite factors such as “unwillingness to divulge basic skills problems, reluctance to invest hours outside of work time and constraints imposed
by transportation or family responsibilities” (Hollenbeck, 1993: 82) and age (I’m too old to learn that) as barriers to participation in courses. This was John’s first reaction when approached about attending literacy classes (John, 2, 3 and 5).

To enable adults to step outside the “circle” that Robert (2: 241) alluded to, learning opportunities should be meaningful and authentic. In terms of immediate outcomes learning opportunities should have the potential for learners to test out new ideas or move on to new challenges. This notion helped to explain further the variations apparent in the data.

James, for instance, attended literacy classes not because he believed he would learn to read and write but because he had recently purchased a house and wanted the overtime available to attendees of literacy classes (William). John needed twelve months of individual tuition at home before he attended a public class (John, 1). He later ceased attending because he moved away from the town. John, George, Charles and Stalin attended classes to gain vocational or industry qualifications that ensured a raise in salary. Although James was promoted during the data collection period, his upgrading was not dependent on attendance at classes such as these. Robert attended classes on the Industrial Relations Act and Peter attended classes to gain further industry and plumbing qualifications almost continuously since he finished his apprenticeship. Dasher also attended industry and union classes but had not gained any new qualifications. In each of the latter three cases the choice of class reflected a desire to engage with conceptions of literacy that are wider than orthodox, decontextualised text based competence. Specifically, they focused on skills that allowed the demonstration of a range of literacy competence across all six aspects.

Yet there was a real difference in the results of these educational efforts with respect to demonstrations of literacy competence. Some, such as the Industrial Relations Act classes, were closely related to the actual work of the participant. Robert used the skills and knowledge gained in the course in preparing his cases.
Peter routinely used the knowledge he has gained from study as a plumber, shop steward and Safety Officer. By contrast Dasher’s new skills did not become a routine part of his job, nor did George’s, John’s or Stalin’s. It appears that the inability to use new skills routinely reduces the meaningfulness and authenticity of them because there is no opportunity in the work site for reinforcement, practice and appropriation of new skills in relation to previously held concepts.

The other type of learning that occurs in workplaces is tacit learning that happens as a task is repeated with varying amounts of expert assistance. An example of this was Sam’s work with the CAD software. On the basis of some overt but informal teaching Sam was left to prepare construction and installation instructions for kitchens (Sam, 3). As he worked at the job he discovered more and more about the CAD computer program (Sam, 5). Recognising the value of tacit learning, James found that his students also learned more about barb machines as they began operating them independently. He used this as a strategy in his teaching practice. Through years of experience he understood that different novice operators focus on different concerns and that in the teaching process not all the problems that will occur in practice arise. He invited his students to learn more about operating the barb machines as they became more proficient because he regarded this as real and meaningful learning.

Charles’ long history of employment in the meat processing industry also afforded him many opportunities to engage in tacit learning, such as welding and other maintenance skills. However, these activities were not of benefit to Charles in terms of official industry recognition as they were for James. In literacy terms the benefits for Charles came about as a result of his time as a truck driver when is was necessary for him to engage with print-based literacy to a much greater extent than at the abattoir.

Once again change and continuity become factors in literacy competence acquisition, this time from the perspective of learning that provided opportunities to
move on or to try out new tasks. James, Stalin and Sam, who learnt much of their skills tacitly and Peter and Robert, who gained new skills through overt teaching beyond the immediate worksite, were all able to test new ideas or move onto new fields of work. The other factor they had in common was the opportunities that came about owing to a change in their circumstances—usually a new job or job scope with prospects of continuity and advancement.

James counted the decision to ask him to resolve the problems in commissioning the new barb shop as a victory of the worker over the bosses. In reality the victory was the serendipitous nature of his relocation which resulted in him taking on new roles that were more dependent on literacy competence and completely redefined his workplace and to some extent his personal identity. His skill as a teacher and his ability to understand different learning styles might never have been revealed if he had not moved to the new barb shop under Mick’s supervision, nor would Charles have made the small gains he achieved in print literacy competence if he had not worked on his own as a long haul truck driver. Stalin’s emerging skill at negotiating and debating surprised even Ray. However, this would not have been realised if he had not transferred to the reconditioning yard.

Sam, Peter and Robert were able to take up fortuitous opportunities where challenging literacy competence was “incorporated into a task that is necessary and relevant” (Vygotsky, 1978: 118), authentic and ultimately rewarding. Dasher, John, George and Charles (except for his stint as a truck driver) did not have these opportunities. Work-related learning was precisely that—related to but not an integral part of work. John, for example, noted that his forklift qualification allowed him to operate the forklift only when the regular driver was unavailable (John, 5). George used the training classes to gain basic, orthodox literacy skills but, despite his teacher’s request, did not use these skills in his immediate worksite to do more than read the seventy-year old signs (George, 4). For these men the literacy skills were not usefully meaningful because they did not translate into tools for authentic work practices.
In summary, meaning making is an important concept in sociocultural theory. It implies constructing new cultural meanings through speech modalities. This study expanded that notion by demonstrating that when adults with poor literacy regard a learning task as meaningful and authentic they will take up opportunities to engage in tasks that require them to demonstrate a range of literacy competence. That is, if they regard what they are learning as meaningful to their work context, they will follow through on the opportunities that are presented. Further, integration of new learning is most productive when learners are given the chance to use it as a tool in demonstrating or testing out new ideas.

**Supported Risk**
These opportunities do not come without a degree of risk for adults who have usually chosen not to divulge a literacy difficulty. As alluded to above:

> learning [at work] is unsettling in personal terms …[H]aving publicly, as an adult, to disclose that one is in a state of learning is likely … to generate mixed messages in relation to one’s organizational persona. Self-images of maturity and authority suddenly contrast with those of dependency and lack of understanding

(Barnett, 1999: 35)

Feelings of frustration and failure first experienced at school could be invoked when adults with literacy difficulties are encouraged or coerced into literacy classes. All of the participants in this study, for example, had negative memories of school. Most regard it as a site of personal failure that they did not want to repeat. These types of negative memories are not uncommon with adults with histories of literacy disengagement (Gerber and Reiff, 1991; Hellendoorn and Ruijsenaars 2000; McNulty, 2003). Under these circumstances literacy engagement “can be hindered by anxiety and resistance” (Van der Kamp, 1992: 192).

Often such people learn tacitly, utilising extraordinary memories or mnemotechnics devices to recall information (Luria, 1975) and to trigger their practical intelligence. In the course of study they may be asked to reformulate their learning to a more
academic style. If in this process “acquired knowledge gets unsettled” (Van der Kamp, 1992: 192) self-confidence can be undermined and the learner can resist or reject the learning on offer (Gowen, 1997).

Perhaps the predominant anxiety expressed by participants was a “fear of failing in front of groups” (Van der Amp, 1992: 192), particularly groups of unfamiliar people. All of the participants, apart from Dasher, communicated confidently in the oral mode. Peter, Sam, James and Robert, for example, were participants whose colleagues or supervisors were unaware of their literacy concerns because of their fluent and appropriate oral communication. The fear Van Der Kamp (1992) alludes to refers to the apprehension all the participants felt when they needed to write or, in most cases, engage with print-based text, “a form of literacy that falls primarily in the public sphere” (Cope and Kalantzis, 1993: 65) because they perceived that such public demonstration has the power of inclusion or exclusion.

The participants provided many examples of this fear of the written word. When asked to write a simple sentence for his final activity John froze. However, with coaxing and encouragement he succeeded in writing his sentence with few errors (John, 5, see Appendix D). James’ long description of his affective response to the two-day First Aid course aptly demonstrated a high anxiety factor. As he memorised every word of the presentation he was overwhelmed by fear that he would forget something, look silly in front of the other students and fail the course (see Appendix E). John was so afraid of rekindling the bullying behaviour that he had experienced at school, that his first twelve months of literacy tuition were in his own home (John, 1). George knew that he would betipping his hand (George, 2) if he let anyone at work know that he could not read or write. When Peter had to write, he did it in the security of his office (Peter, 2). Very few people, including his mentor, knew that he was anxious about his spelling. He compensated by communicating verbally when possible. Finally, in the shop catalogue activity almost all the participants gathered information about particular products from their
knowledge of logos and icons, prior knowledge of products and numerals, before they attempted to access the printed orthographic text.

When adults whose lives are consumed by these kinds of anxieties and fears begin to engage with print-based text the perceived or actual load of the task can make the experience alienating and unproductive.

Any load can be cognitive (having to master new concepts) or operational (having to master new skills) or experiential (having to accommodate a new set of relationships with the world and with those around one in the work environment).

(Barnett, 1999: 36)

A factor that emerged from the data was the way the workplace needed to support risk-taking behaviours. As may be expected “some environments support learning better than others” (Field, 1995: 158). In some workplaces workers, such as James, Peter, Sam or Robert, were supported to extend their ability to contribute more actively and more constructively to the established culture of the group, thus enabling them to negotiate cultural difference and influence systems change (Kalantzis and Cope, 1997).

Support came in a variety of ways that included adequate material settings, suitably qualified staff and enterprise concepts of literacy competence acquisition in the adult years. These factors were mediated by the overarching influence of change and continuity.

In the workplace, material settings can vary. Participants in the study spoke of the crib (lunch) room, the office, the cutting floor, the meeting room or classroom, the courtroom, the shop floor or the truck cabin. Workers adopt different social roles in each setting

… influenced not only through the agency of flesh-and-blood people who converse, communicate, model, or persuade, but through the social practices and objects unseen people have built up in the world around that individual. There are prescribed forms of social
interaction: routines, schemas, scripts, games, rituals, cultural forms
... words, maps, television sets.

(Cole, 1996: xiv)

Most of the time the material settings were static but when change took place it altered both social and cultural practices. William first discovered James’ literacy difficulties in the crib room which was a site for relaxation to eat lunch, read the paper or play cards away from the dirt and noise of the factory floor (James, 2: 286-294; William: 16). In the new barb shop where fewer operators oversee more machines, where the crib room is less conveniently situated and where James has the role of senior operator he no longer goes to the crib room (James, 4). As a result an avenue of shared literacy events has closed for him.

In environments where the men felt confident, assured, capable and supported they engaged with the culture and cultural tools and signs available to them in that environment. James was an acknowledged expert and teacher in the barb shop where he understood and felt at one with the machinery. In a different environment he was much less assured. At the First Aid class he was a novice struggling to maintain the identity of a literate adult. As an oil checker John was reliable and accurate and had begun to take initiatives in scheduling his work. As a storeman he was uncertain and ultimately unsuccessful because he was unable to test out strategies for recording telephone messages. That James succeeded in the First Aid course and John failed as a storeman illustrated not only their individual capacities to memorise information and use a range of strategies when engaging with text-based literacy but also their ability to access the culturally determined social practices and psychological tools signs available in particular settings.

The data were replete with evidence of these and similar influences: whiteboards, safety routines, court room procedures, tool use (such as hammers, saws, knives, tape measures), newspapers, radio broadcasts, enterprise structural procedures, such as the reading of meeting minutes and “the availability and willingness of more competent readers to help the individual learn to read” (Hagell and Tudge, 1999: 166). When sociocultural theory was formulated these psychological tools and
signs that are now so common in the workplace were not considered important in the acquisition and use of literacy because the expectation was that workers would have attained the one standard literacy that was taught at school before commencing work.

The data support findings that “some environments support learning better than others” (Field, 1995: 158; see also Billet, 2001b). One element of this is stability. George learnt the necessary skills of his job through years of practice in only one workshop where his supervisor knew his task competence. John was frequently asked if he knew how to do particular tasks (John, 2) because the tradesmen he was assisting were not familiar with his task or technical competence. In the same vein Peter who worked for some years with the same employer was not questioned about his knowledge and capacity to undertake new or even routine tasks. On the other hand Dasher, who worked in the same industry, had to learn new skills on-the-job constantly, to the extent that he felt he was always lagging behind new industry standards.

Direct support in the workplace is important for workers, particularly when they are solving novel problems (Dymock and Gerber, 1999). James, George, Stalin and John were able to benefit from professional literacy tuition provided by Firebrand. The immediate benefits were not as dramatic for James as for the other participants, who were able to use the certification gained to obtain promotions. Charles attended his first vocational certificate class, occupational hygiene, toward the end of the data collection period. The course, which he described as commonsense (Charles, 5: 296), was presented by a trainer with no literacy teaching skills. So while allowances were made to enable Charles to participate in the course, there was no component of literacy tuition embedded in it.

The participants demonstrated that workers who perceived that they had literacy difficulties risked their vulnerability in engaging with oral and print-based literacy unless their attempts were supported by the workplace. Support is a function of
continuity within a specific worksite where supervisors recognise workers’ skills, knowledge and positive attributes. It is also a function of recognising vulnerability and providing alternative pathways for the demonstration of skills. Mick (149), for example, demonstrated that he was aware of James’ vulnerability: *I’ve never tested him by asking him to get up and read. I think that wouldn’t be appropriate.* The data showed that where consideration such as this occurred participants like Sam, James, Peter, Stalin and Robert began to challenge their own notions of literacy and expand their repertoire of competence.

**The Capacity of Workers to Reshape Their Identity**
The data showed that some “adults are not passively waiting for transitional events; they often engage in personal projects to create a certain self having a specific life” (Heymans, 1992: 50). Sam, Peter and Robert actively sought out new challenges. James actively found new ways to work—to improve productivity and marketing or even to enhance his teaching strategies. They were all self-confident and pushed the boundaries of their skills, stepping out of their particular circles to embrace new opportunities. This confirms research into learning in the adult years, indicating that “without a positive attitude to education and self-confidence, adults are not likely to actively engage in the lifelong learning society, whether it concerns vocational training or social-cultural activities” (Tuijnman and Van der Kamp, 1992: 14).

Engaging in lifelong learning activities was not easy for some of the participants in this study. Essentially this was because learning meant developing, over a period of years, cognitive frameworks that “change, or should change, as we have new experiences” (Foley, 1995: 71). Cognitive framework changes are reflected in reconceptualisation of the types of “analytical constructs [such as ideas, concepts, theories, stereotypes and prejudice] that help us to summarise and systematise experience” (Foley, 1995: 71, see also Ferro, 1993), invoking higher mental functioning. Developing cognitive frameworks thus means developing new ways of thinking and results in changes in personality or identities in adulthood, a notion
that “is now generally accepted” (Pogson and Tennant, 1995: 22) amongst adult learning researchers.

For adults who arranged and managed “their lives within literate societies in ways that limit the negative implications for them” (Hagell and Tudge, 1999: 176), the idea of changing identities made them very vulnerable. Individuals who experienced failure in the early years believed that they were failures and they constructed identities to mask this sense of failure. Their lives were “lived out with both passive and aggressive patterns of behaviour designed to cover the inner sense of shame and [sometimes] low self-esteem. These behaviour patterns [were] intended to foster self-preservation” (Ferro, 1993: 27).

Participants in the study demonstrated these kinds of behaviours. In their earliest employment experiences, George, Dasher and James were aggressive. Charles, Stalin and John were compliant, easily manipulated and reliant on others to do their jobs. Robert was argumentative and Peter talked to avoid writing. Each one of these strategies was aimed at self-preservation. Each of the participants had constructed a personality and identity to suit the situation they found themselves in.

Under these circumstances the promise or threat of learning in the adult years was problematic. Research indicates, for example, that “because the poorly educated often have a negative experience of initial education they are, as a group, less inclined to enrol in adult education compared with the well-educated population” (Tuijnman and Van der Kamp, 1992: 7). The participants in this study indicated that their responses to proffered learning opportunities related largely to their earlier school experiences. Peter would not undertake courses that involve note taking. Robert would not sit for examinations. Charles, Dasher and James rejected notions of formal training. John, George and Stalin undertook specific vocational courses as long as they had a high support component.
Learning in the adult years characteristically results in the “transformations of actions through a process of reorganisation of thinking” (Rogoff, 1991: 11), a very open and public process, requiring learners to unmask their identity. Adults with literacy difficulties who, through a sense of vulnerability, chose to remain silent often need the support of a stable continuous work environment to ‘go public’. George’s twenty-year secret was revealed suddenly and irrevocably. He recounted how ill he felt and how fearful he was of returning to work the next day. What George had not realised was that in his twenty years of work he had become an important and valued team member (Wayne). All of George’s colleagues were informed (at his request) of his literacy problems and all supported his attendance at classes (George, 2 and 4; Wayne). This response gave George a different perspective on his colleagues and on his ability to learn, demonstrated in the eagerness he had to improve his orthodox literacy competence.

George was not an isolated example. The data demonstrated that some participants, such as Peter, Robert, Sam and James, chose to engage in activities that resulted in enhanced literacy competence. Sociocultural theory supports the notion that learning activity takes place in socially and culturally significant settings and circumstances. The findings from this study suggest that these settings and circumstances relate to continuity and change. However, data from this study suggest that these factors also mesh with identity to facilitate the acquisition of on-the-job workplace literacy competence.

With the exception of Peter, the data indicate that participants were induced to take up educational opportunities as a result of change. James began literacy classes when there was a change in his personal circumstances. He began to use the skills he learnt in those classes to reconceptualise his role at Firebrand only when the new barb shop was commissioned. Robert enrolled in courses to further his knowledge of the Industrial Relations Act and to build his skills in report writing after he started his new job. Stalin learned to drive principally because not having a licence was causing tensions at home. With John and George, he attended courses from
which the resultant qualifications would give him a greater redundancy payout. Charles did not attend literacy classes but engaged in a broader range of literacy competence skills when he left the abattoir to work as a truck driver. Seeking to reshape his identity from an installer to a detailer, Sam acknowledged his spelling problems, submitted to task-related tuition and consequently began investigating avenues of further education.

Many of the certificates gained off-site by George, Stalin and John did not have immediate application in their work sites. As a result any recursive literacy element of a particular skill that could have added to their literacy repertoires was largely lost. The same applied to Dasher, who attended courses and learnt many on-the-job skills as a Shop steward but lost them when he relinquished the position and no longer engaged in the types of literacy tasks typical of the job.

Peter was an exception because he chose to enrol in adult and further education and TAFE courses to drive change. He always tried to prepare for change by gaining qualifications that helped him gain more challenging jobs (Peter, 4).

What became apparent from this research was that the types of literacy practices involved in work are dynamically and irrevocably linked with workers’ prescribed “social roles in particular material settings” (Hull, 2000: 650), such as the workplace. Researching the experiences of workers gaining vocational knowledge in the workplace, Billet argues that “the kinds of activities that individuals engage in determine what they learn” (Billett, 1999: 151). Further, the types of activities and the level at which they engage with them are a function of “the socially-derived personal histories (ontogeny) of individuals, with their values and ways of knowing” (Billett, 2001b: 5). Consequently “some individuals are more open to learning than others” (Field, 1995: 158), resulting in the sort of uneven demonstrations of literacy competence levels apparent in this study.
In every workplace individuals can elect to engage in activities beyond their stated role. The choices they make reflect each individual’s persona or identity and serve as a window on their cultural history. Indications from the data were that these self-perceptions acted to create particular identities in the workplace and also determine the social roles that workers took on or that were attributed to them. Stalin, for example, chose to become a TST representative because he did not want to let his friends down. James chose to repair barb machines because he understood them and disliked the long production delays and disruption caused when the barb shop had to wait for tradesmen (James, 4 and 5). George chose only to do his job until he started literacy classes. These types of choices confirm Hagell and Tudge’s finding that two individuals with similar reading competence

… may perceive themselves quite differently … based partially on culturally and personally derived expectations of what one ought to be able to read and partially on the practical issue of what one needs to be able to read effectively.

