LITERACY AND LANGUAGE SKILLS IN THE NEW VOCATIONAL TRAINING ENVIRONMENT

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ABSTRACT

Significant numbers of New Zealanders do not have adequate literacy, numeracy and spoken English language skills for the demands made of them in the workplace, particularly where workplace reform initiatives have increased the quantity and sophistication of the skills required. Recent reforms in the national vocational education and training system are intended to increase participation in education and training, yet many adults with poor literacy skills never participate in post-school training and therefore may not be able to make use of these new opportunities.

Industry Training Organisations (ITOs) are responsible for the design, management and delivery of training for their respective industries, and are national standards-setting bodies for the National Qualifications Framework. ITOs are therefore key stakeholders in the vocational training arena. This study evaluated the extent to which a sample of senior managers from 32 ITOs recognised literacy, numeracy and language skill levels as significant issues and the manner in which literacy skills are being incorporated into industry qualifications on the Framework. The evaluation used an enlightenment evaluation methodology to provide a policy focus to the research.

Literacy, numeracy and language skills were regarded as significant by only a small of respondents, but this is likely to change when more workers participate in training and in particular when large numbers of learners are assessed against unit standards. Some ITOs have put strategies in place to support learners with limited literacy skills, but these are not adequate. There was some evidence of poor assessment practices. There was confusion about the most effective way to integrate literacy, numeracy and language skills into qualifications and the methods used were not in keeping with research on the transfer and integration of literacy skills from a training context to on-the-job performance. In order to improve the integration of these skills into the training system national policies and common definitions need to be established, supported by substantial research.

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CHAPTER ONE

INTRODUCTION

Reading and writing are fundamental to living in the developed world, as fundamental as motor vehicles. For people unable or unwilling to drive, life is often circumscribed, limited and frustrating because they must rely on the vagaries of public transport, and the expenditure of a great deal of time and energy to get where they want to go. Living without adequate literacy, numeracy and oral communication skills requires the same sort of expenditure of time and energy. Literacy skills are necessary to access information and to carry out everyday activities, such as using an EFTPOS card (the cheapest way to access a bank account), filling in a benefit application form at Income Support Services, writing a post card to a friend, comparing the prices of goods from two shops or reading the minutes from a local sports club meeting.

But literacy skills provide more than these practical opportunities. They are fundamental to accessing and manipulating the ever increasing amounts of information that determine how our lives are to be shaped. It is very difficult to access a broad range of information without literacy skills, and being a fully informed participant in civil society without the confidence to read, write and speak out in a manner which others can understand is problematic. Large numbers of adult New Zealanders lack the skills and confidence required to perform the everyday literacy, numeracy and language tasks that are required in the workplace, at home and in community life. Many others have adequate skills for their current life and work, but are unable to change direction, re-train or retain their jobs when change is forced upon them. It is important to emphasise that this discussion concerns the literacy levels of all adults, not just migrants or those for whom English is not a first language. Very few people in New Zealand are 'illiterate', that is having no

understanding the printed word at all. Nor are literacy problems confined to the unemployed or unemployable, those of limited intelligence or the disabled. A lack of literacy skills does not denote stupidity - *a beginning reader is not a beginning thinker.*[1] In this paper, 'literacy' refers to a range of reading, writing and numeracy skills, while 'literacy and language' incorporates broader dimensions of communication, including spoken English. (See Chapter three for more discussion on definitions.)

A new education and training environment has been created in New Zealand over the last decade that is intended to provide the mechanisms for upskilling the nation's workforce, which will in turn enhance our international competitiveness. The rhetoric of the reforms implies that these new initiatives will make education and training more accessible for workers with low levels of literacy than training arrangements in the past. Obviously, literacy and language skills underpin access to further education and training, a central tenet of workplace reform, yet it has been equally obvious to adult literacy educators that there has been limited recognition, both in workplaces and at a policy level, of the extent to which adults have literacy difficulties.

My interest in 'literacy at work' stems from my experiences in adult literacy education over the past eight years, first as a manager for a community-based literacy programme and subsequently as a researcher. While literacy and language skills may not considered particularly significant issues as yet, the release of the results of a recent New Zealand national adult literacy survey early in 1997,[2] and the growing body of experience with assessing against the National Qualification Framework (NQF or the 'Framework') unit standards will see, in my view, literacy becoming a more significant economic and educational issue, much as it has overseas.

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[1] A saying common among adult literacy workers.

[2] See Chapter two for more discussion on this survey.

THE STRUCTURE OF THIS THESIS

As yet, it is too early in the implementation of the new vocational education and training initiatives for there to be very much data on the achievement rates of workers with low levels of literacy. (There is also some doubt as to the adequacy of present data collection systems to allow that question to be answered, a point that will be pursued on Chapter Three). Therefore, the focus of this research is on Industry Training Organisations (ITO), which are influential in the vocational training policy arena because of their responsibility for both setting training standards and ensuring the delivery of workplace training.

This thesis evaluates, by interview and survey techniques, the extent to which Industry Training Organisations are aware of the literacy, language and numeracy difficulties of people within their particular industries, and whether these skill levels are seen to be significant. It attempts to discover whether or not the lack of these skills is emerging as a consequence of workers' attempts to participate in unit-standards focused training and assessment. Respondents are also asked to identify the policies and strategies ITOs are putting in place to assist workers with low levels of skill to successfully gain access to the National Qualifications Framework.

Chapter Two highlights the difficulties inherent in defining literacy, and outlines some of the international research on literacy and language issues in the workforce. The current research on literacy and language levels within the adult population in New Zealand is presented, and the chapter aims to make explicit the extent to which literacy and language skills are required at work. Attention is drawn to the fact that there is little local research to inform investigations into literacy and language issues, although these are relatively well established areas of academic interest overseas. New Zealand is only now beginning to pay attention to an area of workplace training that is vital to the success of workforce reform strategies.

The details of the new vocational education and training reforms are discussed in Chapter Three, together with the policy context in which they occur. The chapter highlights the limited debate and adult literacy policy development in New Zealand to date, compared with Australian literacy and language policy. The new training agenda arises out of changes in the understanding of the labour market, the skill demands of workplace reform initiatives, and the advocating of a competency-based education system. Chapter Four briefly discusses these issues.

This thesis is an evaluation which seeks to inform or 'enlighten' policy makers and stakeholders, in the hope that the debate about literacy and language issues might be enhanced. Chapter Five describes the process whereby 'enlightenment evaluation' was selected as the methodology, while the specific evaluation methods used are outlined in Chapter Six.

Chapter Seven presents the responses from the respondents on whether literacy and language skill levels are of major significance to the industries they represent. Their responses to Framework-related matters, in particular the manner in which literacy skills are represented in qualifications and assessment, are discussed in Chapter Eight, while Chapter Nine contains analysis of their responses to more general questions about literacy and language. To site the discussion in a broad policy context, the responses of the ITO managers were read by the Director of Workbase, the National Centre for Workplace Literacy and Language and her interpretations and commentary is interwoven throughout these three chapters. The concluding chapter highlights some of the policy and educational implications of the findings and suggests where further research and policy development might usefully take place.

CHAPTER TWO

LITERACY AND LANGUAGE SKILLS IN NEW ZEALAND

DEFINING LITERACY AND LANGUAGE

The terms 'literacy' and 'illiteracy' have been defined and redefined extensively.[3] A common understanding now would be that literacy 'involves the decoding of print in reading and the encoding of print in writing' in order to extract or present meaning (Roberts, 1995: 13). But literacy definitions have also involved recognition of power relationships in communities, as well as understandings of the technical skills involved. Historically, literacy was defined as the ability to read only, at a time when a whole range of societies limited access to reading to particular powerful groups (Thomas, 1994, Forrester et al, 1995, Green et al, 1995, Roberts 1995). People who could read had the potential to access to material inimical to the status quo, so entrée to such powerful knowledge was controlled. Access to writing was even more difficult to gain, because the ability to write meant the capacity to express and develop views alternative to those of the state.

Literacy has often been represented as a simple dichotomy of skills - either you could do it [reading and writing] or you couldn't (OECD, 1995). The historical process of collecting information about levels of literacy in a national population illustrates that perception. New Zealand was interested in the literacy rates of its citizens from as early as 1851, when the Census of Populations and Dwellings asked all Europeans if they could read and write or just read (New Zealand 1990 Yearbook: 269). The Marriage Register was also used as a record of literacy, because it was assumed that those who used marks instead of signatures were illiterate. In 1902, it was recorded that

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[3] Quigley has found more than 150 official and unofficial definitions in the North American literature since 1880 (1996: 13).

the illiteracy rates had fallen dramatically since 1881 because the numbers using marks had fallen from 32.04 per 1000 men to 4.59 and from 57.98 per 1000 women to 6.32 (ibid.: 269). By 1926, after 30 years of universal free primary education in this country, all New Zealanders were assumed to have acquired literacy. Illiteracy was no longer considered an issue and the question was dropped from the Census.

UNESCO has promoted literacy as one of the principal mechanisms by which nations would improve their standard of living over the past three decades, although initially at least their emphasis was very much on the developing world (Roberts, 1995; OECD, 1995). It was assumed literacy was a 'given' established across the developed world, because of the universal education models that had developed. Definitions focused on reading and writing tasks:

> A person is literate who can, with understanding, both read and write a short simple statement on his [sic] everyday life' (UNESCO, 1993 quoted in Wagner, 1990:120).

This definition could be operationalised by the question 'can you read and write?'

Complex definitions

Rapid technological, social and economic changes over the past two decades, and the growth of literacy as a field of academic debate (Roberts, 1995; Moore, 1996) have broadened understanding about literacy and increased the range of interpretations around the term. Falk (1995) provided a useful set of questions to capture key elements in the debate. Is literacy a skill or set of skills that can be brought out and used on demand in a range of different situations? Can it be objectively 'tested'? Or is it instead a socially constructed set of cultural practices, the use of which is highly dependent on the context in which literacy tasks are to be performed? Falk identified three recent approaches to definitions:

- the **skills** approach, emphasising the perceptual procedures of decoding (for reading) and encoding (for writing);

- the **growth and heritage** approach, emphasising both the private, personal and individual ways in which people use, and grow through, reading and writing, and the significance of reading and writing in offering access to the valued literacy heritage of a culture;

- the **critical-cultural** approach emphasising the variability of everyday literacy practices from culture to culture and site to site, and the analytic, critical nature of using reading and writing in everyday social experience (ibid.: 23).

Perceiving literacy as a multi-dimensional set of skills dependent on one's particular culture and situation, rather than merely technical skills, blurs the line between illiteracy and literacy. To imply 'Johnny can't read' suggests that reading is a simple, single skill, rather than a complex set of processes that vary according to the type of reading being done and the setting in which it will occur. In response to the comment 'Johnny can't read', Beach and Appleman wrote:

> Johnny may be able to read the directions for constructing a radio kit but not a Henry James novel just as Johnny may be able to fry an egg but not cook Peking Duck (quoted in Kirsch & Jungeblut, 1986:1).

The debate over definitions occurred concurrently with increased recognition that economic development and education were inextricably connected. The title of a recent report *Adult Illiteracy and Economic Performance* (OECD, 1992) made the connection explicit. This publication argued that earlier simple definitions of literacy arose because most workers were in jobs that required little, if any, reading and writing. In a stable economy, where the scope of jobs was relatively static, there was no particular imperative to be concerned about the levels of education and the capacity of the greater workforce to participate in education and training (Moore, 1996). Complex critical-cultural definitions have evolved alongside increasingly complex and sophisticated workplace communication practices, which recognise literacy and language within the broad context of communication skills. These

definitions recognise that literacy and language skills are dependent on one's particular culture and situation at a particular time, rather than a discrete set of skills to be learned in their entirety and held for life:

> ..a relative phenomenon, one that is both personal and social: it occurs in different contexts, situation as well as cultural; it depends on the reader's and writer's purpose and aims for engaging in literacy acts; and it varies according to the nature of the text (Kazemek, 1990:467).

At any one time, depending on the literacy action being attempted, people will have varying amounts of competence, which makes it hard to measure these skills.

Numeracy

As the amount of information presented in numeric or graphic form yet integral to the accompanying text has increased, traditional definitions of literacy have expanded to include numeracy (OECD, 1995). No universally-accepted definition for numeracy has emerged, but the concept has been taken to include the ability to use a range of mathematical skills including basic numbers skills, spatial concepts, use of measuring equipment and logical problem solving (Halliday & Marr, 1995). Numeracy is broader than operating skills alone,[4] and focuses on utilisation of these skills in a variety of contexts in everyday life. Within adult literacy education, numeracy's place has often been 'fragile and definitely in the fringe in terms of funding and support' (Tout, 1995:14), yet numeracy is an essential skill in the workforce.

Spoken English

Literacy, language and numeracy are essentially social activities - people engage in them to inform and influence others,' to express their opinions, create solutions, and challenge positions' (Moore, 1996: 190). Social

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[4] Addition, subtraction, multiplication and division.

participation requires the ability to communicate orally, and competence in spoken English is now also a recognised part of literacy and language definitions.

Contemplating the complexity of literacy definitions should not blind us to the fact that however it is defined, those with the lowest levels of literacy are more likely to be:

> ..less affluent, more frequently unemployed or under-employed, and have attained the least schooling. They experience social and economic disadvantage. While not all people with low literacy are disadvantaged, the great majority are (Beder, 1991:30).

RESEARCH ON LITERACY AND LANGUAGE

Whereas policy makers used years of schooling or school qualifications as the proxy measures of literacy levels in a population, national surveys are now considered more effective and comprehensive measurements populations (Murray, 1995, Stern & Tuijnman 1994).

National adult literacy surveys

The Organisation for Economic Co-operation and Development (OECD), in partnership with Statistics Canada, has sponsored a major International Adult Literacy Survey (IALS), in which New Zealand has recently taken part. The study incorporates a multi-faceted, context-bound definition that emphasises adult literacy behaviour:

> Using printed and written information to function in society, to achieve one's goals and to develop one's knowledge and potential (OECD, 1995: 14).

For the purposes of the survey, literacy is defined in terms of three domains:

1. *prose literacy* - the knowledge and skills needed to understand and use information from texts including editorials, news stories, poems and fiction;

2. *document literacy* - the knowledge and skills required to locate and use information contained in various formats, e.g. job applications, maps, bus timetables;

3. *quantitative literacy* - the knowledge and skills required to apply arithmetic operations e.g. balancing a cheque book, completing an order form, determining bank interest on a loan (ibid.: 14).