(Hagell and Tudge, 1998: 164, emphasis in original)

The workplace locates individuals in a social setting where literacy competence is meshed with activities that “involve people reading and writing, talking about texts, holding certain attitudes and values about them and interacting with others around them in particular ways” (Hull, 2000: 650). As workers meet these demands their literacy competence and their identity changes. Sam, for example, found it easier to acknowledge his spelling difficulties when he felt secure in his new job. He no longer believed that literacy was a barrier for him. In the same vein James became a more responsive and responsible worker when his operator skills were recognised and rewarded. As a result he gradually took up more literacy-focused tasks and over a period of time discussed with Mick the possibility of attempting train the trainer qualifications.

John, Stalin, James and George had well defined identities in the workforce. For George and John this meant keeping a low profile, working within rules and not attracting attention that might result in tipping your hand (George, 3: 166; 4: 45). James, like George, had a reputation for a quick temper but he was not compliant
like George. When the new barb shop was being commissioned he knew his expertise as an operator was being ignored. Actions such as this on the part of the enterprise acted only to make James more resistant, reinforcing his identity as a troublemaker. When he moved to the reconditioning yard, Stalin was regarded as slow to learn. This caused trouble in his previous site, resulting in bullying. Stalin’s attitude was to keep a low profile and keep out of the way by doing the most menial tasks.

Apart from studying adults with unusual thought processes (Luria, 1973, 1975) and the “deterioration of thought in schizophrenia” (Vygotsky, 1938: 314) Vygotsky and his associates conducted few studies into post-adolescent thought processes. They posited that cognitive development did not occur beyond puberty except for the shift from thinking in complexes to thinking in concepts. More recent research recognises that “cognitive structures … continue to evolve into adulthood” (Lohnman and Scheurman, 1992: 84), determining intelligent behaviour and modifying personality and identity. All the primary participants in this study brought with them personal identities that had been forged long before they entered the workforce. For all but Peter identity was about circumventing literacy and related personal difficulties. Yet, over varying periods of time, changing competency demands impacted on their literacy and their identities.

One factor that became obvious through the data analysis was the value of an individual’s drive (Hagell and Tudge, 1999) to create a new identity or change current perceptions by making sense of challenging literacy encounters. When George dismissed Firebrand’s safety campaigns he chose not to engage with the formalised literacy of safety. When Charles did not ‘see’ incidental road signs he chose not to engage with this commonplace literacy. When Sam wrote notes to guide himself through the CAD program he was finding mediational means of making sense of the new literacies he was encountering, in the same way that Robert observed the Deputy President of the Industrial Commission.
Charles was recognised in the meat industry as an excellent process worker who was skilled, accurate and extremely hard working. Yet after many years in the industry he was still on a processing chain. Workplace stability has not provided scope for Charles to reshape his identity.

Tools and signs, overt teaching and a social context for activity may not be sufficient for on-the-job literacy acquisition to occur. Data from this study indicated that meaningful literacy competence acquisition occurred when workers responded to changed demands or circumstances within a stable working environment. For adults who were alienated from the education system to engage actively in literacy tasks they should view it as a purposeful way of moving ahead or testing out new ideas. They should also be supported in taking the risk of revealing their secret and the workplace should facilitate the capacity to reshape identities by providing opportunities to develop higher mental functioning. In order for this to occur notions of how and where adults learn need to be examined.

**Flexible Learning and Flexible Work Environments**

This study draws some conclusions on learning relationships and learning environments. Vygotsky (1978) stated that the learning of scientific concepts, that is, academic knowledge as opposed to everyday knowledge, is best taught, overtly, in classrooms. This is the basis for his emphasis on the value of formal schooling. Despite this opinion, there is now a growing body of opinion substantiating the notion that workplaces are “legitimate and effective learning environments” (Billett, 2001b: 15). However, the learning that occurs within them may not conform to traditional notions of cognitive development, like “skills in academic activities such as formal operational reasoning and scientific, mathematical and literate practices” (Rogoff, 19921: 11). Workplace learning is often practical, requiring workers to develop skills in collaboration, presenting, providing or receiving instruction, interpreting, illustrating, explaining or elaborating that are characteristic of workers in the new work order. Typically this learning is evident when workers demonstrate that they are
… managing new roles … taking on new intellectual challenges … and achieving shifts in perspective where the patterns of relationships fall into place, as in leaps of understanding of social institutions and interpersonal relationships.

(Rogoff, 1991: 11)

By overtly changing the expectations of the role of workers, as in the cases of James or Sam, flexible learning workplaces can “tacitly structure learners’ access to knowledge” (Billett, 2001a: 15). The data demonstrated that Robert, James, Sam (as a detailer) and Peter all responded to expectations about their roles, resulting in the enhanced kinds of learning Rogoff refers to. Others, specifically Dasher, John and George, did not find opportunities for tacitly structured learning. This suggested that the notion of flexibility in the workplace, or workplace learning providing a platform for enhanced or improved literacy, needs to be qualified. The data indicated three factors, any of which can aid literacy competence acquisition in flexible worksites.

Affordance

The term “workplace affordances” (Billett, 2001b: 1) describes the intersection of three elements – the preparedness of workplaces to provide learning opportunities, individuals’ uptake of those opportunities and the guidance and support available for learning. Billett’s research derives from the work of post-Vygotskian scholars such as Lave and Wenger (1991) and Rogoff (1991), who stress the interlinked relationship among individual, social world and culture. He argues that the quality of workplace learning is determined in part by workplaces’ “readiness to afford opportunities and support for learning” (Billett, 2001b: 1).

Other research in adult learning extends this argument to include the enhanced “willingness of workers to learn” (Onstenk, 1992: 143). Data for the current study demonstrated the sort of flexible workplace that Billett and Onstenk allude to with respect to general or even specific workplace tasks. In formulating his concept of workplace affordances, Billett refers to studies that investigate practices that engage workers in learning specific workplace skills, such as operating new machines. He does not make any claims about on-the-job literacy competence. This next portion
of the chapter examines the concept of workplace affordance with respect to literacy competence acquisition as demonstrated by the data analysed for the study reported in this thesis.

John, George, Stalin and James worked in “unskilled” areas for quite long periods before workplace training was introduced in line with industry restructuring. None of them was offered any opportunities for training prior to this period. This enterprise initiative illustrated the way “opportunities for learning are distributed on the basis of perceptions of workers’ worth and status” (Billett, 2001b: 2). On the other hand status can carry with it perceptions of either knowing how to do a task or expectations that the job will be learnt along the way. Both of these perceptions apply to Robert, who was initially regarded as the smart young Industrial Officer who had the industry background and could pick up the specific skills from those he worked with (Scott).

Literacy skilling and acquisition had implications far deeper than worth and status. As was demonstrated earlier workplace affordances offered will fail if adults believe it is inappropriate to reorganise their thinking and change their identities by engaging in challenging literacy events. Hull (1997: 4) stressed the value of reframing the argument “to acknowledge the perspective of workers—to discover the incentives and disincentives they perceive and experience for acquiring and exercising literate skills”.

Workers cite barriers to engaging in learning activities such as “lack of job quality, unrewarding pay systems [and] lack of career possibilities and appropriate training” (Onstenk, 1992: 143). Additionally, participants in this study cited fear of ridicule or bullying, shame and embarrassment as barriers to literacy engagement. These are strong human emotions embedded in and growing from experiences in schools that were generally inflexible in their pedagogical practice. Removing these barriers is essential in providing the kinds of workplaces where adults feel motivated to challenge and expand their literacy competence repertoire.
Meetings abound with literacy. There are the textual forms dominant in minutes, meeting notices and agendas. These can be extended to notes made prior to and during meetings and reports or notes written after meetings. There are oral forms of literacy that include listening, speaking, interpreting, analysing, debating, constructing cogent arguments and questioning. And there are the interpersonal forms such as comprehending and respecting the perspectives of others. Both Stalin and James reluctantly became involved in workplace meetings. James had attended meetings of a sport club for many years but there was no evidence that Stalin had ever routinely participated in meetings.

Workplace affordance in both these cases came from two different positions. First as Hull (2000) demonstrated workers at all levels of production are expected to contribute actively to the decision making process, working together in teams to determine local and site-wide policies. Second, much of the “unskilled” labour force at Firebrand had traditionally consisted of men with poor educational backgrounds or migrants with few English skills (Wayne; Mick). It was standard practice for all meeting minutes to be read aloud by a member of the committee, thereby rendering it unnecessary for all members to be able to read. However, there was a requirement that all committee members participate actively. James described how he advocated on behalf of shift members for the barb shop and showed the researcher margin notes he made on meeting minutes (James, 5). Stalin became so actively involved in the TST that he discussed, lobbied, debated and found ways of solving novel problems (Stalin, 2, 3 and 5).

George also regularly attended meetings. However, these were not work related and he was heavily supported in these by his wife. He chose not to attend workplace meetings, even ridiculing the notion of improved workplace safety. So, even though the affordance was available, George chose not to engage in the task. Wayne provided affordance for George by reading workplace memos that had relevance to him.
Sam and Robert found their new jobs demanded more than they had imagined, but both found workplace affordances that allowed them to engage in more advanced competence skills. As a detailer Sam was given overt and explicit tuition in specific computer programs. He was then left to work, at a pace slower than the other detailers, on specific projects. He constructed his own tools and signs by writing notes that he stuck on his office wall around the computer. Over time he began to work on more complex designs, the notes fell off the wall and he began to integrate prior literacy competence with his new learning. All this time the support from his supervisor was available. His workplace had the flexibility to allow him to work at his own pace, provide assistance when it was required and as sanction his own memory aids.

When Robert’s problems at work began to mount up, Scott encouraged him to discuss his approach to specific cases. In addition Scott increased his own workload by taking on some of Robert’s more routine cases. This was not only a demonstration of flexibility in the workplace but also a recognition of Robert’s growing repertoire of literacy competence. Scott specifically wanted Robert to remain with the more complex cases because he demonstrated a capacity to grasp the advanced competence required to comprehend and argue the cases. These instances demonstrated that

[...]

changes in the content of work, with varying patterns of deskilling and upskilling, necessarily alter the extent to which adults are expected or required to exercise their capacity to learn as part of their everyday working lives.

(Schuller, 1992: 27)

The degree to which workplace affordances aided in overcoming the barriers to literacy engagement nominated by participants in this study goes part way to determining the value and quality of literacy competence acquisition. Further, this study argues that to be meaningful the literacy in which workers engage should be closely linked to everyday work practices.
Charles and Dasher both had extensive practical knowledge but were never offered the workplace affordance to construct useful, purposeful and quality connections between that and literacy skills, nor did either of them find ways of constructing those affordances. In many ways individuals’ openness to and acceptance of workplace affordances are mediated by their “socially-derived personal histories (ontogenies) … with their values and ways of knowing” (Billett, 2001b: 5). As was demonstrated by Dasher’s experiences, the personal history workers bring to a task can result in positive or negative interpersonal relationships in the workplace.

**Master/Novice Relationship**

If the workplace is a legitimate context for quality learning involving the overt and tacit exchange of information, then it should also be the site of ZPDs. The concept of a ZPD as described by Vygotsky was designed to satisfy two purposes. First, he regarded it as a way of measuring prospective mental development as opposed to the retrospective mental development measured on IQ tests (Vygotsky, 1978: 86-87). Second, he argued, it was a pedagogical framework that supported the notion of learning preceding development in children. That is, it equips teachers with the knowledge to design instructional programs that will induce development. It has formed the basis of much recent post-Vygotskian research (Hedegaard, 1995; Newman, Griffin and Cole, 1989; Smagorinsky; 1995, Tharp and Gallimore, 1994) concerning children and centring on the role of language in mediating the behaviour of novices.

Research (Gallimore and Tharp, 1994) indicates that the ZPD is applicable to all ages in terms of relearning tasks not routinely performed. Participants in this study who engaged in training as a function of industry restructuring also demonstrated the imperative of new learning placed on all employees in the new work order. From this perspective
… the potential for learning is an ever-shifting range of possibilities that are dependent on what the cultural novice already knows, the nature of the problem to be solved or the task to be learned, the activity structures in which learning takes place and the quality of this person’s interaction with others.

(Lee and Smagorinsky, 2000: 4)

At this stage it is worth reviewing the instances of the ZPD that emerged from the data to highlight how the concept, in various guises, determined the process of development. Stalin’s experiences in the reconditioning yard were most closely related to Vygotsky’s description. Ray had some idea of Stalin’s capacity to learn and the difficult social relations he experienced in his previous workshop. He was also aware of the new physical and cognitive tasks that would be required of Stalin in his new environment. Stalin, under-confident, uncertain and socially awkward, was daunted by the prospect of learning to operate complex machinery. Through a long process that included overt teaching, rehearsal of cognitive strategies, joint problem solving and patient praise and persuasion Stalin proceeded through the required levels. As he did, his awkwardness evaporated, his confidence grew and he undertook the demanding task of being a TST representative. Eventually Stalin achieved more than Ray, at the outset, had considered possible (Ray).

Robert had several mentors in his rise through the ranks of the union movement. The man who urged him to apply for his current position was one of the most positive influences and his retirement was a setback for Robert (Robert, 5). Scott, his new supervisor, recognised potential in Robert over many years. In his present position he was able to establish a ZPD that provided the conditions for Robert to take on a suitable workload aimed ultimately at success in the area of conciliation of industrial issues. Robert’s entry into this zone of joint problem solving was, however, not automatic. To take advantage of the structure provided Robert had to begin to shed his reluctance to share and learn from and with others. Like Stalin, he found this was a slow and gradual process that was starting to reap rewards. As Scott noted, Robert’s relations with his associates was increasingly collegial, his writing was more mature and considered and he was more confident in all aspects of his work (Robert, 5; Scott).
Peter, George and Sam lacked confidence in their ability to succeed at their chosen tasks. Peter in particular created his own ZPDs. Encouraged and supported by friends and colleagues he developed a career path by seeking jobs that were challenging in terms of literacy as well as intellectually and socially. So while others, such as TAFE teachers, suggested openings for him (Peter, 2) he was the one who has determined what he needed to learn and from whom he would learn it. Vygotsky did not contemplate this kind of self-determination and self will on the part of the learner.

The ZPD for James in the new barb shop did not mean overt teaching on Mick’s part. James benefited from Mick’s initial ignorance of his literacy difficulties and his decision to disregard the rumours of unsatisfactory behaviour he had heard from the old barb shop. He relied on James to demonstrate his skill and knowledge as an operator. Believing that this was an opportunity to show the enterprise how wrong they had been in initially refusing to transfer him to the new shop at its commissioning, James proved to be extremely competent and reliable. The expert/novice relationship between Mick and James differed dramatically from that conceived by Vygotsky. Although Mick was vested with authority as a function of his supervisory role (which should construct him as Vygotsky's expert other), at various times James was the more expert other. Mick’s recognition of James’ expertise and nurturing of his skills despite occasional concerns about his work standards (Mick: 93) resulted in James gaining Level 4 accreditation.

Sam demonstrated similar self will but this was tempered by the knowledge that he could learn the computing program of his new job from others more expert and experienced in its use. Nevertheless after a few months he indicated that he was ready to step beyond that ZPD (Sam, 5). The data illustrated that he could perform independently the tasks he could do previously with assistance. Further he demonstrated that he was prepared to extend his knowledge of the CAD program in his own time (Sam, 4). Sam was pleased to finish studying when he completed his
apprenticeship (Sam, 1). However, with the success as a detailer venture he was contemplating moving into areas of work and study he had never previously considered possible.

John and George were each placed in a ZPD in the literacy classes they attended at Firebrand. George and Stalin noted that within a common teaching environment each student was working towards an individual vocational qualification of his choice. Vygotsky did not discuss this concept of multiple individual ZPDs operating concurrently in a group setting (such as a class). The ZPD that he described applied to individual students working in dyads.

Since, as Van der Veer and Valsiner (1991) note, Vygotsky discussed only the theoretical notion of a ZPD and did not conduct any empirical studies of its use in school settings it is worthwhile considering the implications of its use in adult education settings. Both George and Stalin commented on Joan’s teaching style. They noted that she was demanding, yet fair, was explicit in her instructions and expectations, prepared individual learning plans and spent time with each individual student each lesson (Stalin, 3; George 4). Structuring classes for these men along the lines of a ZPD provided opportunities for them to work beyond your capabilities (George, 4: 136-137) in an environment they regarded as ‘safe’ since the other students also had literacy problems (Stalin, 4: 186). This application of the ZPD was successful in different ways for both George and Stalin. For the first time in his life George discovered that he had mathematical ability (George, 1) and began to make sense of the reading process (George, 3, 5). Stalin achieved success in the vocational certificates he studied with Joan’s help, encouraging him to become a more proactive member of his team, using a range of literacy and communication skills.

For Charles the opportunities to engage in learning through a ZPD were minimal. The data showed that in the types of small abattoir where Charles has worked there was little opportunity for formal skills acquisition or literacy instruction until
recently. Apart from the most basic induction, the skills required to prepare beasts for consumption was gleaned from other workers. Like Peter and Sam, Charles constructed his own ZPDs using the psychological tools and signs available to him – other meat workers, welders, truck drivers and RTA staff - to develop industry relevant skills.

According to the data these opportunities were not available to Dasher. There were several reasons for this. First, he had a propensity for changing not only jobs but also employers frequently. This was also the case for Peter, who chose to seek new challenges every two years or so. The difference in the two cases was that Peter approached each job as a learning and development experience. In each position he challenged his repertoire of literacy and communication competence. Dasher, on the other hand, felt defeated by his perceived inability to spell or express himself orally or in writing. Each new job was a struggle to survive, defending his long held literacy secret.

Vygotsky wrote in terms of novices and experts, presumably referring to children and teachers. Valsiner (2003) argues that the assumption in contemporary representations of the ZPD that the expert/novice relationship is always good—that the child wanted to learn and the teacher is good at her task—cannot be sustained.

Data for this study indicated that most of the participants disengaged from learning because of poor experiences in their school years. For some, like Stalin, James and Peter, workplace experiences were so different from school experiences that they were encouraged to face literacy challenges and develop new levels of competence. The ZPDs described above were operationalised to meet an immediate need most often when an individual struck difficulty in carrying out a specific task (Dymock and Gerber, 1999: 11). It should be noted, however, that, in general, these ZPDs lacked any form of the formal assessment envisaged by Vygotsky (1978). The resultant learning was purposeful, meaningful and authentic because it focused on the types of “ill-structured problems, where the problem solver is faced with
multiple solutions that are contextually relative or even antithetical” (Lohman and Scheurman, 1992: 81), typical of post-adolescent functioning and frequently found in the workplace. In Robert’s case, for example, higher mental functioning, placed him at a level of collaborative performance when he, in discussion with Scott, decided “which set of competing or conflicting assumptions and procedures best fit the evidence at hand and [then] integrate[d] them into a single solution” (Lohman and Scheurman, 1992: 81). This type of literacy learning is assessed not by means of formal testing or examination but in the worker’s ability to do the job.

New Challenges and New Repertoires
In an era of multiskilling the expectation of workers’ “basic skills repertoire has expanded substantially so as to include skills such as adaptability, creative thinking, [and] group effectiveness” (Tuijnman and Van der Kamp, 1992: 12). Adaptability and creative thinking were skills that many of the participants utilised routinely prior to entering the fulltime workforce. George, for instance, despite an almost total lack of orthodox literacy skills, managed to find and hold jobs until he had earned enough money for the current project. Dasher found ways of avoiding reading tasks in apprenticeship classes and Robert attacked the reasoning behind exam questions rather than answering them directly. Yet none of the participants in this study utilised these skills to any degree on entry to the fulltime workforce. Some, like Dasher, found them difficult skills to harness at work. Others had opportunities to demonstrate their higher-level literacy and language skills in meeting workplace goals. In the main these opportunities arose owing to flexible approaches to work environments and leaning.

Flexible workplaces provided opportunities for new challenges and the development of new repertoires of skill, knowledge and concepts. Flexibility applied to both sites of learning and modes of learning, including assessment and recognition of learning.
Sites of Learning
Workers learned in a range of sites. Robert learned in the courtroom, in the office and out on local council worksites. Earlier in his career he learned at state wide annual conferences and at workplace union meetings (Robert, 2). John learned in small groups, consulting other workers on procedures and formats. When he was a kitchen installer Sam claimed that he learned most by striking out on his own where he was not reliant on others to solve problems for him (Sam, 1). Although as a detailer he relied heavily on a tutor for a few weeks he was demonstrating his preferential learning style within months. Charles also learned by tinkering on his own, particularly with respect of mechanical maintenance, thinking through problems for up to a week without consulting friends.

Modes of Learning
Adults learn in a range of ways that are generally different to school learning. All of the participants brought demonstrable degrees of practical knowledge from the workplace. This kind of knowledge, which “differentiates adult education from initial education” (Wagner, 1992: 120), assists workers to resolve novel situations. However, people who enter the workforce “with few educational credentials” (0nstenk, 1992: 144) are often threatened by talk of gaining qualifications. James, for example, at the beginning of the data collection process bitterly reflected on his inability to gain Level 4 certification because of his poor educational background (James, 1). Fourteen months later when he had demonstrated that his workplace experiences made it necessary for him “to recognize something new, to cope with uncertainty, to interpret and learn from experience” (0nstenk, 1992: 144), he had gained his Level 4 status (James, 5).

The very practical and contextualised nature of workplaces provided opportunities for learning by adults who did not gain optimum advantage at school. Billett argues that “knowledge secured in workplaces is likely to be different from that constructed in the schoolroom because the knowledge-constructing experiences are different” (Billett, 1999: 154). Research that identifies the difference between school and workplace learning “take our thinking forward by questioning the
commonplace that all literacy is alike, that reading is reading is reading” (Hull 2000: 649). Broadening notions of literacy to include concepts such as Multiliteracies (The New London Group, 2000) results in a sociocultural approach to language and literacy workplace competence such as those measured on the Framework (Cope and associates, 1995).

When workplaces provide structure that allow for a range of literacies workers become “aware of their own assumptions and thinking processes, developing approaches to explore new avenues, trying out those, seeing what happens and using the results as a basis for further experimentation” (Field, 1995: 157). Ray encouraged Stalin to function this way. One specific example was his approach to reducing Stalin’s fear of making errors. He explicitly asked Stalin to discuss his fear. He then asked him to observe the reaction of others on the shift when someone else made a mistake and compare it to when he made a mistake. By demonstrating that everybody on the shift made errors that were generally followed by light-hearted ribbing, Ray was able to teach Stalin new ways of thinking about himself and his relationship to the rest of the shift (Ray). Feeling more confident and self-assured, Stalin began to participate in other workplace activities, such as the TST. Importantly, he learnt to regard error making and correction as part of the learning process (Stalin, 5).

James, through interaction with his supervisors and the men on his shift, gained a much deeper appreciation of the possibilities of effective group dynamics. He usually worked in a team of three, sometimes teaching or supervising a novice. At the same time he organised rosters, mediated disputes and advocated in issues of safety. Mick allowed him to adapt his knowledge of barb machine operation to construct a thorough and highly successful oral instructional program. None of these opportunities were open to James in the old barb shop. He benefited from a workplace structure that encouraged him to seek out and meet new challenges and develop repertoires of literacy skills, including noting special job requests,
interpreting meeting minutes, taking questions to and answers from meetings and making presentations to groups of workers.

Although Peter set out to meet challenges on his own, he established the kind of workplace relationships with his supervisors (union and enterprise) that encouraged him to work creatively, adapting practices to suit particular sites and personnel. He demonstrated this when describing a training session that had a non-reader in it (Peter, 5: 362-381; see Appendix E). His actions in giving the man a (prearranged) dressing down for arriving late to class, forcing him (Peter) to do the man’s paperwork for him, showed a deep insight into both workplace interactions and the individual’s fear of revealing his literacy problems. His solution was creative, appropriate and made possible because of the flexible learning and working environment he was afforded.

The same degree of workplace flexibility was apparent in Charles’ recall of learning to weld. This was a skill that he had always wanted to learn and the opportunity arose at work where he was engaged in maintenance work. Since he had a good record of machinery maintenance no one questioned his capability when he started experimenting with welding. Qualified welders gave occasional prompts but otherwise Charles received no overt instruction. In other workplaces, Charles may have been required to undergo conventional vocational training. Apart from the fact that the small enterprises Charles worked in did not offer him this degree of training, it is doubtful that Charles would have taken up such opportunities because of the literacy required in formal coursework. Although there are arguments about the validity of the recognition of skills (Hull, 1997, 2000), it is important to note that the workplace, through its flexibility, afforded Charles the opportunity to learn a specific skill that enabled him to expand his repertoire of the kinds of “learning skills, practical competence, situational skills and transferable skills [that] have become more important in the modern compared with the traditional workplace” (Tuijnman and Van der Kamp, 1992: 12).
By examining the finer nuances of literacy practices observed at work (Hull, 2000: 650) this study has shown that it is possible to distinguish the role that different “communicative encounters” play in relation to social roles and specific settings. These encounters represent the everyday literacy acts in which workers engage. Peter and Robert were participants whose jobs entailed diverse and frequent communicative encounters. Their jobs necessitated code shifting as they met angry or distressed workers and within a short space of time were engaged with discussions with union officials or employer representatives. Robert had a further facet to his job that necessitated him using appropriate language to tell workers’ stories and argue their rights in a legal setting. They both demonstrated an ability to communicate routinely and understand the varying perspectives of other workers, to think laterally and to exercise critical judgements in roles that involved tensions and sometimes conflict.

On the other hand, while Dasher regularly risked his job by speaking out and complaining about onsite health and safety issues, he did not exercise critical judgements. He felt that literacy inadequacies (poor vocabulary, poor memory and poor writing skills) hampered him from using literacy to explain or negotiate difficult situations and noted that this resulted in shouting and abuse. Peter and Robert saw another perspective to literacy. They found that being compelled to engage in increasingly complex literacy tasks helped them to overcome the barrier, to climb over or smash through the *brick wall* (Robert, 2: 165) or to step *outside the circle* (Robert, 5: 177) of inadequate literacy skills that had previously determined their interpersonal relations.

As the participants in this study indicated many adults have poor opinions of schools and schooling and they make a conscious decision to refrain from further training once they enter the workforce. Yet the data also indicated that many of the participants chose to re-engage with training, sometimes reluctantly, a finding that concurs with other studies (Hart-Landsberg and Reder, 1997).
When work environments have the inherent flexibility to provide the type of structured learning Billet (2001b) refers to there is, according to the data, a high likelihood that workers will take up learning opportunities. Providing appropriate opportunities for workers to face new challenges enables them to gain new repertoires of social and practical literacy skills that match “the goals of local development” (Rogoff, 1991: 11) and also enhances personal growth and development.

**NEW COMMUNITIES OF LEARNING**
From a sociocultural perspective learners “actively construct their knowledge and skills on the basis of their prior—informal as well as formal—knowledge and through interaction with their environments” (De Corte, 1992: 95). For all its emphasis on history and culture Vygotsky's theoretical concept paid very little heed to the positive aspects of historical and cultural development, apart from commenting on the value of literacy opportunities abounding in the home. There remains an implication in Vygotsky's work, for example, that culture and history play little part in changing personality and developing logical thinking beyond the childhood years. Data from this study indicated that, for adults whose identities were formed by environmental factors in childhood, a different set of environmental factors were fundamental in directing, determining and reshaping their adult literacy encounters and endeavours.

**A total community: Families, Friends and Everyday Tasks**
Taylor and Dorsey-Gaines (1988: 200), investigating the literacy practices of families in a street in New York concluded that

… even when we speak of literacy as a social practice, we rarely look beyond the literacy event and the linguistic transactions that take place. So much of the process remains buried in the multiple layers of communication that are part of our contextual worlds.

The contextual worlds of the participants in the study reported in this thesis were not sharply divided between the work world and the other worlds. Apart from Robert, each individual had “networks of kin and friends” (Hull, 1997: 15) outside
work who routinely assisted them in work-based literacy tasks. It was, for instance, common knowledge that George, John, Charles and James took work-based texts (notices, reports, projects, job applications, leave forms) home for their spouses to read or write. Helen arranged Sam’s filing system although the filing was left up to him (Sam, 1). Peter’s wife managed family financial matters (Peter, 1), as did the wives of Charles, Sam and George. The network that Hull refers to was apparent in other everyday literacy tasks such as completing forms, writing messages on greeting cards and writing shopping lists.

Many of the networks surrounding and supporting adult learners work tacitly. Charles cannot recall how he learnt to read some road signs or even some of the specific vocabulary of engines as demonstrated in his final activity. He was able to learn tacitly “through immersion in communities of practice” (Gee, Hull and Lankshear, 1996: 158) the literacy practical skills to enable him to function effectively in the workplace, demonstrating the use of psychological tools and signs. His most potent illustration of this was welding. He became skilled at assessing angles, amps, the fluidity of molten flux and the stresses on particular metals, making him an accurate and fast welder. Further he was able to describe the process and explain how he would solve novel problems.

An important finding of this study is that consistent literacy engagement encouraged further engagement. That is, if the social systems, whether they are family, work, social or sporting clubs, are structured and organised so that there is a community of literacy engagement where workers with poor literacy are supported, literacy practices flourish. Participants demonstrated this axiom. Robert’s role demanded routine and complex literacy engagement. Moving on from his self-imposed isolation he found that all of his literacy skills, especially his expressive literacy, were improving. Peter worked in a community of practice where he was encouraged on all sides by his employer, his wife, his union and his colleagues to take up new challenges. Promotions meant reading, writing, comprehending and analysing increasingly complex materials. He found it very difficult to talk about
his achievements as a isolated individual. His data indicated someone who actively worked within a wide community of practice. Sam’s community of practice revolved around his family. As he advanced through the workforce this widened and broadened. He required overt teaching to learn the specific skills of detailing and this necessitated frankness about his spelling problems with his supervisor. Yet as George discovered, this was not detrimental. It helped Sam grow and be less fearful. Stalin was no longer meek and compliant. Encouraged by the community of learners in the reconditioning mill, he learned to communicate effectively, analyse information and construct and conduct debates.

James was an interesting participant. In terms of orthodox literacy he believed his progress was marginal at best. He had a wide network of people who provided help and assistance, enabling him to participate in community groups, particularly a rifle club. Friends such as William knew of James’ strengths for a long time. The skills he demonstrated in rifle shooting—hand-eye co-ordination, steadiness, consistency and the ability to concentrate to the total exclusion of all noises and distractions, focusing on the task at hand and reading the conditions—were transferable to his work environment. By demonstrating these skills and an ability to keep complex machines working James convinced his new supervisor, Mick, that he was a person with untapped capabilities. James achieved all the goals Mick set for him, even though they involved increasingly complex literacy forms. He encountered literacy more frequently, designing his own form of shorthand as a tool to assist him in these encounters. He grew in stature in the workplace and took this newfound self-esteem into his executive position at his rifle club. James epitomised learners who engage in a complex process, drawing on the culture, history and social practices of workplaces to develop competence in a range of literacies.

**AFFECTIVE GUIDANCE**

Another fundamental function of a total network of kin and friends is affective support and guidance. The vulnerability of adults with literacy difficulties has already been referred to in this chapter. While participants themselves attempted to
avoid situations that they believed might place them in an unfavourable position, such as Robert and Peter sitting formal exams, George distancing himself from any reading or Dasher refusing to engage in communication activities, various network members actively encouraged a refocusing of thoughts.

Two outstanding examples were evident in the data. First, Sam credits his wife, Helen, and her family with helping him to think more positively about himself. Over a period of at least seven years Helen encouraged Sam to find and engage in challenging activities. The first of these was corresponding when, as students, they lived in different cities. In her view correspondence was necessary because they could not afford long, frequent phone calls to maintain a relationship that she valued (Helen). In the time that they corresponded then and later when Sam was in Europe she never corrected his spelling errors. On the contrary by encouraging him to write she found that his spelling improved (Helen). Sam moved onto a more challenging career path knowing that Helen and her family were supporting him, seeing only benefits. He noted that his own family could see only problems and difficulties ahead (Sam, 5).

Although his parents were supportive of him, Stalin was scared when he transferred to the reconditioning shop. Ray went out of his way to encourage him to try new tasks and encountered opposition because Stalin believed he was capable only of sweeping floors. Over a period of years Ray coaxed and cajoled Stalin, always insisting that he could do more than he realised. Even though Ray claimed all the members of the shift helped, Stalin attributes his confidence, enhanced comprehension skills and improved self-esteem to Ray.

**Figures of influence**

One aspect of the data goes some way to qualifying what Billet terms “invitational qualities” (Billett, 20001b: 5) that he regards as necessary. By *invitational qualities* he means the characteristics of experts that allow them “to engage reluctant participants and enable them [the participants] to find meaning or participate in
ways that permit them to transform and/or contest existing values and practices or find meaning in participation” (Billett, 2001b: 5). Given the previous statement about the vulnerability of adults with literacy difficulties the invitational qualities of experts or mentors need to be explicitly stated.

A sociocultural perspective assumes that every learner brings a personal history of learning to each new learning experience. The notion is that successful, meaningful learning encounters will engender more. Thus new learning experiences are “profoundly influenced by this [prior] experience as well as the context in which we operate” (Miller and Boud, 1996: 3). This is the case for any of the participants in this study. Decisions to undertake training or engage in tasks that require new or more complex literacy competence were influenced by the recalled negative experience of prior learning.

Data from the current study indicated that overcoming the impact of earlier negative experiences was important. Invitational qualities (Billet, 2001b: 2) in the environment act to ameliorate the reluctance of adults to engage in new or more complex literacy competence. Invitational qualities, a term Billet (2001b) mentions but does not elaborate on, are the particular factors that induce adults to attempt a task that they regard as risky in terms of their identity.

The current study found evidence that isolates five invitational qualities of experts or mentors – they are patient; they allow time for many, many trials; they accept that mistakes will be made; they do not have a deficit perspective; and they recognise achievements from their novices. In addition, none of the figures of influence or mentors in this study had formal teaching qualifications. The next part of the chapter highlights instances of these five qualities as they applied to Sam, James, Stalin, Peter and Robert.
PATIENCE
Participants referred to the patience of their teachers. Stalin, for instance, was amazed by Ray’s patience. On Ray’s part this was frustrating because Stalin seemed to have forgotten one day what had been taught the previous day, a situation Stalin confirms. As long as Stalin demonstrated a willingness to learn and become an active member of the team, Ray was prepared to explain and demonstrate repetitively. In the same vein when one approach failed they reviewed their teaching, not the novice’s learning capabilities.

Helen was another who demonstrated patience with Sam’s fears about spelling. Despite the minimal impact of her efforts to teach spelling rules and patterns, she maintained the conviction that Sam should be encouraged to write (and thus engage with orthography) as a means of communication. She regarded this as a meaningful purpose for writing and believed it would eventually assist him in improving his literacy.

If anything, Robert’s attitude when he became an Industrial Officer was the anthesis of Stalin’s. He was confident, even brash, determined to succeed on his own. The job required the incumbent to consult widely, to review systematically and carefully a number of options, to negotiate patiently with a range of parties and to communicate effectively orally and in writing. Scott waited patiently for twelve months for Robert to align more closely his attitude to the job requirements. Both Scott and Robert noted that there was a noticeable improvement in the standard and quality of Robert’s written communication. He was also beginning to use effectively the psychological tools and signs around him—other more experienced staff, the solicitors and members of the court—in performing his role as an Industrial Officer.

Ambitious as he was Peter needed assistance when he became a Shop steward. John S., committed to guiding and assisting a dynamic colleague, offered that help via telephone at any time (John S.: 156). Neither John S, nor Peter had any idea how frequently Peter called, sometimes several times a day (John S.: 158). John S.
did not regard these calls as interruptions. He believes they were a way of tutoring Peter. He has also noted that the subject of Peter’s inquiries was less about procedural matters and more about policy and planning that indicated an advance in Peter’s thinking (John S.: 164).

Like Robert, James was brash and confident to the extent that it almost cost him his job.

After being rejected initially for the new barb shop, he was invited by Mick to see if he could overcome the problems of non-functioning machines. James succeeded where others had failed, clearly demonstrating his superior skill as an operator. As a result Mick gave him responsibilities and privileges not available to other workers. He was, for example, permitted to carry out maintenance that is normally the job of qualified tradesmen. Mick was patient about James’ work practices (James, 4) that could be deemed unsafe. As a supervisor he found it frustrating that a highly skilled worker and teacher who is very strict with his students’ safety should be so careless (Mick: 100). On the other hand he can see how influential James was on the shift and how his work on the safety committees demonstrates his concern for workplace safety.

A feature common to these figures of influence was their willingness to review their own approaches to enhance or vary the learning that was occurring. Helen, for example, did not regard Sam’s inability to comprehend spelling rules and patterns as they were taught to her as a failure. She believed that she had not found the right way for her to explain them. In the same vein Ray found different ways to explain the same procedure to Stalin and to have Stalin think about what he was learning.

**Time**

Time was a particularly important feature of and for, figures of influence. They found time to allocate to learners and they allowed each learner appropriate time, which could amount to weeks, months or years, to learn new ways of thinking. Time in terms of learning had three different foci. First is the time these people
gave to learners. Mick stressed that James was just one of fifty workers when he supervised. Yet he had time to talk of situations at work and approaches James might take. James valued these times, referring to them often. Ray regarded time spent tutoring Stalin as time well spent because he could see that Stalin was trying and, over time, was growing and changing. John S. and Helen were not miserly with the time that they were able to give to Peter and Sam respectively. Robert had access to Scott (and his office) to discuss current cases whenever he needed.

Second, unconstrained by the pressures of teaching to a fixed syllabus or preparing students for periodic examinations, these expert teachers allowed each learner to engage in part of the learning process—observation, trialling, reviewing, questioning—as often as necessary for mastery and then appropriation. Stalin recalled practising actions over and over. John S. stressed that he did not mind how many times he told Peter how to respond to industrial situations (John S.: 162). Helen constructed situations so that Sam practises his spelling skills frequently. In the interests of James’ understanding of new tasks and adding to his repertoire of literacy and communication skills Mick was happy to repeat his instructions to James. However, he was beginning to find that James needed fewer instructions and was beginning to contribute his ideas to Mick’s plans. Since Robert was not amenable to seeking help, Scott had not offered it. He was, however, prepared to engage in a problem solving process when Robert wanted to talk through a proposed approach to a specific case.