Rather than there being one score, which when achieved denotes 'literacy', the outcomes are recorded in five levels. Level one means the person was functioning at the lowest literacy skill level, level five the highest. [5]

The IALS involves a series of national surveys conducted over several years, with approximately eight countries in each cohort. The results of the first round have recently been published. They challenge the assumption that literacy problems are found only among the unemployed, migrants or marginalised young people:

> Literacy skill deficits are found not just among marginalized groups, but affect large proportions of the entire adult population (OECD, 1995: 115).

Responses from the seven countries involved, including Canada, Germany, Poland, Sweden and the USA (Table 1) provided evidence of literacy problems across the social and economic spectrum, and for significant numbers of each population.

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[5] Level one tasks typically require the reader to find one piece of information or perform one operation, when there is clear direction in the text. Level 2 texts may contain more distracters. In addition, integration of two pieces of information may be required, or more may need to be inferred from the text.

Table 1- Distribution of population at Levels 1 & 2 of IALS

	Canada		Germany		Poland		Sweden		USA	
Levels	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**
Prose	16.6	25.6	14.4	34.2	42.6	34.5	7.5	20.3	20.7	25.9
Document	18.2	24.7	9.0	32.7	45.4	30.7	6.2	18.9	23.7	25.9
Quantitative	16.9	26.1	6.7	26.6	39.1	30.1	6.6	18.6	21.0	25.3

(OECD, 1995: 57)

Table 1 shows the considerable disparity between countries. Poland had the highest percentage of population at Level 2 and below, while Sweden consistently had the least at both levels (and consistently higher numbers at the higher levels as well). Canada has 42.2% of its population operating at Level 2 or below of the prose scale, with similar scores for the other scales, comparable to the scores for the USA (46.6% for Level 2 or below).

Table 2 presents comparative national literacy survey data, which reinforces the contention that literacy, numeracy and language skill levels are not problems confined to the workforce of the developing world. They occur globally:

> It is conceivable that about one-third of workers could do their job better if they were able to use basic reading and writing skills better (OECD, 1992: 7).

The specific definition of basic skills used by each country was not included, but the USA, Canada and Australia all used functional definitions and research methodology somewhat comparable to the IALS to produce their results, so it is reasonable to assume some commonality between surveys. The results confirmed the OECD's contention that literacy difficulties occur globally.

Table 2 - International comparisons of literacy levels in the population

France	• 10-20% of the adult population faced varying degrees of adult literacy problems
USA	• 22% of American adults showed the 'lowest level of proficiency in a national survey'
Canada	• 16% of the adult population identified themselves as having literacy problems • 38% had difficulties with the reading demands they encountered in their daily lives
Spain	• 20-25% of the population could not write their address on an envelope
Australia	• 28% of the population had difficulties filling in forms
Belgium	• 15-25% of the adult population had basic skills problems
Greece	• 15-30% of the adult population had basic skills problems
Portugal	• 15-30% of the adult population have basic skills problems
Netherlands	• 10% of the adult population (not including those whose first language is not Dutch) had basic skills problems - thought to be an underestimate

(ALBSU, 1994: 8).

The economic implications of poor basic skills

In a research study of 400 British companies, the Adult Literacy and Basic Skills Unit (ALBSU) investigated how much money would be saved if employees had better basic skills, which were defined as reading, writing, numeracy and oral communication skills (ALBSU, 1994). The research was based on assumptions that very few people had no literacy skills at all, that

there were very few jobs that did not demand communication skills and that most jobs demanded workplace mathematics.

Approximately a quarter of the respondent companies said poor basic skills affected the work of blue collar jobs and 14% said it was significant for managerial/professional staff. Oral communication skills were very important for 65% of companies, 53% rated both reading and maths as very important, while writing was seen as important to 47%. Sixty-three percent of companies reported they had not considered (nor had needed to consider) basic skills issues and may not have been aware of problems (ibid.: 23). On the whole, little assessment of literacy skills was done by companies at recruitment. Most companies (51%) also did not believe that basic skill difficulties would have an effect on productivity and believed their staff were adequately trained to do the job. However, a quarter of companies agreed that basic skill difficulties meant they had to recruit from outside their organisation and thus incur additional costs, while 23% agreed that poor basic skills caused a lack of flexibility among workers.

The final part of this project was to project the possible costs to industry posed by basic skill difficulties. Information was sought about: cost of customer orders cancelled through poor basic skills; cost of rectifying customer orders despatched incorrectly through poor basic skills; cost of customer orders lost through errors, etc. through poor basic skills; cost of staff who could be dispensed with if basic skills were better; cost of recruiting employees externally because poor basic skills limit internal promotion. These costs were grossed up to represent all 40,000 companies in the UK estimated to employ 51 or more people. Lack of literacy skills are estimated to cost British industry £4,828 million sterling annually. This figure was considered as conservative because it did not account for additional training costs and support for workers who may not cope with written training material,

the cost for re-doing work, or the loss of potential business caused by poor performance in these areas.

In a 1989 study of the social costs of inadequate literacy in Australia (Hartley, 1989), it was suggested that inadequate skills have a significantly detrimental social (and by implication economic) effect. They:

> ..diminish the potential for economic growth, affect the flexibility and efficiency of industry, restrict personal advancement and ability to transfer across jobs, decrease initial and later employability and increase the potential for industrial accidents and occupational health and safety problems (ibid.: xi).

Workplace literacy and language demands

The literacy and language demands in American workplaces may not exactly parallel the New Zealand context, but research from the USA painted a convincing picture of the sophisticated language demands of the workplace:

> The average worker uses print material 2-3 hours daily on the job and faces comparable print demands in life's other roles (i.e. consumer, citizen, parent, patient, student, church member and so on); blue collar workers are reading about 97 minutes per day (forms, directions, order forms, printouts, operating manuals); retail and clerical workers read 3 hours daily; most categories of workers read more than students; only 2% of all occupations studied required no reading (Mikulecky, quoted in O'Connor 1990: 3).

An Australian definition of workplace literacy and language illustrated the complexity of the literacy and language skills, and the knowledge that are required within the workplace context:

> a range of written and spoken language skills, maths, reading and comprehension, interpersonal skills, communication and problem solving required in the effective performance of occupational tasks and functions and enabling participation in workplace and social processes (O'Connor, 1990: 9).

Competence in literacy and language in the Australian workplace requires the ability to operate in a number of communications contexts:

- procedural - language for carrying out tasks;
- technical - language for operating and understanding machines and technology generally;
- personal - language for expressing personal identity and/or needs;
- co-operative - language for interacting in groups;
- systems - language for interacting in organisations;
- public - language for interacting with the wider community (Cope et al, 1995).

These communication skills are part of effective functioning in society as a whole, and the development of them should not be seen as purely a remedial activity for those who have difficulties with reading and writing. As Moore (1996) pointed out, these skills are relevant to every person within an organisation. Every person has on-going language development needs to be catered for, needs which change over time and in new circumstances. In addition, communication practices in an enterprise influence whether or not individuals choose to participate. The capacity to perform competently is as much about the extent to which people are encouraged and rewarded for their communication as it is about an individual's skill:

> Perhaps there is no history of the organisation listening to their viewpoint; perhaps the language they hear being used at work excludes or marginalises them, placing them in a position of powerlessness...There are managers who institute team meetings as a means of encouraging input from operators, but whose language and cultural practices during those meetings excludes the language and cultural practice of those from whom they wish to hear (ibid.: 189).

Literacy skills decline over time when they are not practised (OECD, 1992; 1995). This has policy implications for literacy education, because it calls into question the notion that improved skill levels of a workforce can be

achieved by replacing an older, less educated workforces with a younger, better educated one. There is demand now for more highly skilled new workers, and there is also the recasting of traditional roles, where existing workers are required to take on new literacy-requiring tasks. Immediate needs for improvements in the capabilities of employees, in quality and in competitiveness cannot wait for a new generation of more skilled workers to emerge, when 80% of the post-2000 workforce are already in employment (OECD, 1992).

The effectiveness of workplace literacy programmes

It is vital to understand that viewing literacy as a 'context-specific competency' (OECD, 1995: 18) has implications for the organisation, and indeed the pedagogy of literacy programmes. They need to be closely linked to other workplace and job training, and need to adapt quickly to changes in workplace practices. The transfer of skills from one type of literacy task to another is at best uncertain:

> Reading the Bible is considerably different from reading the newspaper, which in turn differs significantly from the sort of reading and thinking one does when reading a manual (Mikulecky & Lloyd, 1993: 5).

Therefore, learning is most effectively reinforced when the learning situation is as close as possible to the actual job performance (Lytle & Wolfe, 1992). Mikulecky & Lloyd's (1993) meta-analysis of workplace literacy programme evaluations suggested that programmes had to take into account the very different learning needs that might be presented. For example, a person who couldn't read at all needed different support from someone who left school after finishing high school with adequate skills at the time but who couldn't cope with new literacy demands because of changes in work practices. People for whom English is a second or other language needed different help again, depending on the level to which they were educated in their mother tongue. This study suggested that the acquisition of skills takes significant

practice time, often up to 100 hours to make any significant improvement. (Some early workplace literacy programmes in New Zealand only offered approximately 30 hours tuition to each participant.)

LITERACY AND LANGUAGE SKILLS OF ADULT NEW ZEALANDERS

The number of people in New Zealand who have difficulties with literacy, numeracy and language skills is as yet unknown. This should be remedied early in 1997 when the results from our participation in the IALS become available. The findings will give policy makers some clear indications of the numbers of New Zealanders whose skills are not sufficient to complete a range of literacy, numeracy and language tasks. However, despite the paucity of specific data about literacy difficulties in New Zealand, adult educators believe that literacy, numeracy and language difficulties are widespread, and are not confined to those of non-English speaking backgrounds (Benseman, 1992).

A recent attempt to establish a proxy measure for assessing the literacy levels of a population, in the absence of national survey data, determined that 'No School Qualifications' (NSQ) was an appropriate measure in New Zealand (Sutton, 1996). The 1991 census showed that 32% of people over 15 do not have school qualifications. One-third of the new Zealand working age population reported only having completed a primary education, while just over half have an upper-secondary or tertiary education (Livingstone, 1994). However, years of schooling and educational achievement are only imperfect indicators of educational attainment and literacy levels, and need to be treated warily (Livingstone, 1994; Murray, 1995, OECD, 1995, Stern & Tuijnman 1994), because those indicators also capture those with limited education who have high levels of literacy, and excludes those who may have completed school qualifications but whose literacy levels are low:

> In every country there are many cases of poorly educated people who perform well, and a smaller, but still significant number of highly educated people who perform poorly on the literacy scales....schooling

> provides no more that 'a start in life' when it comes to acquiring literacy skills (OECD, 1995 116).

Although there are no national data on literacy levels, there has been a number of small scale studies of specific groups. In a Department of Justice survey (Mudford, 1991), 21% of prison inmates said they had difficult with reading, 32% reported difficulty with writing or spelling, and 31% difficulty with number work. The younger the inmate, the more likely he/she was to report difficulty with reading, writing or maths since leaving school. In a survey of ACCESS trainees (Irwin, 1988), 25% of trainees self-reported literacy difficulty. A 1992 survey of 871 Otago 18 year olds (which under-represented lower socio-economic groups, Pacific Islanders and Maori) showed 10% had literacy difficulties (Benseman, no date).[6] Annual statistics from the Adult Reading and Learning Assistance Federation (ARLA), the main provider of adult literacy support showed a gradual rise in the student numbers, from 5447 in 1993 to 7640 in 1995 (Sutton & Benseman, 1994, 1995, 1996).

These small scale studies, when considered together with the results from recent national surveys in Australia, Canada and the USA,[7] countries which have similar levels of compulsory schooling, make it possible to produce rough estimates about the literacy levels of New Zealanders (refer to Table 2 for comparative national percentages). Between 10-20% of the adult population are likely to have some difficulties with their literacy skills - somewhere between 260,000 and 518,000 adults. This is not to say that all these adults are 'illiterate'. Most will have some literacy, numeracy and language skills, and some will have them to a sophisticated level. However,

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[6] The results are based on a combination of self-reporting and the Burt reading test, standardised on school children and now largely discounted by reading researchers (Benseman, no date).

[7] See Wickert, 1987; ALBSU,1987; Creative Research Group, 1987 for descriptions and analysis of these surveys.

a significant number of this group, may have skills that are inadequate for a myriad of situations in which they find themselves.

Whatever the measure used, large numbers of people with literacy, numeracy and language difficulties are already in the workforce. For example, ARLA's statistics for the last two years recorded that approximately 40% of their 6000 plus student total were in either full or part-time work. New Zealand has not had an impressive record of education and training, with low participation rates in education, high proportions of people without formal qualifications and relatively poor economic performance. A 1993 OECD report pointed out the 'inadequate integration between different forms of post-compulsory education and training' as one of the contributing factors to our poor economic performance (quoted in Fitzsimons, 1994: 225). There was concern whether the workforce had enough generic skills to be able to participate in upskilling (Rasmussen, 1995). In 1992, 17000 young people (one third of school leavers) went straight from school onto unemployment benefits with no post-secondary qualifications. New workers only enter the workforce at a rate of between 2-4% per year, so poor skills have long-term consequences for national educational levels and by implication, the possible literacy levels of the workforce over the next 30-40 years:

> ..about half of the cohort of students moving into the workforce prior to 1980 would have had no education beyond the fifth form. This group will not finally filter out of the workforce until about the year 2030 and will form a very substantial part of it in the early years of the 21st Century, a fact that will have enormous implications for retraining and upskilling (Livingstone, 1994: 4).

The opportunities for people with low levels of skill have decreased as a consequence of the massive economic restructuring over the last decade. A marked decline took place in the numbers in unskilled and semi-skilled occupations between 1987-1992, particularly in manufacturing, and although there has been some recovery in the low skilled section of the service sector,

there is almost no movement in the elementary occupations.[8] This decline is in contrast to the growth in highly skilled, non-manual segment of the service sector (Livingstone, 1994).

Specific New Zealand literacy and language research

Research into the literacy and language issues of the New Zealand workforce has been rare. Probably, the first specific project was a study of the literacy requirements of the jobs of Electric Power Board workers (Cunningham et al, 1983).The power board concerned was planning to move from oral to written trade examinations for linesmen (sic) and jointers, and the electrical workers union believed this would require higher literacy levels than were necessary for safe job completion and training. This was found to be an accurate assumption. As part of the study, the training material and safety manual were analysed for readability and were found to be unusable on-the-job for a significant number of workers. The results of that study presaged some of the concerns about literacy requirements vis-à-vis the new training structure that emerge through this research.