Third is the time framework these people considered was appropriate for learning. Scott was happy with the progress Robert made in twelve months. Mick and Helen saw the learning process as ongoing with no real time for completion, only continuous improvement. Ray noted that the time it took to learn a new skill was not nearly as important as the quality of the learning. John S. qualified this by stating that the complexity of the learning should increase over time (John S.: 163).
MISTAKES
These five participants were not exception to the generally expressed fear of all participants of making errors, believing that they reflected badly on themselves. Without exception all of their mentors understood and accepted that making mistakes, recognising and correcting them were part of the learning process. As outlined earlier Ray set out to teach Stalin overtly how normal it was to make errors.

PERSPECTIVE ON DEFICIT
Aligned with the notion of accepting that making mistakes was a normal and regular part of learning and everyday life was the way the figures of influence perceived the capabilities of the participants. Where the participants believed they had a deficit in literacy that determined much of their life course, their mentors took a different perspective. They did not believe in learning deficits, relying instead on their own judgements about learners rather than anecdotal and sometimes prejudicial advice. As Mick noted, because James engaged in cogent discussions about operations in the barb shop he found it difficult to believe that he did not have fluent reading and writing skills, nor that he could not undertake a range of tasks in the barb shop. Consequently, like Ray, John S. and Scott, he proceeded, expecting James (Stalin, Peter and Robert) to succeed. Helen was aware of Sam’s concerns but did not allow this to cloud her judgement of what he was capable of doing in regards to literacy.

From the participants’ perspective having someone who believed in their capacity to achieve without negative criticism was very important. Both James and Robert responded well to mentors who encouraged them to engage in discussions and problem solving, expecting that they had valuable contributions to make. Stalin cited Ray’s high expectations as the reason he strove for success. Peter and Sam also worked hard at demonstrating to John S. and Helen respectively that their faith in them was not misguided.
RECOGNISING ACHIEVEMENTS
Since they were not teaching in a formal education system, the mentors used different criterion for assessing progress. These criterions related directly to the task at hand, in the first instance and then to global progress. For example John S. saw very quickly that Peter was using the mediation and dispute resolution skills he was being taught appropriately. Then he noted how Peter’s appropriation of the type of thinking engendered by these skills was impacting on other aspects of performance (John S. 165). Mick noted how James’ skills as a teacher were mediated by his newly found skills as a mediator and negotiator. James also discovered that as his role became more complex and he took on more responsibility he needed to engage more frequently in literacy.

Ray chose to celebrate with Stalin each stage of progress which he nominated, even to simple steps like Stalin asking questions during tuition. To Ray this indicated that Stalin was involved in learning and trying to make it meaningful in terms of his prior learning. Robert’s gradual but steady involvement in the culture of the office was very rewarding for Scott. This stepping outside his personal ‘circle’ of fear and anger as Robert described it signalled the development of a range of higher order communication and literacy skills that were necessary for the type of work he did.

SUMMARY
This chapter has concluded the data analysis process. Drawing on the work of post-Vygotskian, sociocultural theorists and adult and lifelong learning research it identified and discussed the findings from this study.

With respect to the nine participants in this study it illustrated how sociocultural concepts such as the mediation of psychological tools and signs, the role of a socially regulated activity and variations of the ZPD function in the sphere of adult literacy learning on-the-job. It indicated that adults’ learning on-the-job is governed by various factors, including issues of change and continuity, flexibility...
in workplaces and learning settings and the establishment of new communities of learning.

Change and continuity refer to the effects that stability of workplace engagement have in creating strong workplace identities. Paradoxically, it refers also to how the type of transitional change encountered in the contemporary workplace influence workers to engage in literacy acquisition activities.

Flexibility in workplace and learning settings drew heavily on the notion of “workplace affordances” (Billett, 2001b), describing the ways that workplaces construct guided learning encounters and opportunities. The data demonstrated that workplace learning opportunities result in enhanced literacy acquisition opportunities only when learning to mastery level was authentic and routinely applicable and able to be appropriated to solve novel problems.

New communities of learning seek to refocus the notion of communities of learners by examining who participates in the learning process. The data showed that people and events within and beyond the workplace influence workplace learning, particularly of a generic skill like literacy. For one participant it demonstrated that the major influence for acquiring or enhancing literacy skills at work could be outside the workplace.

Of all the factors that influenced literacy acquisition at work the qualities of these figures of influence, according to the data, were the most powerful. This led the researcher to assert the notion that when all the above factors and a figure of influence come together powerful literacy acquisition occurred. As demonstrated by the data these occasions were not normal or everyday. They are special or unique periods that have profound implications for adults with poor literacy skills in the contemporary workplace, as demonstrated by the data.
The term *unique periods* has two connotations. First, it refers to the time that these factors coincide—the instant when an expert, a teacher or a trainer with the qualities outlined above recognises an individual influenced by factors of change and continuity in a flexible learning setting and supported by the network of a total learning community. Second, it refers to the intersection over time between the teacher, who may be a mentor or figure of influence and the learner. It is the ongoing relationship that develops that serves to drive the learning process.

Participants in this study represent a group who have rarely come in contact with a figure of influence, although some or all of the other factors were in place. For those who experience *unique periods* one had only been operational for a short period, others had been in place for long periods of time and others, because of changes in workplace circumstances, had ceased. In the manner of a ZPD *unique periods* are ever changing as learning promotes progression into new modes of thinking and acting, ceasing to exist only when the relationship ceases.

The final chapter of this study reflects on the research question, discusses implications for the findings and suggests avenues of research that might follow on from the findings.
CHAPTER 12

MOVING ON

INTRODUCTION
The question informing this study was: what are the issues of identity and social interaction that allow men who self-report literacy difficulties to access and engage in workplace literacies? The data presented nine male participants who perceived that they had some degree of literacy difficulty when they commenced work. Some elements of the popular press and some academics suggest that those with the greatest inadequacy in orthodox literacy skills are most commonly represented in prisons and as welfare recipients with poor employment records (Dorrance and Hughes, 1996; McGuinness, 1999). This was not evident in the participants whose experiences were reported in this thesis. Most have long histories of stable employment, own their own homes, have never been convicted or jailed and live in warm family environments. The data demonstrated that all of the nine participants enhanced literacy development as a result of their workplace experiences and five of those could be considered to have made exceptional progress.

This chapter has two purposes. First it sums up the study, discussing the findings, considering implications that arise from it and suggesting avenues for future research. Then it returns to the construction and conduct of the study, explaining how possible shortcomings were dealt with.

DISCUSSION
Questions and Answers
DO ADULTS WHO SELF-REPORT LITERACY DIFFICULTIES ENGAGE IN LITERACY IN THE WORKPLACE?

Using the Framework (Cope and associates, 1995) as an analysis tool this study identified the aspects and stages of literacy competence that the nine men achieved prior to commencing work and while they were employed in the jobs they chose to focus on for data collection purposes. For example, a participant like Stalin who had worked for the one employer for many years chose to speak about five years that had been significant towards the end of his employment. Others like Sam who
changed jobs during the data collection period spoke about the job they were undertaking at the date of interview.

Analysis of the data highlighted two features of the literacy practices the men engaged in at work. First, all the men gained competence in the mechanical skills required to do their jobs. Skills in this category included operating a range of heavy machines, using specialised computer programs, learning and applying new knowledge to innovative products and procedures, driving heavy vehicles such as trucks, cranes and forklifts and reading and responding to texts written from a legal perspective. Competence in the use of these physical tools transformed to higher-level literacy competence when workers were required to read, write or teach about the physical tools that were part of their everyday working lives. There was evidence of different stages of literacy competence when using tools for explanation or exposition. John, for example, functioned at an independent stage of competence when he used other materials, such as manuals, to help him write non-compliance reports about forklifts. Robert was at an independent stage of competence when he chose to discuss with Scott cases he was preparing for presentation in the Industrial Commission. James on the other hand demonstrated a collaborative stage of literacy competence in regard to technology because he could not only teach the use of the barb machine but also understand how learners might find the machine daunting or challenging.

From a functional-economic perspective, recognising James’ ability to teach as a high level literacy skill at a collaborative stage may be contested. This research does not claim that James or any of the men achieved collaborative stages of competence through reading and writing. For workers like James, George, Stalin, John, Charles, Sam and Dasher the presence or absence of orthodox literacy skills was secondary to their ability to do their jobs.

This point links to the second feature of the literacy practices the men engaged in. Large enterprises such as Firebrand had systematic structures in place to account
for workers who struggled with literacy (notably having minutes and memos read aloud). There was evidence that workers found these useful, enabling greater participation in workplace decision making. However, it was the workplace affordance opportunities (Billett, 2001b) in combination with figures of influence that were the key to developing literacy skills. Essentially, in every workplace where opportunities were available, participants who saw achievement of the tasks these opportunities offered as a challenge developed a greater repertoire of literacy competence than other participants.

The short answer to the question at the beginning of this section is yes. Analysis of the data indicated that workers accepted the challenge to attempt tasks that challenged their literacy. This occurred under specific conditions that represented the workplace as a site of situated learning. Taking a sociocultural perspective identified the ways and the reasons some men achieved greater competence than others in the study.

**Do Sociocultural Factors Influence Literacy Engagement in the Workplace?**

The sociocultural principles or concepts that were a focus of this study highlighted the value and importance of social interaction, the mediational qualities of psychological tools and signs and the ZPD. Just as these principles are linked and interwoven with other concepts such as mastery, internalisation and appropriation in sociocultural theory, the study found they were interdependent in the workplace.

**Social Interaction**

Social interaction—the periods of time when ideas are shared, refined and exchanged, personalities developed and identities forged—was shown to be important in the workplace. It is worth considering that Stalin was timid and subservient until he worked with Ray; Sam was happy to work alone until he was appointed a detailer in a busy office where spelling errors became public knowledge; James had a reputation for all the wrong reasons until his skill was
recognised; Robert struggled in his role of Industrial Officer until he began discussing problem cases with Scott; and George preferred not to tip his hand and maintained contact with a relatively small work group for most of the time he worked at Firebrand. When workers had opportunities to demonstrate skills and knowledge, discuss ideas, consider other options and negotiate performance strategies they developed literacy competence. In the case of Stalin social interaction became a driver of workplace activity.

The importance of social interaction was that it allowed participants to be recognised for skill and ability that they were able to demonstrate through the use of orthodox literacy. Mick claimed that recognition and responsibility were the factors that turned James from a destructive to a constructive employee. James regarded the realisation on the company’s part that he was a skilled and knowledgeable operator of a barb machine as a significant moment in his work history. Sam’s employer did not know that spelling was a concern for Sam. It became less of a concern when his fellow installers complimented him for the standard and quality of his work. When participants’ social interaction resulted in taking on new tasks, using new forms of thinking or moving in new and different social groups in the workplace, their identity as workers changed or was enhanced.

Inherent in positive social interactions was the quality and influence of mentors. The data demonstrated that, when workers were subjected to poor examples of teaching social interaction, concepts of identity and quality of work suffer. James and Stalin prior to coming in contact with Mick and Ray respectively and Dasher are evidence of this.

The concept of learning taking place as a function of socially and culturally determined activity was also evident in many cases. As contested sites, workplaces went some way to determining which participants were given opportunities to acquire or enhance literacy skills. Further, those participants who profited most in
terms of literacy were those whose on-the-job tasks involved routine and regular engagement with a range of oral and written literacies.

**Psychological Tools and Signs**

This thesis analysed and reported the transmission and mediation of psychological tools and signs from two different perspectives. First, it explored how the men transformed the practical working skills they brought in to work settings or learned at work into higher level thinking skills. James exemplified this perspective. He commenced at Firebrand with some knowledge and no fear of machines or engines. Over the years he built on these skills to become an expert operator of barbed wire making machines. When James transferred to the new barb shop he used his knowledge to teach other employees to operate the machines, in the process using that knowledge as a tool to alter his thinking processes.

The second perspective taken on the transmission and mediation of psychological tools and signs was the use of language (oral and print texts). Here, Hull’s (2000) metacategories for literacy function were used to analyse the purposes of literate social interactions at work. Dasher and Peter, as Shop stewards, for example used speech to resist authority with two opposite outcomes. Dasher’s angry shouting matches were destructive, positioning him poorly in the eyes of employer and union representatives. Peter’s more considered approach enabled him to negotiate with employers and gain credence with his trade union.

Based on the analysis of data reported in this study the mediating value of tools and signs was apparent. This concept was explored from two different perspectives—the transmission of physical work tools to psychological tools and the ways that speech and other literate acts became tools for particular purposes. The study found, as sociocultural theory suggests, that tools and signs themselves become increasingly less concrete and more conceptual as learning proceeded towards higher mental functioning.
The ZPD

ZPDs were evident in the data. However, as indicated in recent research (Chaiklin, 2003; Lantolf, 2000; Valsiner, 2003) they did not exactly match Vygotsky's conception and varied among participants and work environments. The ZPDs demonstrated by participants in this study had some quite distinct features that support the notion that many interpretations of Vygotsky's (1978) thinking may be misleading (Valsiner, 2003). Analysing the reasons for this variation illuminated the difficulty of simplistic readings of this concept.

ZPDs and Learning on the Job

The variations that occurred in both performance and utilisation of the ZPD suggested the influence of human agency on the part of either one or both individuals involved. While this may be considered problematic, this study proposes the evidence as a route for rethinking the implementation of ZPDs. The issues discussed here focus on the role of those involved in a ZPD, joint problem solving and asks who constructs ZPDs for adults.

The Expert/Novice Relationship

According to Vygotsky (1978a) the starting point of any ZPD is what a novice knows or can achieve unassisted. Vygotsky did not demonstrate how skilled novices utilise their repertoire of skills and knowledge to solve complex, multidisciplinary problem, such as those encountered in the workplace. Valsiner (2003) argues that the only interpretation that can be drawn is that the novice’s skills and knowledge are always less well developed than the expert’s. Two cases in the current study that exemplify a different perspective are Sam and James.

Sam took on the position of detailer after a period as a kitchen installer. While he was scaffolded to learn the use of specific computer programs, his ZPD was to
learn the broad range of communication skills that he required. The data indicated, however, that in at least one of those areas he was more highly skilled than other detailers in the company. Specifically this was knowledge of how to install a kitchen. As Peter S. noted his written instructions were detailed and precise because he brought background skills and knowledge to his role that were superior to his tutor’s.

James was asked to undertake a task he had never done before—sort out problems with the commissioning of the new barb mill, initially for a limited period. During this time Mick, his new supervisor, asked him to undertake other tasks that scared but challenged James. In effect he was the expert in terms of operating knowledge of the barb machine, giving him some status in the new mill. By achieving the extra tasks that Mick set, James showed that he was able to turn his destructive tendencies around.

The two examples provided here substantiate Vygotsky’s (1978) claim and Chaiklin’s (2003) interpretation that a ZPD should be constructed to develop higher mental functioning rather than teaching specific skills. The outcome for both Sam and James was new ways of thinking about themselves and others who work with them. The expertise that they took with them into a ZPD enabled them to focus on other areas of literacy competence.

Erickson (1996) argues that joint problem solving depends on an interchange of ideas utilising speech acts. However, the Vygotskian conception of this process within a ZPD always reduces the novice to a lesser cognitive level (Valsiner, 2003), resulting in more of a master/slave relationship. This was not evident from the data reported in this study. James, Robert, George and Stalin, for example, were expected to contribute to problem solving tasks, eventually demonstrating strategies and skills at least equivalent to others in the workplace. In Stalin’s case, his representations on the TST eventually exceeded Ray’s expectations. That is, he performed beyond the ZPD constructed for him.
This study demonstrated that the operation and value of a ZPD were influenced directly by three features of personal agency. First was the repertoire of knowledge and skills which participants brought to joint problem solving. This was of particular importance for adults who applied a repertoire of strategies and skills to routine problem solving such as packing out the wall behind a kitchen cupboard (Sam, 5) or packing a milk crate (Scribner, 1984). The way that novices used these skills in solving novel, complex problems impacted on the operation of the ZPD. For example, Stalin who had no mechanical knowledge when he commenced at Firebrand was fearful and tentative when expected to operate machines independently. Peter, on the other hand, was convinced of his capabilities and keen to learn set challenges for himself. Just as important is the degree to which experts allow novices to demonstrate these skills. This was evident in the way Ray encouraged Stalin to join the TST compared to the lack of encouragement Dasher received.

Second, the expectation of success each participant had when functioning in a ZPD indicated personal agency. If an expert expects a novice to succeed then the social and cultural mechanisms should exist for this to eventuate. For eight of the participants in this study expert others supported their development. Alternatively, the environment was reorganised by experts so that learners could achieve success. Charles, for example, did not learn to weld because a co-worker stood at his elbow. On the contrary, his colleagues were aware of his mechanical skill and occasionally proffered advice, knowing that Charles would learn the necessary skills in the manner he preferred – on his own. Only in Dasher’s case were these influences largely absent and he failed to develop a repertoire of new literacy skills.

Finally, the possibility of role reversal within a ZPD—that is, the novice becoming the expert—needs to be considered. Three examples from the data illustrating this were Stalin becoming a better operative at TST meetings than Ray, James dealing more expeditiously with industrial and personal problems on the shift than Mick.
and Charles, on two occasions, working faster, more neatly and more accurately than his teachers at the abattoir.

The data analysed in this study supported and illustrated recent criticisms of interpretations of the ZPD. By highlighting the importance of human agency in ZPDs it argued for a collaborative process between co-constructors determining the roles rather than an expert/novice relationship. It also demonstrated how social interaction provided the conditions for identifying maturing functions and the extent to which they were developed within ZPDs.

The functional-economic position on literacy links orthodox literacy to intelligence—the notion that the ability to engage with print text is indicative of intelligence or higher mental functioning is perpetuated in policy (Castleton, 2002; Howard, 1999; McKenna, 1999). Vygotsky linked literacy with “intellectual development” (Vygotsky, 1933, in van der Veer and Valsiner, 1991: 338), noting from his empirical studies that at school illiterate children in a class of literate children would gain little benefit because of their lack of intellectual ability. The conclusion drawn from this is that illiteracy will always inhibit intellectual and cognitive performance, presumably into the adult years. Studies of adults with Dyslexia or literacy difficulties (Gerber and Reiff, 1991; Hellendoorn and Ruijssenaars, 2000; McNulty, 2003) substantiate this position. Evidence from the current study is at odds with this position.

Use of the Framework (Cope and associates, 1995) as a tool of analysis in the study reported in this thesis enabled a more complex explanation to emerge. James, in particular, demonstrated that he was capable of the types of complex reasoning, planning, deductive and abstract thinking and concept formation that typify higher mental functioning, even though he functioned almost entirely within an oral tradition. Importantly, there was evidence that James did not demonstrate these skills until he entered the workforce, specifically the new barb shop. Charles, on
the other hand, who demonstrated similar capabilities, seems to have developed these whilst he was left to his own devices at school.

Erickson claims that post-Vygotskian scholars, in reviewing the notion of the ZPD, have “emphasized the importance of social interaction in learning” (Erickson, 1996: 30). His thesis is that rather than focus on the cognitive or linguistic changes that occur more attention should be paid to “the processes of interaction through which such changes are seen as being stimulated” (Erickson, 1996: 30). By using the Framework (Cope and associates, 1995) and the metacategories of literate functioning (Hull, 2000) data reported in this thesis were analysed with a focus on the range of and stimuli for literate interactions. Analysis indicated that the cognitive changes that were evident occurred only because of social interaction involving learners and figures of influence.

This finding creates a tension with other studies of adults with Dyslexia or literacy problems (Gerber and Reiff, 1991; Hellendoorn and Ruijssenaars, 2000; McNulty, 2003) which conclude that literacy impacts equally on every area of life and learning. The Framework (Cope and associates, 1995) establishes a range of aspects of literacy competence, allowing an examination of an individual’s literacy performance from six different perspectives. This provided the current study with the scope to examine the types of literacy individuals excel or struggle in.

For adults with literacy difficulties specific literacy strategies systematically taught were useful only when the learning related directly to workplace activities. Several participants attended some form of literacy or even adult education classes. Yet only those who subsequently found themselves engaged in on-the-job tasks with routine and regular literacy components made progress towards higher mental functioning. That is, the mastery of a range of orthodox literacy scientific concepts in decontextualised classroom settings was insufficient for realistic literacy acquisition in adulthood. Only the further step of appropriation of scientific
concepts or academic learning “aids the development of higher mental functioning” (Wertsch, 1994: 103).

**ADULT AND LIFELONG LEARNING**

In the Fordist era it was an accepted notion that literacy was homogeneous and fixed and the reading, writing, spelling and penmanship (because these were the recognised constituents of literacy) taught at school would last a lifetime. Since then concepts of learning throughout the lifespan have emerged as a result of changed patterns of employment, more diverse work practices and advances in technology requiring new skills and new knowledge (Pogson and Tennant, 1995). Gaining full time employment is now highly competitive and multiskilling demands more physical and cognitive ability than ever before (Hull, 2000). Workers need practical intelligence and experience in appropriation with academic skills.

The kinds of higher level thinking required in the contemporary workplace depend on speech as well as iconographic, orthographic and digital forms of literacy (The New London Group, 2000). For adults with literacy, speech is a useful tool for mediating activity in the workplace at a basal level. However, the data indicated that workers need a repertoire of literacy modes to engage in the complexity of contemporary workplaces. Workers like James were able to utilise mnemotechnic approaches as “a … precursor of future writing” (Vygotsky, 1978: 115).

**IMPLICATIONS**

**Sociocultural Theory**

Vygotsky studied the development of cognitive skills in children. He investigated adults with debilitating mental illness and children with sensory and intellectual impairments and learning difficulties to discover how dysfunctional cognition affected thinking. He made claims about changes in thinking patterns and processes in the adult. He did not investigate or even consider the notion of learning in the adult years.
Can any of his thinking be relevant to the acquisition of literacy on-the-job in the early 21st century? As demonstrated some of his theoretical notions, such as the mediation of cultural tools and signs, are applicable. Others, such as the ZPD, need to be reconsidered in the light of the findings of this study. And then others, specifically the notion of teaching scientific concepts in decontextualised settings, are not applicable to adult learners.

Vygotsky has relevance for research into adult learning. First, the value he placed on learning leading development breaks away from the lock-step notions of stages of development, such as that proposed by Piaget. That is, Vygotsky advocated development as a consequence of learning while Piaget proposed that children need to attain developmental stages before new learning can occur. When cognitive development is not linked absolutely to chronological age, it is possible to conceive of growth and change occurring for reasons other than biological development. Given the focus sociocultural theory places on the influence of history, culture and social interaction, cognitive growth can then occur, as the research indicates, throughout the lifespan.

**Adult Literacy Development**

This thesis concludes that the current practice of assigning workers to literacy classes away from the worksite is not sufficient for permanent literacy gains. Billett (2001, 2002) argues that workplaces of affordance need to develop a curriculum of guided learning for authentic workplace learning. This study demonstrated that although guided learning is satisfactory for the mastery of skills such as operating machines and inputting data it is insufficient for the higher mental functioning that is inherent in literacy development.

Data analysis indicated that literacy development is dependent on engagement in authentic, realistic tasks within a *unique period*. For literacy learning to be effective it needs to be meaningful and relevant. The data demonstrated that those participants who engaged in workplace activities beyond their basic job scope or who took up opportunities to take new directions at work that involved more
complex literacy forms and had appropriate mentoring made the most progress in terms of literacy.

This is not to say that workplace literacy classes serve no purpose. Several participants noted how these classes were an initial driving force for them. However, to be more effective these classes need not only to focus on a worker’s current needs but also to prepare the worker for definite opportunities for authentic literacy engagement, such as workplace committees, planning groups or advanced training.

**School Education**

All the participants carried with them memories of school. From the data reported there was no way of knowing how accurate those memories were. What was important was the significance every participant placed on them. Many were generous in their consideration of school, noting that their own behaviour was often inappropriate and that teachers in their era did not understand the frustrations of a child who could not make sense of the reading-writing process. In terms of individual teachers they remembered clearly and condemned teachers who humiliated them. On the other hand some recalled the names of teachers who were supportive and helpful—the teachers who could see beyond the frustration and poor behaviour.

These memories raise several points that are relevant to schools and teaching today. At least ten to twenty percent of all students experience learning difficulties (Louden, 2000). This means that every teacher will encounter learners struggling to make sense of literacy and/or numeracy. It is no longer sufficient for teachers and education systems not to have some basic information about how learning difficulties present, nor is it acceptable that resources are not available to assist these students to reach their potential.

All levels of schooling need to introduce teaching approaches that are broad and inclusive of both learning styles and achievements. Approaches should include
those that take a flexible approach to the acquisition of truly authentic literacy
skills, such as those illustrated in Productive Pedagogies. In addition, school
curriculum should promote skills other than orthodox literacy. In this respect the
Framework (Cope and associates, 1995) offers a structure for expanding concepts
of literacy practice.

Avenues for Future Research
This study focused on a group not often researched —adults with literacy
difficulties and their on-the-job responses to the growing literacy demands of the
workplace. It linked competence development as mapped on the Framework (Cope
and associates, 1995) and sociocultural concepts. This is a significant area for
future development. Generalised theoretical proposals as a result of this linkage
can be made only on the basis of large scale, systematically developed data.
However, the development of such data would be a valuable contribution to the
field of adult and workplace learning.

In addition, this study has answered questions but posed even more. In the light of
the importance of the particular elements that constitute unique periods the question
of creating these times by placing trained mentors or tutors into the sorts of
contextual situations that have been demonstrated to optimise on-the-job learning is
exciting.

The first question arising from this study that may be answered by future research
is: can individuals be trained to perform the role of a mentor in unique periods?
The difficulty in achieving this revolves around issues of personality matching. For
instance while Ray was good for Stalin and Mick was good for James, would the
situation have been different if they had been cross-matched? This raises further
questions. First, is it personality or practical experience (because none of these
mentors had specific training), or a combination of the two, that mentors bring to
the task of mentoring? Second, do train-the-trainer courses teach effective
mentoring? The data indicated, for example, that, while the trainer who taught
Charles’ occupational hygiene course was able to make consideration for poor literacy, there was no evidence that he knew how to mentor Charles to develop any literacy skills.

The finding that participants engaged in purposeful and meaningful authentic work-based literacy tasks gained more literacy competence across a range of modalities raised another question focusing on middle years students with learning difficulties. How can purposeful and meaningful authentic tasks focusing on students at risk that result in literacy engagement be incorporated into school education practices? Further, how can alternative modes of literacy learning be incorporated and assessed while at the same time fulfilling curriculum and national literacy benchmarking criteria?

In concluding this study attention turns to the construction and conduct of the study. As a qualitative study it relied largely on a range of people who were presumed to act in good faith. These concluding remarks consider shortcomings that may arise under these conditions and how they were managed in the study.

**Possible Shortcomings of Study**
This project, using a multiple case study approach, depended heavily on many individuals. Beyond the twenty participants whose interviews were audio taped, there were the researcher, six gatekeepers, the transcription typist and the close families of the primary participants. Possible shortcomings of this study are related to these people.

**Effects of Gatekeepers**
Sometimes in conducting research there is a need to access data or respondents that or who are not readily available. One way of achieving this is to gain access through gatekeepers. Owing to the personal and sensitive criterion of the participants in this study gatekeepers have been used in this study in both the initial recruitment of primary participants and the later snowballing of secondary participants.
There are inherent risks as well as advantages in using gatekeepers. First, “local-level gatekeepers might block access” (Lincoln and Guba, 1985: 254) to sites or respondents, as occurred several times during the recruitment process for this study. In this study, prospective gatekeepers who seemed uninterested or hostile or who were unaware of the type of respondent (that is, they knew of no one matching the criteria) were abandoned. Individuals who believed they could act as gatekeepers demonstrated that they were interested and happy to serve as an initial link between the researcher and the participant. That entailed passing on the prospective participant’s contact details, when authorised, to the researcher.

The second and more important, risk of using gatekeepers is that the researcher has to rely on their willingness to maintain confidentiality. In this study none of the gatekeepers actually knew which prospective participants had consented to take part in the study. Apart from Joan, I did not make contact with any of the gatekeepers after they had provided the names and telephone numbers of possible participants. I contacted Joan once during the data collection period to gain a pseudonym since her name was cropping up regularly. We did not discuss the research or the participants. None of the other gatekeepers has made any further contact with me. Throughout the data collection and analysis period none of the primary participants gave any indication that gatekeepers had infringed confidentiality.

An advantage of using gatekeepers who are members of or have “insider status with a cultural group” (Creswell, 1998: 117) is that they can provide access to valuable data sources. This was the case in recruiting Charles, John, George, James, Sam and Stalin. I asked each primary participant to act as a gatekeeper in order to recruit secondary participants. When the purpose of the study was explained to primary participants at our initial meeting they were forewarned that in the second phase of data collection they would be asked to invite up to two other people who were familiar with their difficulty to be interviewed. The difficulty for a study,
such as this one, that depends on gatekeepers is that some participants may consider that nobody (whom they trust) is aware of their literacy concerns (making the participant vulnerable) and, as was the case with one participant, they may prefer not to nominate a secondary participant.

Some participants chose to tell the person they invited to participate in the study of their concerns about literacy. On several occasions I was told that the secondary participant’s first knowledge of the literacy issue was when the primary participant asked them to agree to an interview.

**The Heuristic Nature of the Interview Questions**

Each interview elicited increasing numbers of data that reflect a sociocultural perspective on literacy in the workplace, in order to answer the research question. At the same time the particular focus of the interviews provided a structure for primary participants to reflect on the emergence and development of their literacy practices. Many of them commented that the interviews had helped them to reassess their skill level. Member checking, by means of forwarding the previous interview prior to the next interview, allowed them to reflect on their responses and practices. All the primary participants chose to keep all their transcripts and many have reread (or have had them reread) since the interviews ceased because they believe the questions helped them illuminate many of their own concerns.

**Lack of Objective Measure of Literacy Skills**

Often studies of skills, such as literacy, commence with the collection of baseline data (Fink, 1998; Gerber and Reiff, 1991; Goldberg and associates, 2003; Hellendoorn and Ruijssenaars, 2000; McNulty, 2003). In this instance this was unnecessary. Since literacy instruction was not part of the proposal there was no need to look for or expect a change in literacy skills over the course of the project. Further a salient feature of participant self-nomination was that each participant believed that his literacy was substandard when he started work. The researcher had, in effect to accept this and move on. Finally, many adults do not have pleasant memories of school and the assessment regime associated with it.
Assessing their skill in an area they felt they knew very well would have recalled old, unhappy memories. At least five of the primary participants indicated that they would not have participated in the research if a literacy test were administered.
**POST SCRIPT**

It is now four years since the nine primary participants were last interviewed. I was interested to discover their work and life experience in the intervening years and contacted them all by phone in July 2005. Their comments follow:

Charles still works at the same abattoir. The staff training that commenced during the data collection process has continued and Charles is now a qualified Level 2 meat processor. He is quite confident that when level 3 training is available he will gain that qualification.

James continues to work at Firebrand. He has advance to Level 5 certification. He now is a senior trainer and is responsible for preparing and maintaining the paperwork on trainees and signs them off when they have gained appropriate skills on the barb machine. He has resigned from the safety committee, believing that others should have the opportunity to contribute to the safety culture at work. He is still involved with his rifle club. James’ supervisor, Mick, has retired.

After a long period of unemployment Stalin eventually found part time work with a company that supplies mining engineering equipment. Originally four hours per day this extended to six hours and then full time. In this position he has been able to use the skills he learnt at Firebrand, particularly forklift driving. When I spoke to him he was preparing to go on a long holiday to Canada.

Robert also still works for the same union although there have been some changes. He has married and he and his wife have

... two beautiful daughters [who] have enlightened my life to no end.

He is still an Industrial Officer still negotiating Awards, Unfair Dismissals etc(all the mundane things in life). His organisation has amalgamated with another Union and this has opened up an entirely new field [since they] now also deal with Private Sector employers [who] are usually represented by solicitors and barristers. The
position [of Industrial Officer] gets more legalistic every day. This has led to many challenges.

... I have had to be able to respond in a variety [of] situations in areas that are new and different from Local Government ... To be effective I have had to ensure that the other team players are doing their jobs. So much so that we now have developed a range of checklists and processes that each individual must now follow before I get involved.

The Federal changes to Industrial Laws have also played a significant role in what I am doing now. I have been presenting power point presentations to different groups about the impact the federal changes will have on them.

I was put nominated by the General Secretary for a position as Commissioner in the State Industrial Relations Commission. Unfortunately the Government did not want me! Maybe this was fortunate as we don’t know how long there is going to be a state system. All the same it gave me a buzz anyway!

Extract of email (26 July 2005)

John has finished most of the renovations on his house. For a short period he worked for the state railways but for the last year he has been undertaking TAFE training in small motor maintenance. He likes the practicality of the course and finds that he can pass the examinations because they are mainly oral presentations or a multiple choice format. During the semester break a friend asked him to look at a machine that was not working. John was really pleased that he was able to restore it. He plans to start a small business when he completes the course. John continues to enjoy reading.

Following some major health problems George has now retired happily. He continues to follow and support his grandchildren in as they progress through the ranks of BMX racing. A major pleasure for him is watching this new generation succeed at school, exhibiting none of the literacy problems he experienced.
Like Stalin, Dasher has experienced long periods of unemployment. He has now found a good job as a maintenance plumber. He enjoys the work which is outside the construction industry. He commented that his new employer is more safety conscious than any construction company he worked for. His enthusiasm for the trade union has dissipated, spurred by a perception of internal wrangling and little real concern for the worker on the job.

At home Dasher continues to surf the web although it is not easy. His son is progressing well through school with no indication of any literacy difficulties.

Sam’s plans to continue studying did not eventuate although he did make enquiries. For a short time he returned to installing kitchens with a new company. He is now a senior technical detailer at that company, supervising a staff of two. Initially the company had no computing systems and Sam has overseen the installation and operation of a more technically complex system than he used previously. Although this was challenging and involved specialised training, Sam enjoys the challenge. He finds the team atmosphere stimulating and is working actively to change the culture of the factory. Essentially, this results from the capabilities of the new technology that enables the factory to cut highly complex jobs in a reduced timeframe.

One of the new tasks that Sam has is to negotiate and price jobs for other firms who want to take advantage of the cutting edge technology at Sam’s company. He finds this a very rewarding aspect of his work.

At home Sam’s son who was a baby when I last saw him will be starting school soon. He appears to be gifted and talented. In the intervening years he has been joined by twin sisters who keep Sam and Helen busy.

Peter
continued to pursue his studies and has completed a certificate IV in workplace training and assessing and has trained building site employees in occupational health and safety. He has completed a Diploma in Occupational Health and Safety, his two lowest grades were distinctions, and he is currently enrolled in a Post Graduate Degree in Risk Management (due to commence in 2006).

He has a senior position in a large public body with employee health and safety his main focus, he views this as his true vocation.

"It just took me a while to find what I'm good at."

Text of email (24 July 2005)
APPENDICES
APPENDIX A – ETHICS DOCUMENTATION
The University of Newcastle HUMAN RESEARCH ETHICS COMMITTEE

CERTIFICATE OF APPROVAL FOR A RESEARCH PROJECT INVOLVING HUMANS

<table>
<thead>
<tr>
<th>Applicant</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Chief Investigator Project Supervisor:</td>
<td>Dr J G Ladwig</td>
<td></td>
</tr>
<tr>
<td>(First named in application)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Other Investigators: | Ms M F Kell |
| Project Title: | Investigating the literacy acquisition of low literate adult workers |

In approving this project, the Human Research Ethics Committee (HREC) is of the opinion that the project complies with the provisions contained in the National-Statement on Ethical Conduct in Research Involving Humans, 1999 and the requirements within this University relating to human research.

Details of Approval

| HREC Approval No: H-878-0400 | Date of Approval: 12 April 2000 |
| Approval valid for: 3 years | Progress reports owing: Annually |

Comments or conditions:

Approved with comments.

The Committee confirmed that if ever there is a need to exclude someone from the study, it must be done in a way that does not identify or imply that a perceived intellectual impairment is the cause.

Signed: Ms S J O'Connor

Secretary to the Committee
Learning by Experience – Learning at Work


CONSENT FORM

This consent form seeks your written consent to be interviewed as part of Ms Marilyn Kell’s PhD research study ‘Learning by experience - Learning at work: How the literacy acquisition of workers can inform literacy programs for the young unemployed’, being conducted under the supervision of Dr James Ladwig.

Before giving consent please note the information regarding the collection and use of interview data provided on the study information sheet for interview participants. If you agree and sign the consent form below, please return it the research team either in person, or to:

Mrs Marilyn Kell
(address)

Statement of Consent

I agree to participate in the ‘Learning by experience - Learning at work: How the literacy acquisition of workers can inform literacy programs for the young unemployed’ research project and give my consent freely. I understand that the project/study will be carried out as described in the Information statement a copy of which I have retained. I also realise that I can withdraw from the study at any time and do not have to give any reasons for withdrawing. I have had all questions answered to my satisfaction.

Caption:......................................

Signature................................. Date...................

Any concerns regarding the manner in which this research has been conducted should be directed to Dr James G Ladwig on (02) 4921 6650 or, if an independent person is preferred, the University’s Human Research Ethics Officer, Research Branch, The Chancellery, The University of Newcastle, Callaghan, NSW 2308, (02) 4921 6333.
Learning by Experience - Learning at Work

INFORMATION STATEMENT: PRIMARY PARTICIPANTS

'Learning by experience - Learning at work' is a study on the ways adult workers develop their literacy skills. This study is part of the research Ms Marilyn Kell is conducting for her PhD, under the supervision of Dr James G Ladwig. The research will focus on a small number of individuals who believe their literacy was not sufficient for their workplace and will investigate what kinds of literacy were required by the workplace and how s/he went about developing their literacy to meet the requirements of the job. This approach will allow for a greater understanding of the importance workers place on literacy skillimg. In doing this, the research aims to provide a basis for assisting the young unemployed with low literacy skills to enter the full time workforce.