A more recent study (Moore & Benseman, 1993) set out to discover the job-specific and workplace-related reading, writing and maths demands on workers involved in production, in a study involving over 300 interviews in 17 Fletcher Challenge Ltd. subsidiary companies. Supervisors reported 1 in 6 (16%) of the workers they supervised had significant reading difficulties, 1 in 4 (25%) had significant writing difficulties, and 1 in 4 (25%) had significant maths difficulties. Between 7-15% of workers themselves reported difficulties with their reading and writing, while one fifth admitted they had difficulty reading their employment contract (a result which has implications for those monitoring the effects and fairness of the Employment Contracts Act).

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[8] Personal communication with Auckland Regional Council social planner.

Framework-focused research into literacy and language issues is also new. The New Zealand Qualifications Authority (NZQA) recently commissioned an analysis of the communication skills required to access unit standards in national certificates that had already been constructed on the Framework (Bos & Roxborough, 1995). The research initially examined the unit standards that had been included in entry level qualifications in four manufacturing industries, looking for the competencies or pre-requisite skills in oral English language, literacy, numeracy, and science that were embedded or implicit in the unit standards and/or the accompanying training material. Prerequisite skills were defined as being 'the skills and knowledge a trainee would need, to successfully undertake a training course, or be assessed in workplace tasks' (ibid.: 8). The analysis determined that the unit standards had significant literacy, numeracy and language skills embedded in them, such as: to describe a process orally; describe defects orally; complete basic written documentation; follow written procedures; counting; weighing etc. The research identified the need for unit standard and resource material writers to be clear about the assumptions being made about workers' skills in their material.

Being able to complete an assessment successfully may require different skills from those actually relating to the subject matter - for example, being able to explain why something is happening in a machine or operation requires different skills from using that machine to actually perform a specific operation. If reading and writing are not required to complete a production process, the use of reading and writing assessment tasks for that operation is inappropriate, and places an unnecessary barrier in front of the learner. Although Bos and Roxborough didn't speculate on this themselves, it seemed likely that a similar pattern of prerequisite competencies would be found in industries similar to those used in the sample. It is important to note that the research was focusing on workers' ability to participate in training and assessment tasks, rather than their ability to perform their job competently (Sutton, 1996a).

The second section of Bos and Roxborough's research involved assessing workers' competence at performing the skills identified above. A sample of 74 workers were tested for oral skills, 151 for literacy and numeracy and 111 for science across the four industries. The study found that only a minority of employees would be able to access the national certificates in those industries, because most workers did not have the prerequisite literacy, numeracy or science skills. Of the four industries assessed, only 43% of the participants had 85% of the necessary literacy skills, 23% had the necessary numeracy skills and only 10% had the necessary science skills to undertake training or take part in formal assessments of their work (ibid.: 84).[9]

Unfortunately, a number of research problems in the Bos & Roxborough study (in particular limitations with the sampling) limit its use as a definitive statement about the state of workplace communication skills (Sutton, 1996a). Also, by implication it suggested that literacy skills had to be gained before other training could take place, a concept which is not borne out by the literature on literacy transfer (There is more discussion on this in Chapter Five). At best, this research could be seen as an exploratory study for investigating the skill levels of process workers. Not withstanding the problems, it did focus on a question central to this research, that of access to the Framework . The results did not augur well for workers with low skill levels and were certainly disturbing to several of the ITO managers I interviewed.

New Zealand workforce research

Questions about literacy, numeracy and language issues have been asked of companies as part of more general workplace-related enquiries. A recent investigation into skill shortages in 513 companies in the Auckland region by

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[9] A similar study of the Forestry Industry literacy requirements in Victoria, Australia found 30% of the workforce to have difficulty with basic skills. See Serle (1995) for more detail.

the Auckland Business Development Board (ABDB, 1995) reported 'A lack of numeracy, literacy and spoken skills is common among new recruits' (ibid.: 1). Nearly half the respondent companies reported skill shortages, with larger companies experiencing significant shortages. Existing staff as well as new recruits were likely to lack skills in spoken English, numeracy, reading and writing, although new recruits were consistently reported as having fewer skills. Lack of technical knowledge was more marked in new recruits as well. The results suggested that the new training structures had not improved skill delivery, (although it could be argued that the Framework had not been in place long enough, nor implemented extensively enough to have effected much marked change by the time of the survey in August 1995.)

It may be true that recruits are less skilled because of failings in the education system, a theme frequently presented in the media. But there is very little firm evidence to suggest that workers' skills have declined overall and that there is a 'skills crisis' among younger people (Snook, 1994, Livingstone, 1994). However, there is a popular perception that the skills of school leavers are inadequate for the working world they face, and this is worthy of further investigation. Another explanation may be that the communication and language demands of jobs have increased. If the notion of contextual literacy promulgated earlier is accepted, literacy and language skills are thereby inextricably linked to technical competence. People become accustomed to the communication, literacy and numeracy requirements of their industry, have learned the jargon, know the context and parameters of their job and therefore have more skills. All of the above are embodied in the technical knowledge that new recruits are acknowledged not to have, putting newer recruits at an increased disadvantage. Unfortunately, the ABDB study had a poor response rate and it is therefore difficult to extrapolate from its findings, but it did indicate that further research is needed into the skill levels expected by employers and the capacity of new recruits to meet them.

Another survey in the Wellington region investigated the most important skills and attributes businesses sought in candidates applying for their first job (Hikley & Associates, 1994). Not surprisingly, communication skills, such as speaking, listening, understanding and following instructions, and writing were prominent. The great majority of respondents (60% or more) ranked the following skills as very important: understand and follow instructions; competence and confidence in speaking and listening; achieve self discipline; develop good relationships with others; competence and confidence with reading; manage time effectively; show enterprise and initiative; competence and confidence in writing (ibid.: 16). Five of these can be described as communication skills. Although not specifically classified as numeracy, the skills of 'correct calculator use' and 'calculate accurately' would often be included in workplace literacy programmes and they were rated as very important by 59% and 52% of respondents respectively.

Recent research into the needs of eight industries in the Auckland region (ETSA, 1996; Reid, 1996) described how industries looked to the Education and Training Support Agency (ETSA) to provide trainees who are 'functionally literate in the workplace, or better'. Industries appeared to be using literacy levels as the distinguishing marker between unskilled and skilled workers, although different industries demanded higher basic levels than others. Unskilled workers were expected to have numeracy, skills on computers, and undefined 'communication' skills as well as literacy skills. Semi-skilled workers were expected to have 'critical literacy skills', but neither 'functionally literate' not 'critically literate' were defined.

Workplace New Zealand recently asked 200 companies on their mailing list about their implementation of innovative workplace practices (Ryan, 1995). Almost 80% of the responding companies rated communication and team skills as important. Approximately 25% of respondents had put literacy and numeracy skills programmes into effect, while a small number were also planning these.

When ITOs are established, they are required to undertake demographic studies and training needs analyses for their industries. A number of these reports were supplied to me in the course of my research. It appeared that although participating enterprises and organisations were asked about the educational levels of their employees and members, there were no specific questions about literacy, numeracy and language skills. Despite the lack of specific questions, one respondent gave very clear feedback about literacy and language issues as s/he observed them:

> Our area has many capable personnel. A high proportion of the [team] have literacy difficulty. I have struck candidates in my [trade]exams who could not read and write beyond that of a 6 year old. Oral examinations ensured skill recognition. These candidates are unlikely to complete your forms or feature in this survey. They make up 3-5% of the [workers] at [supervisor] level and probably a higher percentage of the most basic level. Several people in this category want cartoons to learn from. This is serious (Community and Social Service ITO, 1996).

A manufacturing ITO identified particular issues around ESOL and culture in its training needs analysis. Workers used strategies to cope, for example they 'teamed up with others who could translate instructions and train them'. Some were able to read procedural instructions because they had been printed in their own language. Workers in a focus group interviewed for the needs analysis reported 'opportunities for people to improve their literacy and English language skills would be beneficial' (Manufacturing ITO, 1996).

These studies represent the current (albeit limited) knowledge available about the extent of literacy difficulty in New Zealand. There has been even less published about the effectiveness of the burgeoning number of workplace literacy programmes in providing workers with skills, and/or access to further education and training opportunities. One recent evaluation of an on-site workplace learning project (Jakob-Hoff & Sutton, 1996) found a highly effective programme, although at the time of the evaluation the programme was only just entering the realm of unit standards assessment. As far as it is

possible to ascertain, no other comparable New Zealand studies have been done.

More literacy and language research is currently being planned. NZQA has recently commissioned research into workplace assessment, and literacy and language skills have apparently emerged early as issues of concern.[10] NZQA have also just commissioned a study into the strategies enterprises are using to support workers who have low skill levels to access training and the NQF. The New Zealand Employers Federation is undertaking a national survey of enterprise training early in 1997 and plans to include questions about literacy and language skills within the workforce. These studies, together with the results from the National Adult Literacy Survey should provide, by mid 1997, much needed information to inform policy makers about workplace literacy and language issues.

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[10] **Personal communication with project researcher.**

CHAPTER THREE

VOCATIONAL EDUCATION AND TRAINING REFORM INITIATIVES

Assumptions about the links between education and economic effectiveness are clearly identified in the government's long term education strategy document:

> A highly skilled workforce at enterprise and industry level to enhance New Zealand's international competitiveness (New Zealand Government, 1994: 32)

Increasing emphasis is now placed on participation in education and training, both on and off the job, as New Zealand companies consider how to best enhance their competitive advantage. Workplace reform initiatives call for a 'learning culture' where people expect to, are equipped to and actually participate in education and training throughout their lives. But historically, the people with the fewest skills have also been the least likely to participate in adult education, which in itself makes demands on literacy and language skills. The question central to this evaluation is the extent to which workers with low levels of literacy, numeracy and English language skills have taken (or will be able to take up) the opportunities afforded by the new environment.

Typically, participants in post-compulsory education and training are those who:

- have attended school for more than an average time and passed formal qualifications
- are under 40 years of age
- are Pakeha, with above average incomes
- are in full-time work and most often in white collar occupations.

The least successful in the schooling system and those who have never participated in post-school education and training include:

- ethnic minorities
- immigrants
- those who left school early
- those on low incomes
- people who are unemployed or work in semi-or unskilled jobs
- women with dependent children (Benseman, 1996: 277).

In some industry sectors, unskilled jobs and semi-skilled jobs have been pared down and restructured into jobs that require a much greater range of skills, including literacy, numeracy, language and interpersonal communication skills (Moore & Benseman, 1993; ARLA Workbase, 1995; Ryan, 1995). Much of the restructuring of jobs or reduction in low skilled work in New Zealand took place at the end of the 1980's, in the aftermath of the stock-market crash and as economic restructuring initiatives had widespread effect. Consequently there are fewer employment opportunities for people with poor literacy skills. The OECD are projecting a similar international trend of weakening demand for low-skilled workers (OECD, 1995).

SKILL NEW ZEALAND INITIATIVE

Skill New Zealand - A New Strategy for Lifelong Education and Training is the Government's initiative to reform industry training and qualifications (ETSA, 1993). Two distinct, yet related, components have been created. The first is a mechanism by which industry is given more control about the content of education and training. The second is the construction of a national framework onto which education and training are to be 'hooked'. This national strategy for training emphasises the link between workplace reform and education, a link reinforced by the joint launch of the policy by the Ministers of Education and Employment.

An industry-led training system

The employers' guide to Skill New Zealand described how an internationally competitive society required systematic training in new skills and technologies to be available, as well as a 'highly skilled and adaptable workforce' (ETSA, 1993; 3) competent and equipped to take an active part in this training. The purpose of the Industry Training Act (1992), is to 'increase the quality, relevance and amount of industry training' through the establishment of training organisations for each industry. The Act lays out the responsibilities of an ITO, which include: setting the skill standards in their industry; developing the arrangements for the delivery of training; developing arrangements for the monitoring of training and the assessment of trainees (ETSA: 1992). ITOs are the mechanism for 'design, management and delivery of training' (ETSA, 1992: 7) while the Education, Training and Support Agency (ETSA) is responsible for purchasing training outcomes from them, acting in a contract management role. ITOs are purchasers of training rather than deliverers per se, with an explicit responsibility to ensure that non-traditional learners are able to access training:

> The ITO will need to ensure that any agreement it enters into with any training provider provides for: a supportive learning environment for people for whom training has not traditionally not been available for such as Maori, Pacific Islanders, and women (ETSA, 1995: 5).

Unfortunately, this definition (also used by NZQA) does not include the use of educational status or school qualifications as indicators for non-traditional participation. Although the limitations of using school qualifications as proxy measures of literacy have been alluded to (Sutton, 1996) using gender and ethnicity indicators alone will be unlikely to provide enough information to accurately determine the participation of non-traditional learners (Courtney, 1992; Benseman 1996).

The effectiveness of the ITO concept is not yet proven. For example, there are concerns about the numbers of ITOs, the funding regime under which

they operate, the extent to which industry were prepared to buy the services they provided, the capacity of ITOs to represent the needs of enterprises in their industries and the extent to which employers are neglecting training responsibilities and 'free-loading' on the training provided to staff in their former companies (Rasmussen et al, 1995; Smelt, 1995). Some of these issues undoubtedly impact on the ability of ITOs to make effective policy decisions, but further consideration of the ITO structure is beyond the scope of this research.

The National Qualifications Framework

The National Qualification Framework, the second strand of the Skill New Zealand initiative, is a way of conceptualising and organising all national qualifications using a competency-based education (CBE) model. This framework is unique in attempting to combine both vocational and general education within the one structure, unlike Australia and Britain, where the emphasis has been primarily on vocational education. NZQA was set up under the Education Amendment Act (1990) to develop the Framework in both secondary and in post-school education and training. Six years later, NZQA are still in the process of putting into place:

> a comprehensive system of approving, registering and monitoring all nationally recognised qualifications and their component parts by means of a National Qualifications Framework (Tuck, 1995:10).

The core of the Framework is the 'unit standard', which sets out the learning outcomes to be reached for a particular segment of learning in a particular area (Tuck, 1995: 10). It specifies the standards that must be reached and sometimes indicates the range of settings or experiences in which assessment tasks might be developed. Each unit standard is worth a certain number of credits. Table 3 provides examples of Level 1 unit standards.

Table 3 - Level 1 Mathematics unit standards

No	Unit Standard Title	Levels	Credits
533	Add, subtract, multiply and divide whole numbers, simple fractions and decimals	1	3
534	Convert ratios and percentages and calculate range and average	1	2
535	Read and construct basic graphs and tables	1	2
534	Calculate standard units of measurement	1	3

Examples of writing and interpersonal communications unit standards are shown here (Table 4) to give some indication of how the complexity of the unit standard is expected to increase at higher levels.