This statement is designed to provide information for workers who are willing to participate in the study and outlines what participation involves and what you may expect of Ms Kell. It is important to know that potential participants have the right to withdraw from the project at any time, without an explanation being required. In general, participants will be asked to take part in audio-tape interviews a number of times, over the course of the study. Participants have the right to request all original audio-tapes relating to you at the conclusion of the project. The study also places requirements on Ms Kell as the researcher. The following lists outline, in more detail, what participation in the study would involve and what the study requires of Ms Kell.

What the study would need participants to do:

1. To be available for five or six, tape-recorded interviews of 20 minutes duration over a period of twelve to eighteen months.
2. Notify the researcher if an agreed appointment cannot be kept.
3. Review tape recordings, transcripts and reporting of interviews, after transcription.
4. Provide the researcher with a pseudonym, which can be used during interviews so that your identity will not be revealed.
5. Agree (verbally) to the use of tape recorded evidence in papers and conference proceedings as part of the doctoral process.

Requirements of researcher:

1. Explain the conditions of participation in the project.
2. Arrange all interviews at a mutually agreed time and place.
3. Maintain all audiotapes and written documentation, organised in code in a locked filing cabinet when not in use.
4. Use any information attributed to you solely within this project, which may include conference presentations, journal articles or book chapters associated with this project.
5. Make audiotapes, transcripts and reports available to you, on request, for your review and alteration, if necessary. Copies of transcripts may also be provided for a third party to check if participants wish this.

At the Conclusion of the Study

All coded materials will be transferred to a locked cupboard in my office at the University of Newcastle for a minimum period of five years.

Any concerns regarding the manner in which this research has been conducted should be directed to Dr James G Ladwig on (02) 4921 6650 or, if an independent person is preferred, the University's Human Research Ethics Officer, Research Branch, The Chancellery, The University of Newcastle, Callaghan, NSW 2308, (02) 4921 6333.

UNIVERSITY DRIVE, CALLAGHAN NSW 2308 AUSTRALIA
TELEPHONE: 02 4921 6822 FAX: 02 4921 6922
INTERNATIONAL TELEPHONE: +61 24921 5000 INTERNATIONAL FAX: +61 24921 6922
'Learning by experience - Learning at work' is a study on the ways adult workers develop their literacy skills. This study is part of the research Ms Marilyn Kell is conducting for her PhD, under the supervision of Dr James G Ladwig. The research will focus on a small number of individuals who believe their literacy was not sufficient for their workplace and will investigate what kinds of literacy were required by the workplace and how s/he went about developing their literacy to meet the requirements of the job. This approach will allow for a greater understanding of the importance workers place on literacy skilling. In doing this, the research aims to provide a basis for assisting the young unemployed with low literacy skills to enter the full time workforce.

This statement is designed to provide information for workers who are willing to participate in the study and outlines what participation involves and what you may expect of Ms Kell. It is important to know that potential participants have the right to withdraw from the project at any time, without an explanation being required. In general, participants will be asked to take part in an audio-tape interview. Participants have the right to request all original audio-tapes relating to you at the conclusion of the project. The following list outlines, in more detail, what participation in the study would involve.

What the study would need participants to do:
1. To be available for one tape-recorded interview of up to 60 minutes duration.
2. Notify the researcher if an agreed appointment cannot be kept.
3. Review the tape recording, transcript and reporting of interviews, after transcription.
4. Provide the researcher with a pseudonym, which can be used during interviews so that your identity will not be revealed.
5. Agree (verbally) to the use of tape recorded evidence in papers and conference proceedings as part of the doctoral process.

The study also places requirements on Ms Kell, as the researcher. These include:

Requirements of researcher:
Explain the conditions of participation in the project.
1. Arrange all interviews at a mutually agreed time and place.
2. Maintain all audiotapes and written documentation, organised in code in a locked filing cabinet when not in use.
3. Use any information attributed to you solely within this project, which may include conference presentations, journal articles or book chapters associated with this project.
4. Make audiotapes, transcripts and reports available to you, on request, for your review and alteration, if necessary. Copies of transcripts may also be provided for a third party to check if participants wish this.

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APPENDIX B – CHRONOLOGY OF DATA COLLECTION AND ANALYSIS
### CHRONOLOGY OF DATA COLLECTION AND ANALYSIS

<table>
<thead>
<tr>
<th>Time frame</th>
<th>Data collection</th>
<th>Data analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td><strong>January to August</strong></td>
<td><em>writing research proposal</em></td>
</tr>
<tr>
<td></td>
<td><strong>September</strong></td>
<td><em>Commence literature review</em></td>
</tr>
<tr>
<td>Ethics approval</td>
<td>RMIT University</td>
<td><em>Commence locating participants via gatekeepers</em></td>
</tr>
<tr>
<td>November/December</td>
<td></td>
<td>Kell, M. <em>Learning at work - Learning by experience</em>, RMIT University, Faculty of Education, Languages and Community Service, Postgraduate Students’ Research Conference, Melbourne.</td>
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<tr>
<td>2000</td>
<td><strong>January</strong></td>
<td>Refine research design</td>
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<td></td>
<td><strong>Transfer to University of Newcastle</strong></td>
<td>Submit new ethics proposal</td>
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<tr>
<td>April - June</td>
<td></td>
<td>First round of interviews: Charles, James, Robert, Sam, Peter</td>
</tr>
<tr>
<td>Ethics approved</td>
<td></td>
<td><em>transcription of audio tapes</em></td>
</tr>
<tr>
<td>July-August</td>
<td></td>
<td><em>initial analysis of data (data reduction)</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ongoing throughout data collection period</td>
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<tr>
<td></td>
<td></td>
<td><em>transcription of audio tapes</em></td>
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<tr>
<td></td>
<td></td>
<td><em>initial analysis of new data (data reduction)</em></td>
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<tr>
<td></td>
<td></td>
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<tr>
<td>September - October</td>
<td></td>
<td>Second round of interviews: James, Stalin, John</td>
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<tr>
<td></td>
<td></td>
<td><em>transcription of audio tapes</em></td>
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<tr>
<td></td>
<td></td>
<td><em>initial analysis of new data (data reduction)</em></td>
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<tr>
<td></td>
<td></td>
<td>ongoing throughout data collection period</td>
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<tr>
<td>November</td>
<td></td>
<td>Second round of interviews: Dasher</td>
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<td><em>transcription of audio tapes</em></td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>ongoing throughout data collection period</td>
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<tr>
<td>December</td>
<td></td>
<td>Third round of interviews: Charles, Sam</td>
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<td></td>
<td><em>transcription of audio tapes</em></td>
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<td></td>
<td></td>
<td><em>initial analysis of new data (data reduction)</em></td>
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<tr>
<td>2001</td>
<td><strong>January</strong></td>
<td>Fourth round of interviews: Peter, Sam</td>
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<td><em>transcription of audio tapes</em></td>
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<td>ongoing throughout data collection period</td>
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<tr>
<td>February</td>
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<td>Fourth round of interviews: Charles</td>
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<td></td>
<td>Secondary Interviews: <strong>Charles</strong> (Jack &amp; Jane); <strong>Sam</strong> (Peter &amp; Helen); <strong>Peter</strong> (John)</td>
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<td></td>
<td></td>
<td>ongoing throughout data collection period</td>
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<tr>
<td>March</td>
<td></td>
<td>Third round of interviews: George</td>
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<tr>
<td></td>
<td>Fourth round of interviews: James, Stalin, George, Dasher, John</td>
<td><em>transcription of audio tapes</em></td>
</tr>
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<td></td>
<td>Secondary interviews: <strong>James</strong> (William &amp; Mick); <strong>Stalin</strong> (Ray) <strong>Robert</strong> (Scott); <strong>John</strong> (Bill)</td>
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<td></td>
<td></td>
<td>ongoing throughout data collection period</td>
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<td></td>
<td><em>Initial analysis of secondary data</em></td>
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<tr>
<td>May</td>
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<td>Fifth round of interviews: Sam, Charles</td>
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<td><em>transcription of audio tapes</em></td>
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<td></td>
<td></td>
<td><em>initial analysis of new data (data reduction)</em></td>
</tr>
</tbody>
</table>
• Secondary interview: George (Wayne) ongoing throughout data collection period;

• Kell, M., *Creating layers of understanding through mesh interviewing*, University of Newcastle, Faculty of Education Postgraduate Seminar

• Kell, M. *Creating layers of understanding through mesh interviewing*, LitCon 2001, International Conference on Literacy, Penang, Malaysia

June

• Fifth round of interviews: Dasher, Peter

July - December

• transcription of audio tapes

• initial analysis of new data (data reduction) ongoing throughout data collection period

• Ongoing analysis and writing report.

• Kell, M. *Working and learning through the literacy barrier*, The 8th International Literacy and Education Research Network Conference on Learning, Spetzes, Greece.

2002

January - June

• Ongoing data analysis

• Ongoing writing, rewriting and editing

July - December

• Kell, M. *Nine lives: nine conversations about literacy*. Paper presented at LITCON 2003: Literacy; Bridging past, Present and Future. Penang, Malaysia

• Kell, M. *To interview or not to interview – that is the question: personal reflections on audio taped interviewing as a means of data collection*. Paper presented at University of Western Sydney College of Arts, Education and Social Sciences School of Education and Early Childhood Studies Education Research Conference 2003, October 11 – 12, Parramatta Campus.

2003

January - June

Study undertaken on a part time basis

July - December

• First draft with supervisor

2004

January – June

Transfer to University of Western Sydney

July - December

• Ongoing data analysis

• Commence redraft

• Ongoing data analysis

• Ongoing rewriting and editing

2005

January - March

• Edit final draft

• Submit for examination.
APPENDIX C - INTERVIEWS
## Dates of Interviews

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<th>Interview</th>
<th>Date</th>
<th>Name</th>
<th>Date</th>
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<td>James</td>
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<td>Stalin</td>
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<td>Robert</td>
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COMMON INTERVIEW QUESTIONS

INTERVIEW 1
1. What age were you when you first started full time work?
2. Did this mean that you didn’t complete a secondary education?
3. Can you recall why you wanted to leave school and start work?
4. Many young people have said to me that they just want to get out of school and get a job. They think that work will be better or easier than school. Was this what you found?
5. Can you recall how you went about settling in/making life easier/learning?

INTERVIEW 5
1. Why did you volunteer to participate in this research?
2. How have you responded to the interview process which has involved me returning to interview you after several weeks and asking you to reflect on things that happened a long time ago?
3. Has being a part of this research been of benefit to you?
4. If I had asked you to submit to a reading or literacy test at the commencement of the research how would you have responded? Would you have consented to be part of it?
5. If, by some strange coincidence, you came across a teacher from your school days and you were able to tell about your long career in industry, what do you think the response would be?

SECONDARY PARTICIPANTS’ INTERVIEW QUESTIONS

Interview with Bill (Secondary Participant for John) 24 May 2001
1. When did you first become aware that John was having problems with literacy?
2. John talks about being teased out of school. Were you aware of that?
3. You’ve both worked at Firebrand. Did you ever work in the same department?
4. Do you know some of the problems he had at work?
5. Do you recall some of the strategies he’d use to get out of doing literacy tasks at home, at school or at work?
6. John worked in many different areas of Firebrand: is there any one area that he especially liked? Do you know why?
7. At one stage John was asked to be a storeman. Do you remember this time? Does he talk about it?
8. John is quiet. Has he always been this way? What helps him to become more open?
9. What would you consider to be John’s good points as a worker?
10. You and John have worked together on various projects like pulling down car engines and renovating his house? When he is working and has a problem, what does he do? (Talk, discuss etc).

Interviews with Ray (Secondary Participant for Stalin) 9 March 2001
1. How long have you known Stalin?
2. In what capacity was that?
3. Can you describe the sort of tasks he did at work?
4. How well did he get on with other workers?
5. When did you become aware that he had problems with literacy?
6. Did Stalin try to compensate for the literacy problem?
7. Do you think that his ability to meet the literacy demands of the job (e.g., TST committee) ever interfered with the way he carried out the tasks involved?
8. Did you witness incidents of harassment at work involving Stalin?
9. Did you ever have the opportunity to teach Stalin how to operate any of the machines?
10. Could you comment on these statements about Stalin? These are all issues that he raised in interviews with me.
   i. Doesn’t like to make a fool of himself;
   ii. Has difficulty spelling and comprehending;
   iii. Likes helping others;
   iv. Tries to think how the boss thinks;
   v. Lacks confidence in his own ability;
   vi. Being on the TST helped him to understand the people he was working with;
   vii. Used general knowledge to deal with work situations;
   viii. People had to run him down to make themselves feel good;
   ix. His spelling and comprehension have improved.
11. Did Stalin ever strike you as being an angry or aggressive person?

*Interview with Scott (Secondary Participant for Robert) 7 May 2001*

1. How long have you known Robert?
2. In what capacity was that?
3. Robert is a participant in this research because of a literacy difficulty. Were you aware of a problem with literacy?
4. Do you recall when you first became aware of it? (Incident/behaviours)
5. Has a concern about literacy impacted on his work?
6. Can you outline Robert’s job scope/role?
7. Did he get his job on merit or was he elected?
8. He talked about a clash with clerical staff. Can you comment on this?
9. What behaviours might you see that would suggest strategies for bypassing or overcoming a literacy problem?
10. Can you please comment on the kinds of things Robert typically says about himself?
    i. He likes to battle on his own;
    ii. He likes to grow/develop on his own;
    iii. You learn by your mistakes;
    iv. He researches by reading books and asking people for their opinion;
v. He’s self-critical with respect to his work;
vi. He was outspoken throughout his apprenticeship;
 vii. He feels pressured to do a good job;
viii. He’s ambitious and likes a challenge;
ix. He has a passion for social justice and equity;
x. He’s never satisfied with the standard/quality of his work;
xi. He believes his verbal and written skills let himself and the organisation down.

Interview with Wayne (Secondary Participant for George) 23 May 2001

1. How long have you known George?
2. In what capacity was that?
3. George has agreed to participate in this study because he believes he has a literacy problem. Are you aware of this problem?
4. When and under what conditions did you become aware of it?
5. Can you recall any instances of George being harassed in the workplace?
6. Reflecting back, can you describe some strategies that George used to avoid reading and writing at work?
7. George says he didn’t always see eye-to-eye with some of his co-workers because he seemed to be avoiding work. Did you ever notice that?
8. Have you had experience of or seen George teaching a worker how to use the press or the furnace?
9. How does he go about it?
10. If he had to explain something to you and you couldn’t understand, what would he do to enhance his explanation?
11. George started attending classes to help him gain various certificates. Did you know about these?
12. He thought there was some tension because he kept the courses rolling and the others (on his shift) had to cover for him. Were you aware of that?
13. George tells me that when the literacy problem was revealed at work most of the other workers took this on board and didn’t give him any problems. Why do you think this was?
14. Did George joke about or stir people up for fun at work?
15. What would George do in the crib room?
16. Have you ever seen George read a newspaper?
17. How did George find out about union or company decisions that were distributed in print form?
18. Do you know whether George can use a computer?

Interview with William (Secondary Participant for James) 8 May 2001

1. How long have you known James?
2. In what capacity was that?
3. Were you aware of James’ difficulty with literacy? When did you become aware of this?
4. Do you think you noticed anything in James’ behaviour prior to this that may have alerted you to a problem?
5. Can you describe the types of tasks James does at work?
6. Do you think that inadequate literacy skills have impacted on his ability to achieve at work?
7. Some years ago James participated in literacy classes. Do you know any of the circumstance of his inclusion in those classes?
8. Do you think the classes were beneficial to James?
9. As I understand it James’ participation in the workplace has changed over the past two years or so. Are you aware of this?
10. Can you suggest why he is now more active in workplace committees?

**Interview with Mick (Secondary Participant for James) 8 May 2001**

1. How long have you known James?
2. In what capacity was that?
3. Were you aware of James’ difficulty with literacy? When did you become aware of this?
4. Do you think you noticed anything in James’ behaviour prior to this that may have alerted you to a problem?
5. Can you describe the types of tasks James does at work?
6. Do you think that inadequate literacy skills have impacted on his ability to achieve at work?
7. Some years ago James participated in literacy classes. Do you know any of the circumstance of his inclusion in those classes?
8. Do you think the classes were beneficial to James?
9. As I understand it James’ participation in the workplace has changed over the past two years or so. Are you aware of this?
10. Can you suggest why he is now more active in workplace committees?

**Interview with Helen (Secondary Participant for Sam) 8 February 2001**

1. How long have you known Sam?
2. In what capacity is that?
3. When did you become aware of the literacy difficulty Sam describes?
4. How has this impacted on his work performance?
5. In terms of work, what are Sam’s strengths?
6. Sam has talked about how he copes with literacy. I’d like to repeat some of his strategies to see if you’ve noticed them.
   i. Remembering words and letters
   ii. Taking the time to work things out
   iii. Using a variety of sources to check spelling
   iv. Writing down measurements of measuring several times
8. He also says there are some things he is good at. Would you like to comment on these?
   v. Long term recall
   vi. Learning from mistakes
   vii. Remembering pictures
   viii. Learning by being on his own and just doing (attempting jobs he thinks are difficult)
   ix. Phone text messages.
8. If Sam wants to explain a job, how does he do it? (words, hands, writing, drawing)
9. He has used a computer in the past for writing and sending emails, now he has to use one at work. Has he discussed this with you at all? If so, how do you think he is coping?
10. Sam says he has gained in self-confidence at work over the last two years. Have you noticed this?
11. Can you think why this has happened?

Interview with Peter S. (Secondary Participant for Sam) 8 February 2001
1. How long have you known Sam?
2. In what capacity is that?
3. When did you become aware of the literacy difficulty Sam describes?
4. How has this impacted on his work performance?
5. In terms of work, what are Sam’s strengths?
6. Sam talks about people who have been important to him – a teacher who praised and encouraged him, work mates whom he could call on, his wife. How vital is it that Sam has a network he can call on?
7. This new job that Sam has requires more constant use of written literacy than he has ever used. How well do you think he is handling the work?
8. Can you suggest why he nominated himself for such a challenging position?
9. He tells me that his inaccurate spelling has been noted at work. It seems that one person on staff is trying to help and encourage him. Does he talk about this?
10. If he had only criticism, not support, do you think he would have stuck at the job?
11. In the time that you have known Sam, do you think his literacy skills have improved?
12. Could you say if this is the result of any demands placed on him at work?

Interview with Jane (Secondary Participant for Charles) 10 February 2001
1. How long have you known Charles?
2. In what capacity is that?
3. Can you tell me when you first became aware of the literacy problem he talks about?
4. How does it manifest?
5. How has it impacted on his working life?
6. It’s very difficult to escape the demands of literacy. Can you comment on some of the strategies you have noticed Charles using when faced with a literacy-based task?
   i. Map reading
   ii. Pay advice slip
   iii. Application forms
   iv. Text or icon

7. Despite his limited literacy Charles has achieved a position of respect at work. What do you think it is in Charles that makes him such a respected worker?

8. He has a talent with machines and motors and had had some experience with them before he began maintenance work at the abattoir. Do you think he’s learned even more since he’s been at work?

9. If he can’t learn in a traditional manner, with a focus on reading and writing, do you have any thoughts on how he likes to learn?

10. He tells me he is a person who likes to work away quietly, thinking through problems and rarely discussing matters. Have you noticed this?

11. What do you think Charles’ attitude to literacy is?

12. Do you think that he can accept that although he has difficulty with reading and writing he has other well developed literacy skills?