Table 4 - Examples of writing and communication skills unit standards

No	Unit Standard Title	Levels	Credits
1281	Begin to communicate in English	1	10
1293	Participate in a team or small group	2	4
1293	Participate in a predictable 1:1 interview	2	2
1294	Be interviewed in a formal setting	3	2
1297	Conduct a formal interview	3	3
3483	Fill in forms	1	4
3492	Write simple technical reports	2	3
3495	Write technical texts	4	4

Unit standards themselves, and the national qualifications which result from aggregates of the standards, are ranked in difficulty and complexity from Levels 1-8, with Level 1 being roughly equivalent to standards expected in the Fifth Form, and Level 7 university undergraduate degree courses. Within these parameters, national certificates are being developed (at levels 1-4) and national diplomas (at levels 5-7).

Unit standards are classified in broad 'fields', somewhat akin to industrial sector groupings. At the commencement of my research, there were 15 fields, which were themselves broken down into smaller sub-fields, representing smaller groups of similar industries including, for example: Arts and Crafts, with sub-fields Film and Electronic Media and Graphic Arts; Manufacturing with 16 sub-fields including Dairy Manufacturing, Glass & Glazing, Industrial Machine Knitting, Plastics Processing etc. There tends to be an ITO for each sub-field.

ITOs construct qualifications relevant to their industries, using combinations of industry-specific unit standards, as well as drawing on unit standards that are considered generic for many industries or work situations. Unit standards from one qualification or industry are able to be credited towards the acquisition of other qualifications, shortening the time and thereby reducing the resources needed to gain further qualifications. These concepts of 'portability' and 'transferability' of skills between industry groups and qualifications are essential to the NQF philosophy. Another important and related element is the recognition of prior learning (RPL), which allows the learner to gain credits towards unit standards based on skills acquired in another context.

Communication unit standards

In order to understand the place of literacy within the NQF, it is necessary to understand the difference between industry-specific unit standards and those generic to a whole range of industries, work roles and therefore, a range of qualifications. The terminology varies between the two key players in the field.

Literacy and language skills come within the communications sub-field of Humanities at NZQA, although there are proposals to shift those relating to spoken English to the languages sub-field. The *Communications* unit standards currently in place include:

- spoken English language for workplace communication
- reading for a variety of purposes, e.g. gaining instruction, reading texts that debate issues
- basic written language e.g. filling in forms, presenting information, workplace documentation, writing letters.

Core generic skills are common to a range of situations or occupations. Generic unit standards cover common work or life skills, for example managing time, managing anger, producing a curriculum vitae and identifying basic employment rights, workplace safety and quality management skills. The *numeracy*-related unit standards are found in the sciences field and include: mathematical computation e.g. basic operations, calculating standard units of measurement, reading basic graphs.

ETSA operates with slightly different nomenclature: the consultation document on Essential and Core Generic Skills for ETSA (ETSA, 1993: 6) identified the *essential skills* that should be developed by all individuals in New Zealand: communication; information; numeracy; problem-solving; self-management and competitive; social and co-operative; physical; and work

and study skills.[11] Literacy and numeracy were expected to be in every learner's repertoire and in common parlance, these are also called 'enabling' or 'communication skills'. ETSA also referred to 'capability skills', which were a 'key issue, to be incorporated into the content and design of all programmes' for pre-employment (TOP) trainees (1996:33). They included: literacy and numeracy; learning how to learn; communication (writing and speaking concisely); information collecting and analysing; application of mathematical ideas and techniques in practical contexts. ETSA made the point that capability skills are not just remedial, because everyone is on a literacy continuum, requiring 'learning experiences to move us forward' (ibid.: 35). Although there is obviously considerable overlap between essential, capability and communication skills, a common set of definitions could possibly provide greater credibility for the area.

Specific recognition for similar sorts of skills is given in the national qualifications frameworks of Britain, Australia and the USA. As an example, in Australia 'key competencies', are defined as 'the collecting, analysing and organising of ideas and information' as well as 'the expressing of ideas and information' (Key Competencies, 1992: 8).

The responsibility for the actual *implementation* of the NQF rests with educational institutions, private training establishments (PTEs) and industry. NZQA's role lies in the *design and monitoring* the success of the Framework, reflected primarily by the number of learners who achieve unit standards. The lack of data on educational background is going to make it very difficult during the transition between the existing education system and the new 'seamless' system, to determine whether adults with low educational status are in fact availing themselves of training opportunities. Neither is the

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[11] These skills form part of the core of the Curriculum Framework, which applies to all New Zealand schools and which therefore feeds into the Qualifications Framework.

successful attainment of unit standards in itself enough to inform and guide the development of successful participation by the learners with whom this evaluation is concerned. Each industry (and each enterprise) is primarily interested in its own sector and industry-specific skills. Skills which permeate all sectors, such as literacy, are much harder to define and include on the Framework, because the practice of them depends so much on the context in which tasks are carried out. Measuring achievements and outcomes in literacy education is also notoriously difficult because, for example, there is often limited skill transfer between training and use beyond the educational setting (Lytle, 1989).

Both the Industry Training Strategy and the National Qualifications Framework are still developing. Large numbers of unit standards and a significant number of qualifications still await registration on the Framework. Five years after the NQF was implemented, some industries have yet to begin assessing the competence of workers against unit standards. Nevertheless the level of literacy and numeracy competence, and the spoken English required for successful completion of unit standards, even at Level 1, may be beyond a significant number of workers, both native English speakers and those from non-English speaking backgrounds. The realisation that workers do not have the language and literacy competencies to participate in the training opportunities offered through the Framework has become a prime catalyst for the burgeoning workplace adult literacy education industry.

CURRENT LITERACY AND LANGUAGE POLICY

The extent to which policy exists, and resourcing is provided on a particular issue, offers some indication of whether the issue under discussion is considered an organisational, community or government priority. Policy is any course of action (or inaction) relating to the selection of goals, the definition of values or the allocation of resources (Quigley, 1993: 119). Social policy in education is 'the attempt to use education to solve social problems, influence

social structures, to improve one or more of the aspects of the social condition' (ibid.: 119). It involves the direct, or indirect development of human resources, or the redistribution of resources, which is of course an intensely political process, with major resource implications. On the one hand, adult educators may be citing estimates of literacy difficulties in order to draw attention to the issue and secure increased funding. Government, on the other hand may want to minimise the problem, because it potentially highlights deficiencies in the education system. Meanwhile, the business community may be both unwilling to take responsibility for the problem and not be prepared to fund its remediation (OECD, 1992).

The assumption implicit in this thesis is that literacy, numeracy and language skills are worthy of social and educational policy. Therefore it is important to be familiar with the policy environment that surrounds the ITOs in their decision making about these skills. The paucity of the situation here is best illustrated by comparing the Australian and New Zealand approaches (Sutton & Benseman, 1996). Australia has had a national languages policy since 1991 - *Australia's Language: The Australian Language and Literacy Policy* (ALLP). The policy has four broad goals: the development of literacy, the learning of languages other than English, preservation of aboriginal languages and languages services such as translations and libraries. These goals form the backbone of the policy, with specific targets and funding specified for each. The policy uses a broad definition of literacy:

> Effective Literacy is intrinsically purposeful, flexible and dynamic and involves the integration of speaking, listening and critical thinking with reading and writing. Effective literacy in English for all Australians is the goal of the ALLP (1991:9).

It acknowledges the relationship between literacy and participation in civil society:

> All Australians should develop and maintain effective literacy in English to enable them to participate in Australian society (ibid.: 9).

The literacy goal is to be implemented in four contexts - children's literacy, adult literacy, Aboriginal Literacy and English for Speakers of Other Languages (ESOL).

In contrast, governments in New Zealand have given only limited recognition to the fact that supporting adults with poor literacy skills poses special educational questions. There are three organisations with particular interest and expertise in this area that receive state funding:

- the Adult Reading and Learning Assistance Federation (ARLA) receives modest funding for national co-ordination as well as community-based adult literacy provision
- ETSA, the recipient of substantial funding for pre-employment training, recognises broad literacy issues in its 'capability skills' and training providers are expected to address these as part of the outcomes ETSA purchases.
- Workbase, the National Resource Centre for Workplace Literacy and Language, has been recently established to promote and support workplace literacy and language programme development. Workbase emerged from an initiative within the community-based ARLA Federation, rather than from government initiatives.

In Australia there is extensive co-ordination between the various agencies responsible for literacy and language development, a well-established literacy and language research network, as well as numbers of academics working in the literacy and language arena. Again, the local scenario is in sharp contrast, with no official co-ordination apparent between any of the

agencies involved, limited research and no dedicated academic study.[12] The large number of agencies with an interest in the literacy skills of their client groups, albeit not a clearly identified interest, include (but not exclusively): Ministry of Education, NZQA, ETSA, ITOs, Workbase, Income Support Services, ACC, Justice, unions, the NZ Employment Service and Workbridge. Many of these agencies refer clients to community-based literacy programmes, and/or fund literacy support for their clients in one form or another, yet this is done without an overall strategy, any commonality of purpose resulting more from good luck, rather than design.

The scale of the reforms has been enormous and implementation of them is taking more time than had initially been envisaged. Their efficacy remains to be seen. The effectiveness of the methods by which literacy, numeracy and language skills are integrated into the Framework are discussed in more depth in Chapter Eight.

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[12] The teaching of a dedicated adult literacy course in a university setting only began in 1996, with an adult literacy module offered as part of a Certificate in Adult Education at the University of Auckland.

CHAPTER FOUR

THEORETICAL UNDERPINNINGS OF THE NEW TRAINING REGIME

The national training strategy has been influenced by ideologically-driven perceptions of the relationship between education and the labour market, as well as the skill demands of workplace reform initiatives, and the first section of this chapter outlines those influences. The intention has been apparently to create a market-based, employer-led training system, which would in turn deliver a fundamental change in the quality and quantity of training (Law, 1996). The second section briefly considers the educational construct of competency based education (CBE) which is intended to link training and work, one of the central features of the new regime. The notion of competence has been hotly debated for the last decade, and it is beyond the scope of this thesis to present all the elements of the debate. However, it is important to understand the fundamentals of CBE and the principal critiques of it, in order to consider whether CBE has the potential to allow people with low levels of literacy to access education and training.

SKILLS TRAINING AND THE LABOUR MARKET

The move to a regime of 'perpetual training' (Fitzsimons, 1994) began with the disintegration of the social accord that had implicitly operated in New Zealand. Welfare state regimes historically attempted the difficult task of recognising the collective rights of workers and balancing those rights with those of employers, while achieving 'economic growth, full employment, a steady rise in the standard of living and the moderate reformation of work in order to humanise, within limits, production' (Law, 1996: 161). Within the 'social partnership' of government, employers and unions that maintained the

welfare state in this country, the employers expected the government to bear the cost of formally training and retraining the workforce, which occurred off the job - a perception that developed at a time of relative economic stability, and apparently steady economic growth.

Economic and political certainty also meant a relatively clear distinction between formal schooling and the world of work, where education and work were chronologically separate. 'Education was something you did before you went to work' (Moore, 1996: 178). Moore pointed out that formal schooling was intended to develop generalizable skills outside a vocational context, while skilled workers for industry were produced by training novices, either on the job as apprentices, or in pre-employment training programmes developed by polytechnics. Skill development at work was primarily the responsibility of employers.

However, a worsening international situation faced many western economies, including Australia and New Zealand in the 1980's, 'industrial decline, unemployment, worsening terms of trade, increasing trans-national domination of the economy, inflation and economic stagnation' (Foley, 1992: 47). This international economic crisis and the rise of new right ideology challenged the construction of welfare capitalism and subsequently the education/work divide. The emphasis shifted from economic and social policies that emphasised full employment and social equity, to policies that required increased international competitiveness and massive economic restructuring. Workplaces and the organisation of work changed, and education emerged as a way out of the skills and productivity crisis in which western economies found themselves (even while the inadequacies of the current education systems were judged to have been a major contributing factor to it) (Foley, 1994).

Ironically, at the time when education was seen as intrinsic to economic growth (and therefore societal well-being), neo-liberal ideology meant a shift from the perception of education as a public good to it being viewed, within human capital theory, as a commodity to be traded primarily for individual good (Olssen 1996). Human capital theory recognises people as instruments of production, the value of which can be enhanced by the addition of education and training, from which both the state (and employers) and the individual will benefit (Foley & Morris, 1995; Gee & Lankshear, 1994; Karabel & Halsey, 1977; Livingstone, 1994; Schultz, 1960, Tight, 1996). The theory suggests a monetary link between education and the economy - put simply, investing in one's own education will bring a long-term return of increased earnings. The theory also assumes a direct and positive relationship between skill development and productivity.

There are inherent contradictions within these theories. For example, critical-cultural literacy theorists would argue that there is a 'deficit' model inherent within human capital theory, in which people are seen to be personally inadequate because of their lack of skills. They have obviously not made the most appropriate (economically maximising) personal choice and illiteracy is the consequence. They need to be changed and re-educated, 'topped up', or 'made competitive' in the marketplace. Media reports talk about 'illiterates', who are 'at risk' and 'handicapped'. Illiteracy is a source of shame and guilt and is described as (or the cause of) personal tragedy. Within this theoretical frame, the problem of illiteracy belongs to the individual alone, and the solutions to it are achievable by anyone if they 'put their mind to it'. This portrayal reinforces the perception of adult illiterates as unemployable and in human capital theory terms, unproductive (Wickert, 1992). This myth is given substance by the situation many people with low skills find themselves forced into. They are most likely to be caught in the secondary labour market, which is characterised by low wages and employment instability, where, 'educational credentials are not important characteristics for job entry; jobs

leave little room for learning skills, and workers are not paid according to training and skills (Foley, 1992; 51).

There is also some doubt about the assumption that upskilling the workforce really does lead to enhanced labour market flexibility and productivity, and uncertainty whether quality workforce training is more effective in increasing productivity than, for example, producing more graduates (Livingstone 1994; Foley & Morris, 1995; Stern & Tuijnman, 1994). Companies may have at least five possible alternatives to intensifying training: 'changing the product; contracting out production; changing the task (e.g. substituting capital for labour); reorganising the job content; hiring skilled workers' (Drake, quoted in Fitzsimons, 1995: 262).

Human capital theory contains the concept of credentialism, the continuous upgrading of qualifications required to be initially considered for a job, which in itself contains an inherent contradiction (Benseman et al, 1996; Livingstone, 1994, Tight, 1996). When educational inflation means the number, level and/or standard of qualifications required for a particular position increases, workers are displaced by others who are more educated. Wages do not necessarily increase for those with qualifications, while unemployment becomes (or continues to be) the burden of the least educated, often young people. Those with poor literacy skills, regardless of their best efforts to become 'value-added' workers, are destined to be marginalised and employed in the least secure work. Structural unemployment may mean that some never have a chance to use those hard-won skills. The sense of frustration that this brings is evident among young people on employment-related training, who cannot seem to amass enough skills to catch up.

WORKPLACE REFORM

The demands for new workforce and management skills and elicited by changes in workplace practices have also influenced the government's training strategy. Workplace reform has been defined as:

> ..reorganising the flow of work, the organisation of tasks, work responsibilities and job content. It generally involves a move toward team rather than individual work organisation, increased employee responsibility for quality and perhaps productivity, broader skill definitions, a closer integration of work goals, appraisal and payment systems and new approaches to employee relations (Enderwick, 1994:1992, quoted in Rasmussen, 1994: 20-3).

New demands have been made for organisations to be customer-driven, paying particular attention to quality, adaptability and innovation (Rasmussen, 1994: 20-2). Workplaces are to be restructured into 'learning' organisations, where continuous improvement practices would demand more sophisticated problem solving and communication skills from workers (Morrison, 1995; Williamson, 1995; WEB, 1996). The workplace reform concept implies a breaking down of the historic management/labour divide as well as the traditional dichotomy between manual and mental work. It assumes the development of labour processes which construct work from 'multiple tasks, high-skilled tasks, horizontal work organisation, co-operative responsibility and shared decision making' (Fitzsimons, 1994: 256).

A number of inter-related factors may be interwoven in reform strategies: an emphasis on customer service, quality programmes, the integration of skills and training, new technologies, and greater democratisation of the workforce (Moore, 1996; Gonczi, 1992; Fitzsimons, 1994). Highly skilled people who are constantly upskilling and re-skilling are central to the achievement of 'sustainable competitive advantage', with much of this training being expected to shift from the tertiary sector to the workplace (WEB, 1996). Workplace reform processes are often initiated as a result of crisis, but substantial reform usually only occurs over a long period.

As yet, actual implementation of workplace reform in New Zealand has been slow. A recent study of companies' implementation initiatives found 'little evidence that the constellation of changes thought to be involved in workplace reform had been pervasive in New Zealand' (Ryan, 1995: 15). Her findings included: little evidence of employee participation; little evidence of major reorganisation of work processes or redesign of jobs; self-managed teams or team leaders appointed by teams themselves comparatively rare; few changes to payment systems; very little action on Equal Employment Opportunity (EEO) practices. The greatest area of workplace change related to health and safety (ibid.: 1), where impetus for change is provided by the financial penalties imposed if employers do not meet their statutory responsibilities. The briefing paper for the 1996 Tomorrow's Workplace Conference (WEB, 1996) discussed the possible reasons for this limited implementation - implementation is complex, slow, needs to be built on trust and will be measured in decades, not years. The report drew attention to the need for workplace literacy and numeracy skills and suggested that 'this may be expensive and time-consuming, but is necessary for successful team work' (ibid.: 29).

Learning and education are fundamental to workplace reform, regardless of the extent to which it is being implemented. In one sense the restructuring actually models the learning process at work (Foley, 1994), as organisations set up new work systems and process, learn new skills and then reflect on their effectiveness, continually adjusting to maximise their return. Literacy education needs to be recognised as a critical component in the reform process, because literacy, language and numeracy skills underpin a worker's ability to take part in reformed work structures. Employees in the new work order are expected to acquire and keep abreast of new technologies and work practices, including such things as new computer-based technology, multi-skilled and self-managing teams and the search for quality and continuous improvement. If companies genuinely want their workers to

acquire these skills, and to speak out, to take on more responsibility and to show a willingness to learn, literacy, language and broad communication skills are genuinely 'essential'.

COMPETENCY-BASED EDUCATION

The intention of the new training regime has been to give more control of training to industry. This has been attempted in two ways: firstly adopting a mode of vocational education and training that focuses on work-oriented skills and uses the notion of competence; and secondly by granting to industry representatives (the ITO) the power to determine the knowledge required within the qualifications system (Stevenson, 1995; Smelt, 1995). Debates about the educational merits and limitations of competency-based education have been vigorous and extensive since its adoption as part of an international training reform agenda at the end of the 1980's (Gonczi, 1993, 1994; Gonczi & Hager, 1993, Hall, 1995, Harris et al, 1995; Margison, 1994; 1995a; Peddie & Tuck, 1995, Watson, 1993). However, much of it is not relevant to this paper. For all the discussion of CBE's merits and flaws, and concern about its place in the overall education structure of New Zealand, people with low levels of literacy who want to gain qualifications are probably going to have to engage with the Framework for the foreseeable future. This section therefore discusses only the notion of competence itself and the shift in assessment methods from norm-referencing to standards based assessment. Integrated assessment is suggested as a possible alternative to concerns about the limitations of CBE.

Competence

Competence is concerned with what people can *do*, rather than what they *know*. Immediately one point of tension in the debate is brought to the fore - this distinction (simplistically) represents the conceptual divide between 'training' and 'education'. Questioning whether CBE is appropriate for, or can

really measure, learning of a higher conceptual order has been the source of much Framework-related debate. In general terms, it is argued that education is concerned with the acquisition of knowledge and general attributes. Education emphasises understanding, and this learning and understanding is therefore capable of being transferred to different contexts. Training on the other hand is said to be more skills and outcome focused, and pays more attention to mastery than understanding (Findsen, 1996; Tight, 1996). Barker (1995), a senior manager within NZQA, argued against what he considered the artificial and unhelpful polarity implicit in this distinction between vocational and non-vocational education. The Qualifications Framework was intended to reduce this polarity, because it was now realised that any employee 'must bring a very wide range of knowledge, skills, attitudes and values to any work' (ibid.: 16). The conceptual qualities valued in academia - wisdom and understanding - were also requirements in work.

Competence involves an action in a specific context. It focuses on outcomes, not the learning process that people have undergone. In order to measure someone's ability, there must be standards against which to measure, and these standards measure a performance at a particular point in time (Tight, 1996). This leads to two underlying assumptions in the Framework, first that there is a unique set of performance criteria in each skill and knowledge area that can be agreed on by or across industries, and secondly these can be quickly updated when technology or training needs change (Smelt, 1995: 12).

Standards-based assessment

A traditional educational emphasis on 'knowledge' favours written testing as an assessment method, relating an individual's performance to those of fellow students in a statistically controlled exercise (norm-referencing). However, advocates for educational reform argued written examinations did not assess practical skills, and that norm referencing acted as a social stratification process (Ferguson, 1996; Barker, 1995). For many less successful students,

norm referencing was a de-motivating system.[13] As Barker said 'It is hard to build a country of successful achievers around a system of compulsory failure' (ibid.: 23).

CBE requires the setting of a standard and assessment against it (criterion - referencing), and the new qualifications regime has adopted a standards-based model of assessment. Unit standards are expected to be 'lucid and unambiguous' descriptions of what is to be measured, the desired learning outcome (Peddie & Tuck ,1995: 9). A learner's performance is be assessed against that pre-determined standard and no (direct) comparison is made to the performance of other learners. The standards are characterised as objective and are judged in terms of performance relevant to the task - a trainee hairdresser actually cutting hair rather than writing an essay about cutting hair. This is an important point, as Bos and Roxborough(1995) indicated. Standards that require a literacy or language competence not actually required on the job put up a barrier for the learner. On the other hand, standards that do not include the literacy or language really required to perform on the job may not be truly testing competence.

Models of assessment

NZQA (1995: 15) argued there were three different perceptions of competence. A behaviourist view equated competence with performance, i.e. competence is the sum parts of the performance, reducing competence to a series of atomised tasks. (For examples of the critique of CBE as behaviourist see Margison, 1994; Walker, 1992, 1994). A second, general attributes model focused on the attributes underlying effective performance - critical thinking, knowledge, values etc. This model assumed that there were generic

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[13] The 'failing' that comes with the 50% pass rate at the centre of the normative Bell curve has been well known to many people with poor literacy skills, who struggled to achieve a pass mark at school, only to find the goal post shifted without their knowledge as marks were scaled down.

attributes which could be applied in all situations, regardless of the context in which the performance took place. Both of these models have the potential for the 'atomisation of complex wholes of knowledge, skills, attitudes and values into simple measurable tasks' (Barker, 1994.: 26). The third 'integrated' approach offered an alternative, that overcomes the limitations outlined above - what Barker described as 'a broader assessment model of collecting relevant evidence of whatever hue, in order to make a professional judgement' (Barker, 1995.:26). NZQA advocates the latter approach, and encourages its use by marketing training in integrated assessment as one of their training products.

An integrated assessment model

Much of the development of this model has come from Gonczi (1992, 1993, 1994) and Hager & Gonczi (1993) . The model suggests competency has three central elements; attributes, performance and standards:

> A competent professional (or worker at any occupational level) has the attributes necessary for job performance to the appropriate standard (ibid.: 9)

Attributes include knowledge, abilities, skills and attitudes. An integrated approach suggests a complex integration of attributes, skills and knowledge in a particular context, where competence is judged by inference by the judgement of experts, who look for a 'rich' variety of evidence. Another definition by Gonczi described competence as 'the complex structuring of attributes for intelligent performance in specific situations' (NZQA, 1995). In the integrated model particular attention is paid to including ethics, values, attitudes and qualities in the statements of standards, and assessment criteria. Essentially, it requires assessors to conceptualise competence in three domains - knowledge, psychomotor or physical skills, and the affective domain, and to design assessment tasks that are of a size and complexity to reflect the real world. The professional judgement of the assessor can be used to infer competence of performance criteria that are embedded in, but

not necessarily directly observable, within the completion of the whole task (Gonczi, 1993, 1994, NZQA, 1995). This represents (theoretically at least) the sort of synthesis required of people in the course of their work.

Despite the well documented criticisms of CBE, which make me wary of it as an adult educator, it is important to acknowledge its current centrality in education. Moreover, credentialism will continue to be an issue in many industries, as competition drives workers to acquire more skills, regardless of whether the job has actually changed in its complexity or literacy demands. If adults are not able to access qualifications because of their literacy and language skills, they are likely to have ever-reducing opportunities in the labour market. They traditionally have not participated in post-compulsory education of any kind. Many may have only passed one certificated test in their lives, their driver's licence (and many not even that).

Integrated assessment is not without its critics (see for example, Stevenson, 1995; Dall'Alba & Sandberg, 1995) but its emphasis on 'real world performance', context, and the integration of knowledge and skills as they can be practically demonstrated in the workforce, appears to offer the possibility of successful formal learning options for those with low levels of literacy. Acknowledging the narrowness of the conventional CBE model, Chappel, Gonczi and Hager (1995) suggested that the integrated approach had a great deal to offer adult basic education students because it supports access and equity:

> 'Making learning goals and assessment criteria explicit, the recognition and certification of competence independent of the pathway through which it was achieved, the development of more flexible educational entry and exit points and the recognition by educational sectors of each one's contribution to learning, all of which are facilitated by the competency approach, are contributions to access and equity in adult vocational education' (Kingsman quoted in Chappel et al, 1995:182).

However, there is no empirical evidence as yet of the extent to which this method has been adopted by training providers, or structured into evidence

guides for unit standards. If it is indeed the path forward through the morass of debate about CBE, it will need much more vigorous promotion and research.

The current emphasis on education and training, and the purported demands for new skills to match the new workplace environment may have no effect on the skill levels of the least qualified workers. For the reforms to be effective, literacy and language skills need to be given a central place. One way of achieving this, and perhaps alleviating some of the disquiet about standards-based assessment may be the integration of communication and technical skills in the standards-based system. However, the current commercial imperative for NZQA to sell training in the integrated assessment method as a product probably mitigates against its more wide spread adoption.

CHAPTER FIVE

EVALUATION THEORY AND METHODOLOGY

A paradigm, simply explained, is a way of viewing the world, determining 'what is important, what is reasonable (Patton, quoted in Sarantakos, 1993: 30). The 'positivistic' paradigm in social science research, with its roots in science and mathematics, begins with the postulation of a theory, which researchers then seek to prove or disprove by testing hypotheses with empirical data they have gathered. An alternative, 'constructivist'[14] paradigm focuses not on empirical data but on subjective elements and varying interpretations of experience.

CONSTRUCTIVIST THEORY

Constructivist research generates rather than tests hypotheses, and assumes that theories and concepts arise during and after the data collection, rather than before it. Constructivist researchers start out to explore, rather than seeking to confirm. Hypothetico-deductive rationality would only tell part of the picture, therefore one of the functions of constructivist enquiry is to provide 'rich description'. House (1980) described naturalistic enquiry as using illustrations, examples, imagery and metaphor to engage the audience, in the attempt to 'structure reality'. A naturalistic evaluation is likely to: attempt to present generalisations to non-technical audiences; use everyday language; be based on informal, everyday reasoning; and attempt to establish some understanding of 'reality' (House, 1980: 279).

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[14] Also described as 'post-positivist', 'ethnographic', 'subjective', 'responsive', 'naturalistic', or constructivist' (Robson, 1993: 61). See Sarantakos (1993); Scriven (1991); Norris (1990); House (1980), for further discussion.

A fundamental distinction between positivist and constructivist research emerges in their respective understanding of 'values'. Positivist enquiry believes that research is a neutral process, which seeks to achieve objective truth by value-free enquiry through the dispassionate eyes of the researcher, while the constructivist view is that research is an intrinsically political and value-laden process (Chambers, et al, 1992). The values of the researcher influence the choice of research question to pursue. Values shape the boundaries and directions which the specific enquiry will follow, just as they influence data collection methods and sample selection. Chambers et al suggested that articulating the personal values embedded in the project provided 'a perspective from which to judge the research product which is more honest and probably more useful that the practice of hiding predisposition...' (ibid.: 283).

While research is undertaken to establish truth, evaluation is undertaken to inform decision, clarify options, reduce uncertainties and to provide information that is contextually based in time and culture. 'Research is aimed at truth. Evaluation is aimed at action' (Patton, 1986: 14). Evaluation should aim to be socially just and take into account the issues of all stakeholders, including the most powerless. This requires paying attention to issues of social class, gender and ethnicity (House, 1993; Norris, 1990). Evaluation research in a constructivist paradigm offers the opportunity for social commentary, with the possibility, and indeed the responsibility, to make critical statements about the worth of policies and programmes. Certainly, I looked for a research process which would allow my own beliefs to be explicit. I came to this research not as a neutral outsider, conducting research in the 'impartial pursuit of the public interest' but rather from the position of 'thoughtful partisan', (Lindblom, 1987: 168) because I wanted to advance certain values and the interests of some people and groups over others. Many people have trouble accessing adequate education, which I believe to be one of the basic rights of citizenship. It may be

that the NQF offers these people the opportunity to access effective education for the first time.