13. Charles doesn’t often see print text and rarely uses it; however, over the years have you noticed him responding to a need to engage with print?

**Interview with Jack (Secondary Participant for Charles) 10 February 2001**

1. How long have you known Charles?

2. In what capacity is that?

3. Can you tell me when you first became aware of the literacy problem he talks about?

4. How does it manifest?

5. How has it impacted on his working life?

6. It’s very difficult to escape the demands of literacy. Can you comment on some of the strategies you have noticed Charles using when faced with a literacy-based task?
   i. Map reading
   ii. Pay advice slip
   iii. Application forms
   iv. Text or icon

7. Despite his limited literacy Charles has achieved a position of respect at work. What do you think it is in Charles that makes him such a respected worker?

8. He has a talent with machines and motors and had had some experience with them before he began maintenance work at the abattoir. Do you think he’s learned even more since he’s been at work?

9. If he can’t learn in a traditional manner, with a focus on reading and writing, do you have any thoughts on how he likes to learn?

10. He tells me he is a person who likes to work away quietly, thinking through problems and rarely discussing matters. Have you noticed this?
11. What do you think Charles’ attitude to literacy is?

12. Do you think that he can accept that although he has difficulty with reading and writing he has other well developed literacy skills?

13. Charles doesn’t often see print text and rarely uses it: however, over the years have you noticed him responding to a need to engage with print?

**Interview with John S. (Secondary Participant for Peter) 12 February 2001**

1. How long have you known Peter?

2. And in what capacity was that?

3. And does that entail much literacy?

4. Peter reports to me that he has a literacy problem. You’re aware of that problem?

5. That’s the first time you were aware of it?

6. Did that surprise you?

7. As a shop steward what sort of writing and spelling would he need to do?

8. Are there some standard procedures that he can use when writing reports?

9. How did he get into being a shop steward and a safety rep?

10. How do you coach him along?

11. He likes apprentices to actually start showing what they’re capable of doing. Have you seen him working with apprentices?

12. He is a very good talker and you said you were surprised when you found out about a spelling problem. Do you think that other plumbers that he knew at the meeting would also have been surprised?

13. He’s pretty passionate about the safety.

14. So he’s passionate, he’s capable, he’s intelligent and he’s logical. Do you think that the literacy has held him back?

15. Does he ring you when he has to write a report?

16. What are Peter’s strengths in the workplace?

17. Do you think Peter has a group of people around him who help him and support him?
APPENDIX D - FINAL ACTIVITIES
In his final activity James was asked to read from a copy of *League Week*. This extract illustrates how he was able to read most of the headline. It also illustrates the thought process taking place as he tried to figure out the word ‘heaven’.

Source: *League Week*, May 17 2001: 15
In his final activity Charles talked about this 1958 FC Holden.

Source: Just Cars, May 2001: 108
In George’s final activity he read the highlighted text.

(see Appendix D)

Source: BMXPRESS, April/May,
The article is about what’s happened in Afghanistan in the last couple of days. The Taliban have given a decree that the Indians, ah, Hindus over there must wear a yellow strip on their clothes. The reason for that is that they want to identify them as not being Moslem and so they don’t actually have to come under the Moslem laws. But the Indian and American [governments] and, while doesn’t it say in that article, also a lot of other countries around the world are comparing it to Nazism because it was something that was used by the Jews, to the Jews during WW11 and, ah, gypsies, homosexuals all that sort of stuff. So, they’re basically saying that this new law is of a step down the garden path to, sort of, um what the Nazis did in WW11. It also looks like um Hindu women they are gonna have to wear a veil for the first time. And then towards the end of the article it’s, sort of, more or less sort of saying that the desecration of these thousand year [old] Buddhist statues, you know, that’s been, sort of, done is not good.

(Stalin, 5: 386-400)
John read the details of the competition and began his 25 word entry this way:

I have been in Australia for 30 years.

He was very frightened about writing and had to be coaxed to write the first word.
Earlier the day of Peter’s final interview he had attended the launch of the latest WorkSafe advertising campaign. He was excited about the new approach to the problem of deaths at work and chose to write about it. He has underscored “platoed” because he is aware that it is spelt incorrectly.

The notes on the second line are the researcher’s, explaining the use of the problem Peter refers to.
For his final activity Sam was asked to give his professional opinion of this kitchen design.

- Looks good
- Would not have corner infill. Would have more cabinet space instead.
- Would not have 2 knobs on drawers. You only tend to use one.
- Very nice kitchen and design expensive table.
- I would guess cost about $5,000 with appliances.

Source: *Australian Interiors*, April/May 2001: 126
Robert wrote a five step plan for a letter in reply to the letter from Bob Buick that he chose from the newspaper for his final activity. He claims that this is the way he typically commences a writing task.

Robert

1. If you do not attack the core issues a week after
2. Cost will not be a sufficient wake
3. On course the big can only sell the cost, based because of the costs to the poor public
4. The cost has not only brought increased cost to the average person but to the people the John Howard supposedly is representing which is the thousands of people in particular the small businesses.
5. Your idea learned us left all Australians with a legacy that we will never recover from.

FAIR go, Kim Beazley. I know you need to vilify the Government at every opportunity and the party decided to hang it all on the GST rope but remember, all the GST collected will be going to the States.

The ALP, well the federal mob, says it intends to roll back the GST. The question is, will the state mob allow this to happen, knowing it will decrease its piece of the pie?

I think not mate.

Many think the GST should have been introduced in the 1980s to fund infrastructure. I honestly feel we do need the GST in its present form and that the ALP has more ropes than just this one.

BOB BUICK
For his final activity, Dasher talked about a social issue that interested him. Then he was asked to write a first draft of a letter about this issue to a local politician. This is his response. Note Dasher’s self-correction of the word “as” in the second line.

This text has been edited to conceal Dasher’s city of residence.
APPENDIX E – INTERVIEW EXTRACTS
LEARNING WELDING

MK How did you learn to weld?
Charles Ah, picked the welder up and started. I just always, always want to build stuff so, it was something I really wanted to do. So I taught myself.

MK Did you do welding at all at school? ’Cause you said you were good at metalwork at school.
Charles No, we never got up into like, or least when I was thirteen. So we never actually got up into that section. A lot of the metalwork we were doing was sheet metal work, sort of like folding, soldering things but not actually welding.

MK Where were you that you first started doing welding? Was it at the abattoir?
Charles Yeah.
MK And they were happy to let you have a go?
Charles Um. Yeah. Well, I was down in the maintenance shed doing [the] mechanical side and stuff like that, so if a job come up that needed to be welded, I’d just do it. We never actually had to go up and get approval or anything as long as the job was done. So, if I was doing that job I’d just do it.

MK Had you seen anybody else doing welding?
Charles Yeah, there was a couple of other blokes there that were welders. If I was doing it occasionally they’d sort of say, “Oh you should be doing it this way. It’s a bit easier,” or something like that. But I mainly picked it up myself.

MK Now that’s an interesting phrase ‘mainly picked it up myself’. Do you think at some stage you’d actually, not consciously but unconsciously just watched what they were doing, to see how to get it all …
Charles … it’s pretty hard to watch what someone’s doing when they are welding, unless you’ve got a mask on. But yeah, I’d more than likely would have been sort of taking notice of what they were doing, I’d say.

(Charles, 2: 27-42)

Charles Welding takes a while to get used to because you’ve got so many different angles. You’ve got to learn how to weld them and really I just kept practising and sometimes you’ve got verticals and upside down type of welding. From working above you can just float and that'll meld quite easily. When you’re working upside down you’ve got to do it in a different way or it’ll start sagging down, just gravity. And it will just tend, ’cause it’s melted metal, it will want to drop down. So you’ve got to just sort of pick your speed up a little bit and work a bit faster.

MK So how did you learn that you had to pick your speed up? I mean you could obviously see what was happening but when it started happening did you go away and think it through yourself or did you talk it over with someone? Or listen to what others were saying?
Charles No, I mainly did it meself. I’m not a type of person that likes to ask people how to do things a lot. I’d rather try and figure it out meself. And I could see that the metal was actually starting to sag so it was obviously getting too hot to the point that it was going to run. So you just work a little bit faster as in dragging the rod and
everything. Sometimes you can turn the welder down so it doesn’t get as hot and just different things like that just with your hands that you use and stuff like that, yeah.

MK OK. Were there any very big maintenance situations where you were working with somebody else?

Charles Yeah, quite a few times.

MK Now how did you manage those, as a person who doesn’t like to ask? Would you chat on the job and talk about how things were going?

Charles Yeah, a couple of times there, they got an engineering mob down at Bunston that they used to get in for some really big jobs. And I’d worked with them and quite a few times they’d ask me what way that we should go about it. Probably mainly because I knew so much about the business. So, we’d work it out between us and then we would come up with something and do it that way.

MK You said in the last interview that, still on the welding, that on a couple of occasions at work others gave you hints on how to improve your welding.

Charles B was a welder by trade. And a couple of time there he’d sort of say oh you can turn you amps down on that one or something like that, you know. Just advice as he walked past. I might be on one job and he’d be on another one. And he might just come past and say you know, “If you turned your amps down a bit it’d flow a bit easier or you won’t get it as hot.” Mainly it’s just sort of I call it just tinkering around with your actual welder and stuff like that, that you get it right.

MK OK. But once he told you to turn your amps down, the next time you had a situation like that did you remember instinctively to turn your amps down.

Charles Yeah, it mightn’t even be a situation like that. You can have the complete reverse situation where it is not hot enough and the metals won’t melt together. So yeah, you’d think straight back. Oh well I’ll adjust me machine.

MK So you’re actually remembering the situation before.

Charles Yeah.

MK OK. Now when you are thinking back, do B’s words become important? Do you see him talking to you, do you hear the words he said in your head?

Charles I don’t know really. I think you just sort of remember oh well adjust me machine to suit the job.

MK So you’re actually remembering the situation before.

Charles Yeah.

MK So maybe again I’ve got to ask the question; Are you seeing the situation of you welding previously in turning your amps down?

Charles Yeah, I don’t know whether I see the previous situation but I see what’s happening to that particular job I’m doing and know that, well, I’ve got to adjust it. Like you can use, can have some really fine metal and if it blows a hole in it you know you’re way too hot. So you adjust your machine down. Or like I said you can have the reverse situation of where the metal’s very heavy metal and it’s not melting it good enough. The weld’s only sitting on top of it. Yes, it’s a matter of looking at that then, I think.
MOVING TO THE NEW BARB SHOP

MK   Well, what’s been the change for the last two years?

James [laughter] Good question. I have no idea. Probably, I don’t know. Probably when they set that site [new barb mill] up. Like the barb machines were here and I used to work ’em here all the time. And they set ’em up over in the new mill. And the mill was going to be a new culture, completely different. Like they had a new idea there. They were going to do different, not be like we were. Anyway they didn’t need me over there to operate the barb machines. There were big arguments over it. And they said, “No, no, we’ve got who we want. We’ve got blokes. We won’t need him.” My leading hand over here, Benny, he said to them, we had big meetings, up in this room actually some of them, there was the union and that. And he said, “You’re not going to take James over there. He’s probably the best operator you’ve got in Australia on a barb machine, ’cause there’s some in [city] and [city].” And they said to him, you know, “What makes you think he’s the best? That’s your opinion” and things like that. [They were] pretty heated arguments and that. And I said to Ben, “I don’t care. If they don’t want me, they don’t want me. It’s not worrying me.” Because I was pretty unionized and the things they wanted, there was no way in the world I was going to do it. And they didn’t want that over there. They wanted the blokes to just do everything. […] You know, work twice as many machines and do everything until they dropped. They’d say, “Oh, no, no, no.” But that was what it was. The other fellow wasn’t invited. They actually took and they told me, you know, their words were ‘I’ll never, ever set foot over there’. [laughter] Never, ever. Anyhow they put ’em over there and they took a few of the blokes from here, that knew barb machines and they set ’em up. Anyhow they couldn’t get ’em going. They just couldn’t get the area going. And the machinery once the blokes dropped it in there and bolted it to the floor and that, then they all had to be set up and run and they brought all the ones down from [city]. Anyhow, the manager over there, at that time, which was Mick, he actually had a talk with me and asked me to do it. Would I come over and help ’em get ’em going and that? And they thought I’d tell ’em to get, you know. And I said, “Yeah, I’ll help ’em.” So I got ’em all going for ’em and fixed ’em all up. [It] took a while. Forget how long. Probably two and a half months, three months before I got ’em going properly. And then we, ah done a few other things and then they offered me a job there. And I told them, “No, I don’t want a job here at all. I’m not working twenty-five barb machines. I’m quite happy where I am. It’s too hard.” Then I had to stay for another four weeks, they said, ‘cause I had to finish some things off I was doing to ’em [the machines]. Then after that, then they offered me again and I decided I may as well stay. I know more about them that I do ‘most anything else, so I may as well stay with them. And so I stayed with ’em and that’s it. And that’s how it happened. So I think the biggest thing I thought [was], well if the management can, you know, take a back step and crawl to me and ask me to do it, which after their big lecture … they told everyone. Like everyone knew I was never, ever going to set foot in that mill. And they had to back down and ask me, I thought, well, if they can, I might give ’em a second chance. I think it just come around like that.

(James, 3: 230 – 276).

James And then the company called me over and talked to me we won’t go into that. And then like you said, they didn’t think I’d say yeah, I’ll help them put them in. If I didn’t help them put them in, I don’t know what they would’ve done. But ah, I thought to meself then, you know, ’cause I didn’t think about help them put them in. I just said to them, “Yeah, I’ll put them in and get them up and running for you.” It took us a long time. I said, “We’ll get them up and running for you and everything.” And ah they said, “Well we didn’t think you would help us.” I said, “No problem because there’s other people that want a job. Like, there were blokes there waitin’ to learn how to work ’em. And ah, it was up to me to get them goin’. Cause if I didn’t get them goin’ they wouldn’t have jobs. So I thought, well I’ve got no problem with that. And then they said to me, “Oh well that’s good. But you haven’t got a job here. We don’t want you in this mill.” But I thought to meself, well ’cause they can, you
know, come and ask me and swallow their pride, 'cause they [said] there was no way in the world I was goin' over there. It was unbelievable! I don’t know if Mick said anything about it, did he? If he did, he wouldn’t have known the whole lot about it I don’t think, either, right the whole thing what happen ‘cause he hadn’t met me. First time he ever met me was when I went to sort things out. I know you would have known the whole fuss about it but he might have known a bit and he just went from there. So I thought well, they can do it, you know. And then they, like Mick put a lot on me and wanted me to do this and do this. And I said, “I don’t do any of this stuff.” [laughter] I said, you know. “Oh well we need someone to do it and that.” And it was more, ... I done the lead. I virtually got them going with some leadership. ‘Cause the younger blokes had followed me and that and that’s what they wanted. And I said to them, “People don’t follow me.” And Craig said, “They’ll follow you, James. You just do what you do. They followed you when you were bad,” and he said. “They’ll follow you,” he said, which they did. They done things that I asked them and the company wouldn’t. And I said to the blokes, “Now, well, look, we got to do it. It’s just the way it is. We don’t have to do everything,” I said. “We’re not to going kiss their arses with everything. But,” I said, “you know just things have changed, you know.” And they do them and the shop’s where it is now.

(James, 5: 234 – 267)
TEACHING NOVICES TO OPERATE THE BARB MACHINE

MK You tell me that you’ve taught lots of people to use the barb machines. I don’t think we’ve ever explored how you go about teaching. You do it by demonstration?

James Yep.

MK And what do you do after you’ve demonstrated?

James What? Showin’ them how to do it?

MK Mmm, after you’ve shown them how to do it.

James Oh well, before I even start showing ’em how to do it, I sit ’em down and have a talk to ’em. And I just ask ’em, you know, like what, ah, are you interested in doing the job? Or are you just being in here like going through the motions and that? ’Cause you’ve got to find out if, ... what they’re like. And if they’re not real keen and that, well, you’re going to have difficulties teaching ’em. Like they’re only here Monday to Friday and they don’t care. So that makes it hard. But if you get ones that are interested and they want to know and that, well, you talk to them, you’re fine. And then you go out to the machinery and you’ve virtually got to show them the induction. You know, like the safety side of the machinery and that. You know, you put that on it. And that takes you half a day. And you let them know that, you know, this is dangerous. This is how you stop it. And you can get your hand caught here and all that. So you’ve got to go through all that. And then you’re just showin’ them slowly how to run the wire through, through the machine and that. And you show ’em and you stop it. And you do it again a couple of times. And then you just say to them, you know, ”Have a go.” And you let ’em have a go, you know ...

MK ... with you watching?

James Oh, yeah, all the time because you’ve got to be, ... well, if they do something wrong, ’cause ... It’s very funny, you show someone [how] to do it and to me, I can do it with me eyes shut. It’s so simple. But when you’re showing someone else how to do it, you just sit there and you shake your head and say to yourself, Why is it so awkward for them? You know, they’re all thumbs and hands, you know. Like, it’s amazing. And you’ve got to be so patient with them because a lot of people expect it to happen. If you can do it ...

MK ... yeah ...

James ... they can do it. But it doesn’t and it’s a very slow process and, you know. It takes time. Plus, you’ve got to just let ’em do one thing and nothing else. And like a person takes, when the coils are full, the machine’s actually made a coil full, you let ’em take the coils off ”cause that’s pretty simple.

MK Yeah...

James ... and it gets them aware of the machines, plus the barbed wire. You know, like handle[ing] it. Because you’ve got to handle it very soft with your hands. You’ve got to have a soft touch. ’Cause if you grab it, it just goes straight through your gloves into your hand and it really hurts.

MK Yeah

James And it brings ’em in slowly because you’ll find most of them are scared of the machinery and scared of the barbed wire, that it’s going to hurt them. And it will hurt ’em too if it grabs them.

MK So let me get it clear. You don’t teach them the whole process in one go.

James Oh no, no, no, very little. The first week they get, ... you just let ’em get comfortable with the machinery and take coils off, you know. Like you could take a coil off. That’s how simple that is. And that’s just ...

MK ... well, that’s not saying very much [laughter] ...
James... and relaxing ‘em. Like getting ‘em aware of the machine and feeling comfortable. And plus, you know, like yourself, you’ve got to be very, I find, very friendly. And a lot of them won’t talk. You know, like you’ve got to make them talk and have jokes with ‘em and get ‘em to relax and comfortable. And after the first week, after you’ve got ‘em relaxed and a bit more confident and they’ve got to know you a bit better, like, it’s a lot easier then. And then it takes another four weeks after that to, like, show ‘em everything and get ‘em the idea and get ‘em up to a rough speed. Then after that they’ll work, ... there’s twenty-five machines. You’ll give ‘em eight machines on their own and they’ll be working with me. I’ll be doing, like working up here and you leave ‘em on your own. And if they have a problem, you say to them, “If you’ve got a problem, if you’re having any trouble, come and get me, just” ... You know, ‘cause you might be there at the machine. I’ll probably be only there (where the pool is) ‘cause it’s probably only as wide as that fence to that fence and down the two sides. So you’re in the area. And he just comes and gets you after a while when he’s relaxed. And that way you’re not looking over his shoulder all the time. ‘Cause you say to them ‘You just come and get me if you’re having problems with something, having difficulty and get me and I’ll come down and show you again. You know, like if you’re having a bit of a problem or there’s something that’s come up that we haven’t seen.” ‘Cause a lot of things don’t happen in that four weeks.