Value pluralism is another key characteristic of post-positivist research (Guba and Lincoln, 1986), which recognises that the differing perspectives of stakeholders may lead to differing judgements from the same evidence and information. This is, of course, opposed to a positivist notion of only one reality. It was assumed that the ITOs taking part in this research would be experiencing somewhat different realities, depending on the industrial contexts of their supporting industries, their industries' training history and their own stage of organisational development. This potential for multi-faceted interpretations reinforced the necessity for a fluid, responsive, situationally-driven evaluation.

Post-positivist evaluation also disputes the notion of the 'objective outsider' as the person best equipped to evaluate. Guba and Lincoln (1986) argued that the act of taking part in an evaluation may stimulate participants to expand their perception of reality and to come to understand more about it, and that the act of participation enhanced their capacity to be reflective and critical. In this case, a researcher asking questions may (and did in several instances) act as a catalyst for ITOs to begin to consider literacy and language issues, if they had not already done so. It may also serve to validate the perspective of those ITOs where literacy and language issues were being recognised.

METHODOLOGY

Evaluation is the process of establishing the merit, worth and value of things, 'distinguishing food from garbage, lies from truth, science from superstition' (Scriven,1991: 139). The process has two characteristics; data gathering, and making conclusions about merit or benefit. Although there are any number of

evaluation models,[15] the distinctions between them arise primarily over purpose. Two purposes predominate. *Formative evaluations* are concerned with the collection and feedback of information relevant to programme planning and operation, for use in developing and improving the programme as it is designed and implemented (Sharp, 1993; Ince, 1993). Obviously, formative evaluations are used in the earlier stages of evaluations. On the other hand, *summative evaluations* provide information to decision makers to enable them to make resource decisions. They concentrate on assessing the effects and effectiveness of programmes and are usually undertaken after a programme has been operating for some time, or at its conclusion.

The formative/summative distinction is similar to that between *process* and *outcome* evaluations. Summative and outcome evaluations are similar in intent, investigating the results and consequences of programmes and policies. *Process* evaluations, while akin to formative evaluations, place particular emphasis on systematic observation of what is actually going on, as opposed to the 'official' view of what actually takes place in any programme. Process evaluations involve the clear documentation of what the programmes actually consist of in practice, and answering the questions of how and why the programme produced the results it did (Robson, 1993). Of course, the distinctions between models is not as clear-cut as their descriptions might suggest and evaluation in the real world usually draws from more than one model, to meet the information needs of a variety of stakeholders. This research study began as a process evaluation, because a major component of the study was to determine what was actually happening in adult literacy education in the workplace.

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[15] House (1978) suggests 11 different models, the Evaluation Research Society proposes another six (Robson, 1993).

Illuminative evaluation

My initial research questions included:

- To what extent had adult basic educators become familiar with and incorporated unit standards in their teaching and assessment processes?
- How did tutors and ABE providers see standards based education changing their education practice?
- How many workers with literacy difficulties were being assisted to achieve competence?
- What were the implications and consequences of assessment processes for workers with low levels of literacy who were engaging with competency based education and training?

In response to these questions, the methodology initially chosen was 'evaluation as illumination' (Parlett & Hamilton 1972). Illuminative evaluation searches for perspectives rather than truth, 'description and interpretation rather than measurement and prediction' (ibid.: 10). It offers a broad and open domain in which to work with its concentration on 'rich texture' through detailed programme description. Illuminative evaluation aims to address and cast light on a complex range of questions, including the learning milieu in which the education takes place. It was particularly appropriate for innovative educational initiatives, which the Framework seemed at the beginning. Innovative educational practices do not operate in isolation as 'self-contained and independent systems' (Anathasou, 1990: 12) but rather can precipitate ripple effects elsewhere and these need to be noted and brought into the evaluation. As a general research strategy, illuminative evaluation aims to be both adaptable and eclectic in its choice of method and technique. This flexibility was important because, with the Framework and ITOs both being new developments, it was not certain what information might be available nor where it might be sourced.

There are distinct stages in the process of illuminative evaluation (Parlett: 1972; Athanasou; 1990). The first is familiarisation with the key issues and 'learning milieu' being studied. In the second, the evaluator selects specific areas for special attention and inquiry. During the third stage, the evaluator looks for general principles, cause and effect patterns and weighs alternative explanations, while in the fourth the evaluator makes judgements about the evidence gathered. The data collecting goes in cycles, with constant revision as new questions and new information come to hand, leaving scope for new enquiry.

Stage 1 - Familiarisation with key issues

During the first phase of the research, to familiarise myself with the milieu as per the illuminative model I attended two workshops:

- *Using unit standards in adult basic education (ABE)*[16]

This was a one day workshop run by NZQA for the ARLA Federation which explained the NQF, unit standards and the history of standards-based assessment. The workshop was attended by 20 ABE tutors and trainers from a range of organisations: community literacy schemes, some of which also provided workplace literacy; private training providers; Training Opportunity Programme (TOP) tutors; and trainers based in industry. My initial assumption was that significant numbers of these tutors would assessing trainees using the standards-based approach, yet most of those attending had only minimal involvement with the Framework. Only two of those attending were actually assessing against unit standards, although many of the organisations were in the process of achieving registration with NZQA, the first step in offering unit

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[16] Adult Basic Education (ABE) is 'second chance' education for adults. Its curriculum may include for example literacy and spoken English, te reo Maori, numeracy, life skills, learning to learn (very similar to ETSA's capability skills). It takes place in many contexts - prisons, community hourses, TOP programmes, on marae.

standard based assessments. The majority of participants were just beginning to grapple with the complexity of the NQF.

- *An introduction to the Integrated Model of Assessment*

This course, again run by NZQA for ARLA was intended to give participants specific tools for using the integrated model, to overcome the concerns that standards-based assessment atomises performance to meaningless checklists, which do not bear any relation to whole task competence. A higher proportion of tutors from the workplace attended this workshop but again, very few were actually involved with assessing against unit standards.

As a consequence of attending these seminars, the NZQA communication unit standards team invited me to take part in a two-day workshop critiquing the existing reading, writing and interpersonal communication unit standards with a group of ABE tutors. Although the workshop had been intended for people familiar with the NQF, and in particular those who were using communication unit standards, only a few of the participants were actually assessing against them. Those experienced with the Framework were critical of the repetition and the degree of overlap between various unit standards. Critical feedback and concerns from private training providers and enterprises had also been received by the facilitators, including concerns that: the credit entitlement for reading, writing, and interpersonal communication unit standards were too high and would distort national qualifications; the high credit entitlement also made the crediting of those unit standards too expensive for companies, who had to pay $1 for each credit achieved by a trainee; the unit standards were not representing what enterprises needed.

These workshops were invaluable for helping me understand the NQF and issues around the communication unit standards. Unfortunately, they also showed that there was less experience and understanding within the groups

than I had expected. Finding answers to the research questions I had initially posed looked difficult, even unlikely. Answering the first two questions was negated by educators' lack of familiarity with the Framework in general, and the lack of data and experience about workplace-based assessment of literacy and language unit standards probably negated the others.

Stage two - Selecting specific areas for further study

Once a person has been successfully assessed against a unit standard, they (or their employer) pay a fee to NZQA to hook on the NQF. An individual Record of Learning is then created for each individual, which shows the unit standards and credits successfully achieved (NZQA, 1993). One of my intentions was to track the number of non-traditional participants in education and training who had begun to achieve credits on the Framework. However, this too proved unsuccessful as a research route because of NZQA's policy of only recording gender and ethnicity at the time of a learner's registration. This deficiency in the data will make it more difficult to evaluate the effectiveness of the strategy in the long term.

As part of my orientation to the field, I also had informal discussions with NZQA staff members, an educational contractor with an interest in communication unit standards, members of ETSA staff in Auckland and the national office, providers of ABE in enterprises, and staff at Workbase. The feedback from all these participants was fairly consistent: not a great deal was known about the actual workings of NQF on the ground and even less about literacy and language issues; literacy and language issues were proving problematic for both enterprises and ITOs, particularly because of issues about funding; qualifications are only just coming on stream; and there were unlikely to be many answers for the questions I was posing. The reading, writing and interpersonal skills unit standards were primarily being used in Training

Opportunity Programmes (TOP), rather than in the workplace as I had assumed. Although it would have been possible to investigate communication skills unit standards in the pre-employment sector, my interest was in workplace practices. In addition, if it was too early in the Framework's development to find a great deal of knowledge among ABE tutors, it would probably also be too early to investigate the progress of individual learners, which was obviously another research direction.

'Evaluation as enlightenment'

My research needed a new focus. The only sources of data on literacy skills and their place in the training context now appeared to be either companies themselves or ITOs. Since my interest was in adult education policy, ITOs became the obvious choice, because their central responsibilities are integral to the training reforms. ITOs were in tripartite arrangements with enterprises and trainees, so hopefully their staff would be aware of literacy issues emerging as a result of Framework-related training. They kept records of achievement of credits, and I presumed had some method of tracking people who had begun training agreements but were not completing particular unit standards assessment within a reasonable time. Presumably ITOs also played a strategic role in determining emerging training issues their industries.

A new set of research questions emerged, based on the assumption that ITOs policies and priorities would be useful indicators of the importance of literacy skills in the workforce:

- To what extent were these (crucial) organisations seeing literacy, numeracy and language issues as significant?
- What policies or strategies were ITOs putting in place to ensure support for people with low levels of these skills?

- Were literacy and language issues emerging as a result of learners attempting assessments against unit standards?

As the emphasis changed from the experience of tutors and learners to these policy-making bodies, the methodology needed to change, to take into account the policy dimension of the research. As has been illustrated, there is little policy and limited public awareness of literacy and language, but it seemed obvious to many adult literacy educators that for any major training and skill development initiative to be successful, these had to be taken into account.

Evaluators always hope that their work will be useful in solving problems (Patton, 1882, 1986; Shadish et al, 1991), and that instrumental use will lead to stakeholders 'making direct decisions about changing programmes based on evaluation results' (Shadish, et al, 1991). Funding organisations also expect some sort of immediate or medium term payoff. The usage of findings is an important attribute in determining the worth of an evaluation (Caulley, 1994). Bearing this in mind, how could I ensure that this evaluation would be of use, when there was no specific programme, set of goals or organisational purpose to analyse? Who would use any findings that came out of this research, if there was no agreement that there was even a problem? However, evaluation theory does allow for usage other than the strictly instrumental. Evaluation results can inform and affect the way people think about an issue, rather than leading to specific decisions and demonstrable programme change. Carol Weiss argued for 'enlightenment' evaluation, which could be used to 'think about issues, define problems and gain new ideas and perspectives' (quoted in Shadish et al, 199: 179). Evaluations may not lead immediately to massive turnarounds in programmes or policy, but may over time influence decisions - 'Incremental improvements have been made, and cumulative increments are not such small potatoes either' (Weiss, 1987).

Weiss also argued that researchers were often naïve in their understanding of the policy-making process making. Policy was not made at a single point in time; it seemed to happen as a result of gradual accretions, the build-up of small choices, the closing of small options - she called it 'diffuse, undirected seepage of social research into the policy sphere' (Weiss, 1977: 385). Bulmer (1982) said that government officials used research more to orient themselves to potential problems or issues, in order to construct action plans rather than for specific solutions. The use of research was neither direct, nor quick but was significant in developing new perspectives over time. Rossi coined the term 'demystification' for a similar process, where evaluation was not necessarily directed to a specific outcome but sought to 'influence thinking about an issue without using the information for a specific, documentable purpose' (quoted in Shadish, 1991: 377).

There is a distinction between policy analysis, which looks retrospectively at why and how particular policies were formulated, and policy research or evaluation which considers the impact of the policies, explanations of why patterns of impact have occurred, and potentially, criticism of policy direction (Owen, 1993: 11). Berk and Rossi (1990) described a 'policy space' in which the majority of evaluation occurred, with a concern for making judgements about current policies and programmes. They believed effective evaluation researchers worked within the current policy space, on topical issues and those interventions which were either in place or being planned. They stressed the intensely political context within which evaluations occur, with any report being subject to intense and critical scrutiny from stakeholders from different perspectives.

Given the ambiguous, uncertain, as yet undefined space in which I intended to step, and the lack of direct involvement of stakeholders, policy 'space' seemed an apt description for the adult literacy and language arena, primarily because

of the lack of policy and co-ordination within the sector (Sutton & Benseman, 1996; Moore, 1996). 'Enlightenment' evaluation methodology would allow me to identify themes after interviews and pursue them with later respondents as the research unfolded, rather than determining all the lines of enquiry at the outset. It would allow the incorporation of the perspectives and information that had already been gleaned from the earlier 'illuminative' stages of the research. It also held out the prospect of the findings being useful in longer term policy development. The research could retain its focus on process evaluation, and any findings, which were certain to be limited by the newness of the initiative, would still effectively inform stakeholders and policy makers, by providing a snapshot of the situation at a particular moment in time.

CHAPTER SIX

RESEARCH METHODS

Methods are the tools evaluators and researchers use to generate and analyse data. Those tools must be congruent with the research design, be appropriate for the client group, as well as providing useful information to stakeholders. Collectively the methods should ensure the evaluation has the four main attributes that are widely accepted as principles of sound evaluation practice:[17] utility, feasibility, propriety and accuracy (Patton, 1984; Volpato, 1996).

Utility standards are intended to ensure evaluations are as informative, timely and influential as possible (Volpato, 1996). They require clear identification of audiences, clear and understandable reports which are delivered on time, as well as the stating of evaluators' biases and qualifications (to make explicit the grounds on which they are equipped to make judgements). As discussed earlier, enlightenment evaluation looks to utility for policy-making audiences as a paramount concern. In relation to the other aspect of 'utility', my personal position has been made explicit throughout the research, both in the interviews and as part of the written argument in Chapter One. Finally, the report structure and style is intended to be clear and accessible to both ITOs and other stakeholders in the field.

Feasibility standards recognise that evaluations are normally conducted in the 'real world' and should be frugal in terms of the resources, time, material or staff that they demand. In short, they call for evaluations to be realistic, prudent, diplomatic and economical (Volpato, 1996: 11). In this case, the evaluation

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[17] Taken from the Program Evaluation Standards, published by the Joint Committee on Standards for Educational Evaluation.

demands primarily my resources and a small contribution of time from participants.[18]

Propriety standards are intended to protect the rights of individuals, through ensuring voluntary participation, informed consent and confidentiality of information. All these conditions were met in the design of this research, and were officially approved by the ethics committee of Massey University.

The fourth set of standards relate to accuracy - the technical adequacy of information, reliability and validity of data and objectivity. Data must be collected on all important aspects of a programme, and the data collected must be as accurate as possible (Patton, 1984; Robson, 1993). For this research, two principal data collecting methods were used - document analysis and key informant interviews. A third method, participant observation, was used at the early stages of the project.

The research convention is to use multiple methods for data verification (triangulation), to eliminate the biases inherent in using only one method (Denzin, 1989). It is crucial for enlightenment evaluation to present an issue from a number of different perspectives. However, opportunities for triangulation appeared limited in this study, given the difficulty experienced in statistical data collection and in the document analysis that took place early in the study. In order to overcome this, and to broaden the interpretive perspective, an expert in workplace literacy and language issues was asked to review the findings, a process Patton calls 'analyst triangulation' (1990: 468).

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[18] **The financial support of Massey University and the expertise and time of Workbase staff have been gratefully acknowledged.**

DOCUMENT ANALYSIS OF TRADE JOURNALS

The analysis of secondary material is a standard tool for social scientists (Robson, 1993; Sarantakos, 1993). Scriven (1991) called this content analysis, 'the process of systematically determining the characteristics of a body of material or practices' (ibid.: 99). Patton (1990) suggested that document analysis may provide a behind the scenes look at a programme, possibly providing leads for further investigation. The documents chosen for study were trade journals, documents in the public domain and one of the principal ways ITOs inform their membership and broader industry base about major issues. I speculated that the extent and nature of discussions about literacy, numeracy and language skills in these journals might be an indicator of the degree of interest in these issues within industries.

The first step in document analysis is choosing the sample of documents. A key word search was conducted on NewzIndex in April 1996. The terms used were: NZQA, National Qualifications Framework, literacy, numeracy, communication skills, essential skills and various combinations of these terms. Sixty-seven articles were identified with those words in the text, 13 of them in trade journals. The 13 articles were from seven different trade magazines: *NZ Farmer, Manufacturer, Training Agenda, Building Today, Food Technology, Hospitality* and *New Electronics*. The first was published in December 1992, the last in August, 1995. Three of them came from the same magazine, the *Manufacturer*.

In all but one instance, the articles described either the development of a particular ITO or the progress ITOs were making in getting qualifications ready for registration on the Framework. The exception was the *Training Agenda*, an Australian trade magazine for tutors in Training and Further Education Colleges (TAFE) colleges (the Australian equivalent of New Zealand polytechnics). It differed both because it was not a New Zealand-specific journal, and also

because of the topic under discussion, assessment procedures in competency-based education.

There was no mention of literacy, numeracy or language, communication or essential skills in any of these journals and this line of investigation closed.

PARTICIPANT-AS-OBSERVER

As outlined in the methodology section, I participated in a number of training and consultative events, in order to get a full understanding of the arena in which this research was to take place. I was not attending these events as a observer, except perhaps in the 'exploratory' sense (Robson, 1993), where unstructured observation can be used in the formative stages of a project, to determine what actually happens. Observations from this sort of exercise are turned into hypotheses. The notion of 'participant as observer' more accurately describes the role I played.

Participant-as-observer research requires the researcher to make their role clear at the outset. They can participate in group activities and they usually attempt to build relationships with others in the group. From questioning people, they build an understanding of what is happening (ibid.: 196). I was known to many of the group both as a past literacy scheme co-ordinator and as a national researcher for the ARLA Federation, so my presence at the workshop was considered normal. In each of the workshops, it was made clear that I was there as part of personal academic research, rather than for contract purposes. However, I was not consciously trying to build relationships in the group, particularly once it became obvious to me that the people present did not have experience that was relevant to the proposed direction of my research. My 'observational bias' was showing because I was less interested in the comments from ABE workers in the community, who were not conversant with the NQF or

unit standards, than I would have been if more informed enterprise-based tutors or ITO representatives were present.

During the course of the workshops, I used unstructured observation techniques. These tend to be loosely organised and defined by the researcher according to the situation (Sarantakos, 1993). In my case, I had started a journal at the beginning of this study, in which I wrote notes, posed questions to myself and drew mind-maps, in an attempt to understand the relationship between CBE, adult basic education, NQF and assessment philosophies and practices. These notes formed the basis for the questions that were subsequently asked of respondents.

KEY INFORMANT INTERVIEWS

Interviews were the principal research tool, investigating the knowledge and opinions of 'key informants', people identified as having critical information and understanding about particular issues (Chambers et al, 1992; Patton, 1990). Sometimes described as 'experts' (Sarantakos, 1993) their insights provide the researcher with a picture of the issues and processes under consideration. This method is not without critics. Rossi and Freeman (1989) describe 'expert testimony' as both the easiest and least valid research strategy and argue that is very difficult to ensure reliability or to validate what they say. However, for the purposes of 'enlightenment' research, key informants would provide an adequate and detailed enough description of the state of play, and were themselves a key part of the policy-making process which this study hoped to inform, while the limitations or inadequacies in their perspectives would be mitigated by the analyst triangulation process.

There is an inherent weaknesses in reliance on only one principal data collection method (key informant interviews), and the use of only one data source (respondents from ITOs). More voices needed to be represented - an

increase in the multiplicity of perspectives in keeping with the concept of 'enlightenment'. As had been established, increasing the number of methods was problematic, so additional emphasis was placed on increasing the variety of sources, by referring to a small number of 'other' informants. ETSA staff in Auckland were informally interviewed, and two staff in the national office spoken to by phone, as part of the project formation. During the course of interviewing ITO managers, a staff member from ETSA and a manager of a well-established provider of literacy and language programmes in the workplace were also interviewed. These interviews are not directly quoted but the perspectives gained from them informed both the questions asked of respondents and the commentary.

Key informant interview guide

A semi-structured questionnaire was designed as a guide for face-to-face and phone interviews. (See Appendix A for a sample questionnaire.) The face to face interviews, on average 1¼ hours long, were audio-taped. The tapes were used to augment note taking and only quotes were transcribed in full. Interviews conducted on the telephone were on average 20 minutes long and hand-written notes were taken.

The main sections of the questionnaire included questions on:

- *Profile of the ITO and workers.*

Questions in this section included: the number of workers in the industry; the educational profile of workers and whether significant numbers of workers were from non-English speaking backgrounds

- *Development of ITO and progress in constructing qualifications*

This section concerned the structure of qualifications, and how literacy, numeracy and language skills were being incorporated into these. During the

first few interviews it became apparent that the stage of organisational and qualification development would greatly influence respondents' thinking about literacy and language and more emphasis was placed in this section.

- *Scope of literacy and language difficulties in this industry*

The questions in this and the following sections were more free-flowing and dependent on the answers given above. The purpose was to elicit information about literacy issues generally. Could the data ITOs gathered tell them for example: if there was a problem in the length of time between a trainee signing on in a training agreement and their achieving competence; whether trainees had to be given repeat assessments; whether the reasons for the repeats would be known; and take-up rates of traineeships. It was soon obvious that there was little useful quantitative data to draw on as yet.

- *Assessment*

It has already been established from discussions with the 'other ' informants, that the interface of learners with assessment was most likely to highlight Framework-related literacy and language issues. Questions included: whether the literacy and language skills of people coming forward for assessment was proving to be an issue; whether people being trained as workplace assessors were themselves having difficulties with the literacy requirements of that role or the training required for it; how ITOs were dealing with any literacy and language problems that had been identified.

DATA ANALYSIS

Ethnographic data collection and analysis needs to be structured to allow new issues and themes to emerge and be followed up. It must be a dynamic process:

> ...based on flexibility, reactivity, and self-correction. Initial questions that generate response and information act as an instrument of regulation

> and result in correction and redirection of the initial design and methods. New knowledge and information are used not only for understanding and explaining the research object but also for adjusting the approach, design and methods so that the research topic can be studied most effectively. (Zaharlik, quoted in Sarantakos, 1993:266)

This aptly describes why there was no particular theoretical framework for data analysis at the beginning of this evaluation. The data was ordered by *issues analysis* (Robson, 1993). Although sometimes described as 'playing with the data' (ibid.: 378), issues analysis does allow for the initial identification of themes that form the basis of a descriptive framework. This informal process of seeking patterns within the data was started early, to allow me to seek out other sources of data to throw light on particular issues, with my attendance at that range of workshops, which first set the scene. Guba and Lincoln (1986; 83) believed that the analysis instrument must be reprogrammable and highly adaptable to hunt out the salient matters. They emphasises that the most important instrument was the interviewer *self,* the technical, political and negotiating skills combined with the judgement of the evaluator.

Coding

An Excel spreadsheet was used to determine the key characteristics of the ITOs concerned (Appendix B). The spread sheet was then colour coded according to responses to particular themes, similar to the process of first and second level coding into themes and sub-themes described by Miles and Huberman (quoted in Sarantakos, 1993). Tables were then created, to determine the relationship between a number of variables. The themes to be followed in depth emerged naturally from the results, but were clarified by the discussions with the 'other' key informants.

SELECTING A SAMPLE

By January 1996, 52 ITOs had been officially recognised by NZQA (ETSA, 15/1/96). The resources of this research project precluded interviewing all of them, so a sample selection process was required. Rather than using a conventional randomised sampling frame, purposive sampling was selected, congruent with the enlightenment methodology being followed. Purposive sampling offers the opportunity to 'learn something and come to understand something about certain select cases without needing to generalise to all such cases' (Patton, quoted in Chambers et al 1992: 74).

'Early Harvest' ITOs

Of the 52 ITO's, nine had been part of a Skill New Zealand Development Initiative, a joint NZQA/ETSA project which aimed to support ITOs in both their organisational development and longer-term planning, while they were also developing industry standards and qualifications (ETSA, 1994). To be selected for inclusion in this development initiative, ITOs had to meet most or all of the following criteria: growth and/or export potential; substantial numbers of people employed/high number of training places; committed to the Skill NZ strategy; no record of systematic training or training arrangements for new sectors of the industry; significant numbers of Maori, Pacific Island and women workers; quantifiable targets to be achieved in the next 12 months.

The demographic profile of those industries, together with their lack of training culture made it likely that they would contain substantial numbers with low levels of literacy. It was also assumed that these nine ITOs would be further along in their development because of the additional support the development initiative provided. They were expected to have more experience at assessing against unit standards than other ITOs because trainees from those industries would be coming on stream early in 1995 (hence the term 'early harvest' ITOs).

For these reasons, the nine 'early harvest' ITOs were selected as a first sample and respondents from eight took part. Seven of the eight were interviewed face to face, and one by telephone. The senior manager of the ninth ITO in this section of the sample declined to take part, saying that the ITO was too new and that the industry had nothing specific to say about the issue at this stage.

A second set of 20 ITOs was then selected, with the assistance of Workbase and another educational consultant who was working on a wide range of NZQA projects. They were selected either because the ITO had expressed interest in literacy issues, and/or because the nature of the industry meant there were probably significant numbers of workers with low levels of skills. Of these 20 possibilities, two Chief Executive Officers (CEO) were unable to be contacted and another declined because of internal organisational issues. In all, seventeen respondents were drawn from this section of the sample.

A third sample of seven ITO's were selected at random from the directory of ITOs provided by ETSA. A staff member from each of these was interviewed.

In all, 32 respondents took part in this part of the research, 11 through face-to-face interviews, the other 21 by phone interviews. Five of the face-to-face interviews took place in Wellington, six in Auckland.

In all but one instance, the CEO or the organisation's most senior manager was interviewed. In the one case where the CEO had been unable to be reached, two regional training staff were separately interviewed by telephone, and their answers combined to appear as one response, in order not to give responses from that ITO undue weighting.

To preserve the anonymity of respondents, any terms used to refer to the respondents, including CEO, manager, respondents etc. were used

interchangeably, regardless of the actual job title or role of any particular respondent.

Range of fields represented

Unit standards and qualifications have been classified by NZQA into 16 assorted fields (see Chapter Three for more detail). The ITOs in the sample were from eight fields, with one unclassified (Table 5).

Table 5 - ITO sample, classified by field

Field classification of ITOs	No. Per field
Agriculture, Forestry & Fisheries (AF&F)	4
Business and Financial Services (B&F)	1
Community & Social Services (C&S)	4
Engineering & Technology (E&T)	3
Health (H)	1
Manufacturing (Man.)	9
Planning & Construction (P&C)	1
Service Sector (SS)	6
Not yet classified by Field (n/c)	3

The field grouping was not totally straightforward, because at least one of the ITOs has been made up of an amalgamation of related but distinct industries, each of which in their own right would be classified in separate fields. NZQA verified the classifications I have given to the sample of ITOs above.

The ITOs in the sample included both established organisations which had previously had the mandate for providing industry training and who had adapted

their structure to become an ITO, as well as totally new organisations that had been set up to begin attending to the training needs of industries with no history or culture of training. It also included ITOs which represented industries with large numbers of employees as well as some with fewer workers.

CHAPTER SEVEN

FINDINGS - THE SIGNIFICANCE OF LITERACY AND LANGUAGE SKILLS

Thirty-two ITO managers were interviewed for this research, 61% of the total number of ITOs (52) in existence at the start of the project. The 32 ITOs represented eight different types of industrial fields.

The ITOs in the sample represent a range of New Zealand industries, spread right throughout the country, with considerable variety and diversity in demographics and labour-force features including, for example: stable as well as highly transient workforces; employing mostly males in technical roles, or employing mostly females in process and service roles, or not strongly differentiated by gender; highly technically skilled and qualified workers as well as those with low levels of skills and qualifications; multi-cultural workforces common in Auckland and less common elsewhere in New Zealand.

Commentary from a national expert in the field of adult basic education is woven throughout the following chapters, to provide analyst triangulation. Liz Moore's position as the Director of the Workplace Education Trust, the newly-established National Resource Centre for Workplace Literacy and Language, made her uniquely placed to consider the results in the light of current policy initiatives and trends. Direct quotes from her have been marked in italics, to distinguish them from the confidential and anonymous responses of the respondents.

CLASSIFICATION OF DATA

By 'significance'

The central question posed to the respondents was to estimate the degree of significance their ITO placed on literacy, numeracy and language issues. The analysis of their answers has been grouped according to their response to the four possibilities - literacy was:

- recognised as a significant issue, and action was being taken to deal with it (4);
- an issue but not a priority, (and therefore little specific action was being taken) (12);
- not an issue but recognise that it may be in the future (11);
- not seen as an issue (5).

A secondary level of classification was then sought, to determine whether size, or other factors created a pattern of responses. There were four possibilities:

- by field/sub-field classification (as outlined in Chapter 1) - were ITOs within the same field displaying any particular characteristics or viewpoints?
- by the number of training agreements signed between employee and employer.[19] Each agreement meant that a 'trainee' was actively engaged in working toward unit standard competence with the support of their employer. Signed training agreements meant funding subsidies for both the employer and the ITO, from the Industry Training Fund administered by ETSA. Would those with more trainees have a different perspective from the others?