MK... yes ...

James... with the machine and he’s never seen it. So I just say to them, “I’d rather, ... like you don’t want me looking over your shoulder all the time. You know, you don’t need that.” And a lot of people, I think, feel better with that, you know, that I’ll go away and if they have problems they’ll come and get me. And in time they get a little bit faster and then they’ll pick up speed. They come to speed and then they’re—away they go.

MK When they’re all fingers and thumbs and you’re thinking this is so easy, why can’t they fathom this out, what do you do then? Do you go back and teach it the way you did the first time, or do you try and approach it a different way? Or ...

James... you just say to them, you know, like when they put the wire in you say, like, you know, that wasn’t bad. But I mean, like I say to them, “Look, you’re never going to operate the machine the same as me. I’ll do it this way and you’ll do it this way. No one does the same thing identical,” I said. “Like I could teach you to drive a car. But,” I said, “you’re not going to drive that car the way I drive it,” I said. “So we’re not going to do things the same,” I said. “So,” I said, “you’ll get your own ideas when you go along. I’m showing you the way to do it. This is the way I do it. I feel it’s better for me and I can do it quicker this way and it’s a lot easier.” I said “But I’m showing you what I did. You might do it differently. So, you know, don’t let it worry you.” I said, “You’ll get your own rhythm and pattern. You might do it with this hand instead of that hand or something,” I said ...

MK... yeah ...

James... “You might cut the wire earlier than what I do.” You know, so I said, “Just go along and just relax and just do it. You don’t have to do it the same way as me. Just do which way’s that comfortable with you so long as the wire goes in this way. It’s got to go in here, through there, down there and onto there. And it doesn’t matter if you stand on your head and do it ...

MK... it’s got to end up looking this way ...

James... it’s just got to go through, ... don’t miss any of these sections, you know.” ‘Cause if you miss them or the tension in the wire’s not there, it’s critical. I mean, I’ve worked barb machines now for eighteen years, I think, or seventeen years and I use a pair of nippers. I just have a pair of nippers and everything else I just do with my hand. If a wire needs guiding I’ll just pick up, there’s bits of wire on the floor we cut off. I just pick up a bit and guide it. But all these new blokes in this new area, they walk around; they’ve got a pair of nippers hanging off their thing. And they’ve got a little pair of pliers hanging off, they’re like pointy nose pliers. I bring mine home. I pinched them. I’ll show you. [Goes to shed to fetch
pliers.] They’re the same shape as them, but they’re bigger for barbed wire. They’ve got them, these, they’ve got a pair of these, ...

MK ... they’re pointy nose ...

James they’ve got a pair of these hanging off their hip, they’ve got a pair of these and they have a ...

MK ... what are these? ...

James ... they’re wire cutters, too.

MK Wire cutters.

James And they have a poker. It’s a piece of rod, metal rod. And they have all these on their hips, all the young blokes. And like when they’re threading the wire down you can have difficulty and they pick up these and guide it. And all I do is pick up a little piece of wire off the thing and push it and push it into the thing. And they walk around with all of these all these young fellows, you know, like it’s modern things and I just laugh. And they’ve all got pouches. All I do is walk around (they’re bigger than these, you’ve got to have bigger ones, different sized cutters for different wire) ...

MK ... yeah ...

James ... and all I do is walk around with a pair of these [nippers] hanging out my back pocket and they’ve got pouches and all these things and all that and I laugh at ’em. And sometimes it’s an old joke this. One bloke said to me once, he said (we were in the crib room and there were a few of us talking about barb) and he said, “How come you only have a pair of nippers hanging off you? You don’t have a pouch?” I said, “That’s all I need.” I said, “I don’t need all them things to do the job hanging off my hip or anything. They’re too much weight anyway.” “Oh,” he said, “I don’t know why you don’t have ’em all.” And I said, “Look, mate, when I started barbed wire I didn’t even have a pair of (it was just a joke. It just come out.) I didn’t even have a pair of nippers to cut the wire when I started. We used to chew it off.”

MK [laughter]

James And Craig and Mick were there and they all laughed ’cause they’ve been there for years. “I never had a pair of nippers when I first started. We used to chew it off.”

MK I’m wondering where you learnt that teaching style because I suspect it wasn’t a teaching style that you came across in school.

James Oh no, no. I just, ... through meself. Because when people taught me things and that, they relied on, like, what you could read and do things. They didn’t explain a lot and you never picked anything up. You always missed parts. So everything I teach, I teach manually and word, you know. ’Cause I can’t do the writing. And [you have] to be patient. [You] don’t just say, oh, well, do this, do this. ’Cause a lot of people haven’t got the patience. And it takes time. You know, you’ve just got to be nice to the people. Like you mightn’t like them that much. They might conflict. You can, as soon as you see someone, say to yourself, oh, this bloke’s going to be a failure. And he is. You know, like a bit of a rat. But you just can’t do that. You’ve got to, you know, you’ve got your job and you’ve just got to try, you know. So, it’s very hard.

MK Do you have any qualifications as a trainer?

James As a trainer?

MK Yes


(James, 4: 11-171)
### The First Aid Course

**James**

About four weeks ago, yeah, it’d be four weeks ago now, they said we hadn’t got a first aid bloke on our shift in the barb shop. And no one wanted it. And I’m damned sure I didn’t want it ‘cause you’ve got to go and sit for an exam. And the team leader said, “We’re going to send you, James.” I said, “You’re not sending me. I can’t sit and do a written exam or all that other stuff.” He said, “Oh, most of it’s practical. You’ve got to do the dummy and stuff,” he said. “But there is a 50/50 questionnaire, you know and it’s probably multi,” he said. “It’s multi. I think there are four answers to every one question. So you’ve got to pick which one’s the right one.” And he said, “That won’t be hard.” I said, “I can’t do that,” I said, because he knows. He said, “Oh, we’ll fix that up.” So what they did, they wanted me to do it so bad, they rang up the company which was St John’s Ambulance we done it through. It’s a two-day course, full on too, real different. I don’t want to go through that again. They lined up a person after it was all over because you do the exam, after the two days and then you do your exam. After I’d done all the practical stuff, the dummy and the bandages and all that, they … when they give out the exam papers a bloke actually come up and said, “Mr. James?” I said, “Yes, that’s me.” He said, “You can come with me now.” And I went with him and he actually sat down like you and he said, “I can’t help you. I can’t do anything.” He said, “All I can do is read the questions to you ‘cause the company asked me,” he said. “And I’ll read what the four answers are,” he said, “and you’ve got to pick them.” And he said, “That’s all I can do.” I thought, that’s all right with me and that. And the thing that got him and he, I think it fascinated him, because of me memory. See they all had pads, see. They’d written down the things and they’d put things up on the screen on the wall, you know, on the big screen …

**MK**

… the other students? …

**James**

Yeah, well they had writing pads and they could write everything down over the two days. Yeah, I remember this, I remember this blood pressure and stuff and everything. And they put stuff up on the screen, which made it very difficult, because they don’t actually read what’s on the screen. They throw it up on the wall, like ah, these are what you do if someone has a heart attack and things. Now that made it hard trying to catch on to that ‘cause they could all read. I mean, that part was a bit difficult. The bandages was all right. The dummy part’s all right. So it was all full on. I started getting a headache after the first day. I said to me missus, “I don’t want to do this. It’s a joke. I don’t know what they think I’m doing.” Anyhow I went through it all and done it. And then I done the exam. But when they asked me them questions, because everything he spoke out (the bloke out the front spoke about), spiders or heart attacks or car accidents or whatever you were doing, I was literally going on his words, you know. And this is what he said … But when I went and sat down for the exam, the questions, they’d read out the question. He’d read a question and then he’d have the answers. And I’d know it but I’d say to him, “No, you know like, it doesn’t, it’s not that one it’s not (a) it’s not (b) either,” I said. “It sounds like (c),” I said. “But it’s not (b),” I said. But he [instructor] said it was so and so and so but I said (c) is close to it but it’s not exactly what the words he said.” And the bloke at the end of it, you know, I done it all and I said, “I’ll have to have (c) but it is not what he actually said.” And there were about 15 or 18 questions like that. I said to him, you know, he said, “How in the hell did you remember exactly what words he said?” He said, “Like the answers are correct.” He said, “Them ones,” he said. “They were all correct. Every one of them, but you took every word literally what he said and it wasn’t literally on the paper exactly the same, so it made it …” And I said, “Well, you just gotta remember it. That’s the only way I can do it.” I said, “With all the other people, they write down questions.” And as [name] would … no one sat next to the senior tutor. They just sat down and they’d have, they would all have their books and notes. And oh yeah, that would be that and … It was simple for them. I think I blew him out the water because of me memory. Like the teacher bloke, I was quoting his words to the letter. But the questions weren’t written to the letter. So I had to say, “That’s probably the closest to what he was saying.” I said to him, “You want to fix these exam papers up and get it right. Whatever he says should be on there.” I said, “They’re not right.” I think it shocked
him. I haven’t got the result back yet. I passed the bandage and I passed the mouth to mouth and all that. I haven’t got the exam part. ’Cause they tell you those other two straightaway. But the exam’s got to be sent away and be processed and come back.

(James, 2: 193-261)
**READING ABOUT THE BMX NATIONAL TITLES**

**MK** OK. George, I have an activity for you now and I guess this time I’m going to get really mean. I have a magazine. From the front cover can you tell me what think the magazine is about?

**George** From the front cover the magazine’s about BMX.

**MK** How do you know that?

**George** Well, it’s got ‘BMX’ written on the front of it, plus it’s got a picture of a chap riding a BMX bike.

**MK** OK, can you turn to page 22? Can you read those few sentences [highlighted] for me, please?

**George** [studies words] Well, that’s ‘four’ ...I don’t know. ... [skips two words] ‘racing’.

**MK** OK. Do you want me to tell you? ‘Four rounds ...

**George** ... of racing was [sic: were] over five hours for day one. Day two and just as fast. The track is in the best ... shape ... that it has ever been’.

**MK** Good! On this page and the next few there’s an article surrounded by photographs; what is the article about?

**George** On this page?

**MK** On this page and the next few.

**George** All this is, is just photographs of the Canberra state finals.

**MK** How do you know this?

**George** Well, I look at the pictures. Um and at the top of the page and it says, ‘ACT Titles’. Page 24 is photographs again and kids racing.

**MK** That’s good. Um, can you explain what you’ve just read?

**George** Can I explain what I’ve just read? Well, the titles were held over a two-day period. But ah the first day was a qualifying heats. Ah the second day was semis and finals. Ah, it was held in Canberra.

**MK** You’ve been involved in BMX for a long time. Have a look on page 27 and see if there are any names you recognise from the list published there?

**George** On page 27 the results of 10-year-old girls. It’s got my grand daughter’s name.

**MK** And they’re the only names that you can recognise?

**George** [looking through list] 12 year old boys. I think that’s Moko Moanaroa.

**MK** Yeah, that’s right. Good.

*(George, 5: 159-191)*
**JOHN THE OIL STOREMAN**

**MK** When you were working did you ever have the chance to teach another worker some of the skills that you’d learnt?

**John** When a few blokes came I helped them set up a cart. When I was an oil storeman …

**MK** … when you were an …?

*

**John** Yeah, I had to teach a bloke how to do my job, you know, where to get the oil and how to order it and stuff like that and what machines to put the oil in and how to check it and stuff like that.

**MK** And what do you think you were like as a teacher?

**John** Well, I must’ve been good because he got my job and I got pushed out.

**MK** That was unfortunate. And how did you go about teaching?

**John** Well, from Monday to Friday I had things wrote down, you know, like check this order on a certain day. If we’re getting a bit low on oil, check and see if the order’s gone through the office and stuff like that.

**MK** So you set up a schedule of when it came to the ordering and you wrote that out yourself.

**John** Yeah, I usually just said check so and so, you know. And um after a while just ticked if off. And after a while I got into a routine just doing it from Monday to Friday. And if I got a bit bored with it I’d change days round so it wouldn’t, … yeah, do this day instead of the following day and stuff like that.

**MK** So what does check the oil mean?

**John** Well, um, on the um gearboxes and on the turbines they used to have the oil levels with little windows. And sometimes, because the turbines were steam, they used to have a lot of water collect inside, condensation. And so I had to use an oil separator and it separated the oil from water. And I um used to check those and um you drain as much of the water out, as much as you could. And then turn it off. And you saw how low the oil was and then you’d top that up by putting back to the same level again.

**MK** So you’d carry oil with you.

**John** Yes.

**MK** You wouldn’t have to write down what each turbine needed or what you’d put in each service.

**John** No, when I did the um oil storeman’s job and they said, “Oh, you have to check the turbines yourself.” And I said, “I don’t know what type of oil.” They gave me a sheet [of] each turbine. And they were numbered and also what type of oil they needed like L22, L22A and L23.

**MK** So it was all done by code.

**John** It was all done by, … yeah, and then they had showed me where I could get me oil from and how to take the oil out of the oil drums and put it into the tanks and stuff like that, yeah.

**MK** And did you have to know how much oil you were putting in each turbine?

**John** Yeah it was usually 25 litres and sometimes I would wind up carrying maybe 105 litres upstairs.

**MK** I hope, … did you have a trolley or something?

**John** No, by hand.

**MK** Oh, my goodness!

**John** I put it in my hand.
MK I was just wondering where you recorded the information about how much oil you used.

John Well, I had a book and um it had the number of the turbine and it had the dates up the top and then it said, you know, like on Wednesday it used, ... I put 73 litres of oil in it and stuff like that. So they kept a check and they checked it out and said oh, well, number three’s using a lot of oil. Either there’s an oil leak or um it’s running a bit funny ...

MK ... yeah ...

John ... yeah. We had one person who did it. I was on holidays and he was doing it. One day and he opened the wrong tap and he wound up putting about aw 500 litres of oil in Macquarie harbour.

MK Oh no!

John Yes.

MK Oh dear. The company would get the blame for that. So that was … it was like filling out a table, wasn’t it?

John Yeah, yeah.

MK It’s just using numbers.

John Yeah, using numbers and ...

MK … and of course you could cope with the words, date and amounts and all that …

John ... yeah, well, from Monday to Friday I just put like M for Monday and T for Tuesday..

MK So when you were teaching someone about this, you had to go and teach them all this about how fill out this – where to get the oil, show them how to read the particular oil that went into the turbine. Now how did you do that?

John Well, I showed them my books and stuff and the person who took over from me could read and write anyway so he figured it all out. And I just said, “Oh, well, when you put so much litres of oil in you just write it in next to the turbine you want what day you put it in and stuff like that.

MK And did you let him come along and watch you do it?

John Yeah, yeah. He came along and I talked to him for about a week and then after that he was fine. But they put me on other jobs and they asked him if he could manage doing the job. And he and they said if you had any trouble please talk to somebody. ‘Cause they don’t want to make it too long ’cause it might cost a bit of money.

MK And how about setting up the oxy cart? Was that harder to teach somebody how to do that?

John Oh, no. It was pretty basic, you know. It was easy to teach people.
Peter Teaching

MK
So how did you work with this man? You were teaching him. How did you teach him?

Peter
Oh, I got him aside just by myself. I told him that, you know, I had a lot of respect for him. He’s a very clever man. But I just wonder, you know, what his literacy skills were like. And he just, you know, very embarrassed. And he said he didn’t have any. He’s just very, sort of, gregarious, you know. He’s built like a gorilla. He’s huge and um I’ve always liked him. And I filled out, with him the day before, all the forms he had to do. And we did the exam orally. And I had everything, ... all his paperwork already done. I said to him, “Don’t ... come to class late. Be 20 minutes late,” and which he did. And, you know, he came into class like and I put on a bit of a charade and told him off for being late and all this sort of stuff and um pushed his paperwork at him which was already filled out done. And then he said he forgot his glasses. And I said, “That’s right; you’re only bloody useless,” and sort of stirred him up a bit, you know, just for show, sort of thing. And we had a bit of a laugh and he was all ... no one knew and his boss doesn’t even know. So, you know, it was ... He thanked me and I was glad to help him.

MK
And how did he get on with the course?

Peter
He was good. As long as people are attentive and they put into it. I don’t mind, um, I don’t, ah, I suppose, stepping outside the boundaries of my training a bit and helping people along a bit.

(Peter, 5: 362-381)
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Learning by experience: Reconstructing the literacy engagement of
nine men who self-report literacy difficulties

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STATEMENT OF AUTHENTICATION

The work presented in this thesis is, to the best of my knowledge and belief, original except as acknowledged in the text. I hereby declare that I have not submitted this material, either in full or in part, for a degree at this or any other institution.

(signed) ___________________________________
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ABSTRACT

This thesis, a qualitative study, examined the literacy practices of nine workers who self-report literacy difficulties. Through a series of interviews it specifically investigated how, in the course of their daily work, their mediated behaviour resulted in development of literacy competence.

Through analysis of the workers’ experiences this thesis explored sociocultural themes deriving from Vygotskian traditions such as the central mediational role of psychological tools and signs and the importance of activity taking place in social settings. It took the theoretical position that literacy is an increasingly complex construct that extends beyond functional connotations such as reading, writing and spelling. It focused on the kinds of literacy skills that individuals require in a world characterised by rapid and frequent changes. In doing so this thesis recognised the diverse modalities in literacy performance that emphasise ways of knowing and ways of doing or designing as well as reading, writing, listening, thinking, speaking and comprehending across a range of modalities.


This thesis argues that sociocultural concepts are applicable to adult learners. In particular it concludes that adult learners in the course of their jobs demonstrate a repertoire of literacy competence through engagement in meaningful literacy practices. While tasks involved in this engagement may seem to be beyond the individual worker’s current perceived capabilities, workers utilise psychological tools and signs to assist them in meeting these demands. This thesis reports that a significant indicator of the reported broadening in literacy competence is the support structures available in the workplace and in particular the specific characteristics of mentors.
NOTES FOR READERS

Some matters need explanation and clarification prior to reading this thesis. In general they relate to terminology and spelling patterns.

First, The term “cultural-historical” developed by Vygotsky and Luria in the period 1928-1931 referred to “the changes in mental processes that occur as a result of changes in the social and cultural organization of society” (Kozulin, 2001: 132), specifically the mediational and transformative effects of psychological tools and signs, including literacy (Cole, 1996; Cole and Wertsch, 1976). The words ‘cultural’ and ‘historical’ are linked because cultural change is influenced by “changing psychological tools … ontogenesis [and] human history” (Kozulin, 1996: 105). The term “cultural” implies that the tools and signs that mediate behaviour, resulting in higher mental processing are culturally and socially determined (Valsiner and Van der Veer, 2000). The term sociocultural has been used throughout this thesis as a more contemporary term that emphasises “the social organization of activity” (Cole, 1996: 235), simultaneously accounting for the historical nature of culture.

Second, sociocultural concepts are currently investigated and reported internationally. Many of the texts referred to in this thesis reflect this, particularly in their variations of English spelling, generally between American and Australian (or British) English. To maintain the integrity of their authorship any words that are directly quoted from such reports remain in American English style. Otherwise all spellings are of standard Australian English.

Third, without seeking to demonstrate any particular gender bias, all pronouns referring to the workers who participated in this study are written as male. Although I believe the comments apply equally to women, I decided to take a male focus in writing because all the main participants are men.