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[19] Tables supplied by ETSA at June 30, 1996.

- by the levels of funding allocated to each ITO from the Industry Training Fund. There is a relationship between the number of training agreements signed and levels of funding for the respective ITO. Have better funded ITOs been able to conduct research or investigate their training needs more comprehensively?
- comparison between early harvest and other ITOs

The data on these secondary characteristics suggested only two possible groupings, the first related to size. Of the 32 ITOs in the sample, eight had broadly similar numbers of trainees in training agreements, as well as similar levels of funding. Those eight were from four different fields: Agriculture, Fishing & Forestry (AF&F) (3); Engineering & Technology (E&T) (3); Service Sector (1); Manufacturing (1). The majority of respondents (6) saw literacy, numeracy and language skills as 'an issue but not a priority' for their ITOs, one respondent recognised them as 'a future issue', while the other said they were 'not seen as an issue'.

There was one other obvious grouping; eleven ITOs did not have any training agreements signed and were therefore not yet accessing the Industry Training Fund. Five fields were represented in this group: Manufacturing (2); Community & Social Service (3); Service Sector (2); Health (1); Business & Financial Services (1), with two not yet classified. Responses from the eight 'early harvest' sample did not follow a particular pattern. They fell into three size bands, and in two of the three of the bands their responses were mixed.

By size

In order to create some sort of useful categorising system for analysis, the ITOs have therefore been grouped according to the number of training agreements signed as at June 30 1996. Four groupings were created: Large, Medium, Small and No Trainees (NT) (Table 6).

Table 6 - ITOs by number of training agreements (N=32)

Number of trainees	Number of ITOs	Category
0	11	NT
1-349	6	Small
350-1500	9	Medium
>1500	6	Large

These rankings are arbitrary and bear no relation to the number of employees in a particular industry. It is also important to note that the number of training agreements at this time did not necessarily correlate with the industry's potential for trainees. For example, one ITO with just under 2000 trainees in June 1996 serves an industry with probably more than 100,000 employees, and therefore has huge potential for growth. Another ITO, with similar numbers of trainees at this point, serves an industry with approximately 10,000 employees and may well not increase its trainee numbers in the future.

Many ITOs will have dramatic increases in the number of signed training agreements over the next 12 months, as their qualifications come more fully on-stream. Some industries have had long-established training systems for apprenticeships and were able to convert those 'old-world' training systems over to the NQF, while other ITOs are having to develop the whole concept of a training culture within their member industries. In the latter case, it is likely to take much longer to build up trainee numbers, although the numbers employed in the industry may be similar as those ITOs where thousands of traineeships have commenced. It is important to bear these provisos in mind when considering the relative size of ITOs (Table 7).

Table 7 - Number of ITOs per field by size (N=32)

Field	No. (32)	Large (6)	Medium (8)	Small (7)	NT (11)
Agriculture, Forestry & Fisheries	4	2	1	1	
Business and Financial Services	1				1
Community & Social Services	4		1		3
Engineering & Technology	3	3			
Health	1				1
Manufacturing	9		6	1	2
Planning & Construction	1			1	
Service Sector	6	1		3	2
Not yet classified by field	3			1	2

Each quotation presented in this analysis will be identified by the size of the ITO concerned and the field where the ITO is classified.

RESPONSES TO THE QUESTION OF SIGNIFICANCE

Table 8 provides a breakdown of the results for the most fundamental question - the extent to which respondents considered literacy and language issues to be significant for their ITOs. Explanation of the table is provided in the following sections.

Table 8 - Responses to the question of significance

Recognition of issue [Fields]	Total no.	Large	Med.	Small	NT
Significant issue [Man (2), SS (2)]	**4**	0	1	2	1
Issue but not a priority [Man (4), AF&F (3), E&T (1), SS (1), C&S (1)]	**12**	4	4	1	3
Might be an issue in the future [Man (2), C&S (2), H (1), SS (2), B&F (1), P&C (1), AF&F (1), n/c (1)]	**11**	1	2	4	4
Not an issue [SS (2), C&S (1), E&T (1)]	**5**	1	1	0	3
TOTALS		**6**	**8**	**7**	**11**

(a) Literacy , numeracy and language were regarded as significant issues

Four respondents classified literacy, numeracy and language issues as significant for the industries they represent. The ITOs concerned came from two fields: Manufacturing (3), and Service Sector (1) representing industries which employed a high proportion of low-skilled process workers. Three of the four had large multi-cultural workforces. Two of the ITOs were medium sized, one small and one had no trainees. Three had participated in, or were planning, research into literacy and language issues, but the literacy issues were primarily brought to the fore by anecdotes from member enterprises and observations by ITO staff.

The CEO of the largest ITO in this group believed the problem was widespread, estimating that perhaps 30% of their workers might have literacy

difficulties. The manager gave an example of the potential consequences and problems caused by inadequate skills:

> One factory in South Auckland believe one third of their workers have no functional literacy. They had six operators who were functionally illiterate. They aren't dumb, they had actually memorised hundreds of instructions. People in stores had to make up pallets of what was required to go into a particular product. That pallet was delivered to the batching operator who had to do everything in the right order - temperatures, quantities and so on. These people couldn't read, but they recognised the items. The potential was there for a major disaster. (Medium, Manufacturing)

There were not many jobs where there were no literacy or numeracy requirements:

> There aren't many places now where you can get away not reading. Quality checking is now put on the line, it's no longer a laboratory function. Within a work team there might be one or two people good at it, but they are supposed to help everybody out. The requirement for people to read, whether its just a quality manual or a procedures manual or fill out a report - it's increasing all the time. Companies are discovering how big the problem is. (Medium, Manufacturing)

Another respondent said that a product supplier recognised a potential industry-wide literacy problem, when more of the supplier's product was being used than the supplier calculated would be required, suggesting that the written instructions on the product may not have been followed. In this case, literacy and language skills had implications for trying to implement occupational health and safety regulations:

> The health and safety implications are mind-blowing. The health and safety unit standard training for this industry can't be done on the job and there are huge literacy and language issues implied in the [health and safety] unit standard and this unit standard is a pre-requisite for the rest. (Small, Service Sector)

The same respondent believed that numeracy, although not presented as a particular problem anecdotally by enterprises, was important:

> Literacy and language are more of an issue than numeracy, but we still see numeracy implied in aspects of health and safety training - managing equipment, reading units [of measurement]. (Small, Service Sector)

Numeracy was a much more significant and particular problem for other ITOs:

> People come into the factory. They don't understand that 100 Celsius is hot. I could forgive them if they didn't know it was boiling point, but they don't even seem to understand that it is hot and will hurt you. (Medium, Manufacturing)

Three of the four ITOs in this section had workforces with large numbers of workers from non-English speaking backgrounds. The manager of the fourth, a much smaller ITO, said there were 'enough to take into account'. One CEO said they knew of a workplace where 20 languages were spoken. Another illustrated the particular communication difficulties when enterprises have large numbers of workers without a common language:

> In one [site] no one could talk to anyone else because they all spoke different languages. There were Syrian, Chinese, Samoan. The key guy made out they understood a little bit. How do you tell them what to do? (Small, Service Sector)

It was recognised by the same manager that for the majority of those workers individually, literacy and language may not be an issue because it was not a core requirement in their job. They managed 'as long as some one on the team has the core skills'. The problem was not confined to speakers of other languages or migrants. Although second language issues exacerbate literacy difficulties, the CEO of the largest ITO in this category clearly said that both ESOL and literacy were issues.

Within this group of ITOs there was a recognition of the importance of literacy and language skills for enabling other workplace and personal development to take place:

> Literacy in the workplace is a two level thing. You have to be safe and function, but you might not have sufficient skills to learn more. You

> have to go up another level to allow the person to progress. Lots of people are trapped at the lower level. (Medium, Manufacturing)

(b) Literacy is an issue but not a priority.

Twelve respondents reported that literacy was an issue, but that it was not a major organisational priority. The ITOs came from five fields: Manufacturing (4), Agriculture, Fishing & Forestry (3), Engineering & Technology; Service Sector (1) and Community & Social Services (1). One did not have a field classification at the time. The workforces involved were diverse in educational achievement, and in the degree of skills involved in their work. This group included four of the six large ITOs, four of the eight medium ITOs and one small. Only three ITOs without trainees thought it an issue.

A variety of circumstances and conditions were put forward to explain why these ITOs recognised literacy skills as a problem but were not according them priority. Three managers believed that problems with literacy and language only occurred in specific sorts of work, or particular industry sectors - primarily processing work. In one such case, a long history of trade training within the industry and a technically skilled workforce meant currently literacy and language skills were not an issue. However, skill levels were expected to become more of an problem once a newer industry, which had no training culture and which employed large numbers of workers who had no school or post-school qualifications, came under their ITO umbrella.

Two other respondents described literacy as a *concern* rather than an issue, in part attributed to the ITOs' stage of development:

> A low priority concern. I think in time, recognition of that concern will be wider and then it will go up the ladder of priorities to be dealt with. The ITO is still developing. When we stop developing we will consolidate and concentrate on lower level issues. (Large, Service Sector)

Not meeting targets for the numbers of traineeships, and unsatisfactory levels of involvement in unit standard related training, may be indicators in the future that there were literacy difficulties within the workforce:

> I suspect there is a significant gap. We are going to have to complete the process of getting everything organised, everything on the Framework, assessors trained. Once we have the complete system ready, then we will come back and start to deal with the lack of uptake and achievement because it will vary considerably.... I expect that we will be confronted more and more by slow uptake at the plants which will not be an unwillingness to learn but an incapacity to learn and gradually we will realise that there is a significant level of under-achievement in that literacy area. (Large, AF&F)

Several respondents said cost was a factor for ITOs determining what were to be organisational priorities during the development phase. An ITO has two years to get established and get trainees signed into training agreements. Once short term survival issues were determined, it would become possible to consider longer term issues, which included literacy:

> Some companies may have 10% of their workforce with this literacy and numeracy problem. They are more likely to concentrate on the other 90%. They will give training to the 10% just to improve their capacity but ..there are other difficulties equally as important as literacy and numeracy. The thing is that its a small part of the workforce and we can't be blinded by concentrating there to the neglect of new technology. (Large, E&T)

Two interviewees mentioned that literacy and language skills were gradually becoming more of an issue, as pressure for more skills and a higher degree of professionalism intensified in their industry. Although the industry wanted more professionalism, there was resistance to the resources it would demand:

> [The industry] recognise its a problem but being prepared to do something at their cost is another matter. (Medium, Manufacturing)

The market situation for the industries within one ITO influenced the response from one respondent. Industry rationalisation were looming,

involving potential loss of jobs, and literacy and language issues were simply less important than this.

Many of these ITOs had anecdotes about the consequences and implications of literacy difficulty, similar to those ITOs who deemed the issues significant. For one CEO, the scale of the problem became evident when they began assessing against unit standards:

> Before they can touch a machine they have to do their OSH (Occupational Safety and Health) unit. We then discovered the problems, because the first requirement was for them to read a safety data sheet...Even if they could read it, the assessment was difficult and needed an interpreter...in [one site] out of 300 staff they had 17 different first languages. (Small, Service Sector)

One manager said 'they had no data, [to say skill levels were a problem] just instinct'. Another ITO had done minor informal research, asking some enterprises to estimate to what extent their workers had problems. The results suggested:

> ..not a huge problem but definitely there...10-15% of workers have difficulties with science and maths with literacy at the low end - about 5%. (Medium, Manufacturing)

It was suggested by one manager that enterprises were not easily able to identify the problem, nor sure how to solve it. Another believed workers could be placed in jobs where their lack of skill was not going to cause problems for production; however, this person did acknowledge that there were unlikely to be many of those sorts of positions. Another said 'if they can't do trade calculations they just stay out the back'.

Several CEOs recognised literacy was an issue when the ITOs began distributing material about participating in the new training environment, and spoke negatively about NZQA jargon. All the 'obsessive gobbledegook' in NZQA-related material 'had to be transposed into their [trainees'] level of understanding' because trainees were simply not able to deal with the

language. One mentioned trainees struggling to read the nine page training agreement.

(c) Not an issue yet but may be in the future

Eleven respondents believed that literacy, numeracy and language skills were not current issues for their industries, but recognised that they could be in the future. The ITOs involved were spread over eight fields: Manufacturing (2); Community & Social Service (2); Health (1); Service Sector (2); Business & Financial (1), Planning & Construction (1); Agriculture, Fishing & Forestry (1); Not yet classified (1). This group includes one large ITO, two medium sized, 4 small and four ITOs classified 'NT'. These ITOs represented diverse workforces.

Timing appears to be the principal reason why managers were reluctant to say that literacy was clearly not an issue, and yet were not prepared to argue the contrary. Only two of these ITOs had finished developing their qualifications, while in another five, assessment against unit standards had not begun. In three other cases it was 'still early days', as the ITOs had not had much experience assessing against unit standards, nor evidence from it.

One interviewee suggested that these skills could become an issue when qualifications were completed for the parts of the industry where Maori and Pacific Island workers were more evident. Another, from an industry with an ethnically-diverse workforce said they believed literacy and language skills would emerge as issues over time, once there were more assessment data:

> The qualifications group did grapple with it, although there was no pressure from enterprises....the ability to work with diverse groups and communicate actively is very important...Given the nature of our workforce - basic to semi-skilled and multi-cultural, multi-ethnic..it will be important to our industry. We have no hard evidence. How many people are having problems communicating effectively? (Small, Service Sector)

Three respondents believed the stable nature of their workforces meant literacy and language skills were not prominent issues:

> Employers are not saying it's a problem. If they have been working in a stable workforce, they will have come to grips with the terminology, the use of the language, usage of measurement, general literacy for that workplace. A transitional workforce that's coming and going all the time, with new trainees coming and going, that's a different issue. It comes back to demographics - Auckland type people where you have a higher percentage of people coming into your system without these requirements. (Medium, Manufacturing)

The CEO of one of the large service sector ITOs clearly linked literacy, numeracy and language skills to the need for improved communication skills in general. This person believed that communication skills generally were a major problem, but said this perception was not that of the majority of the Board of that ITO.

The adequacy of schools' preparation of prospective employees was also raised:

> We have assumed that people came from school with a higher standard than they actually arrive at...people are expected to come out of school with core generics. The brutal fact is they don't. Next year, we will address better the failure of the school system to adequately prepare [trainees]. (Large, AF&F)

Only one respondent believed that there was no great need for more skill in their particular industry, it was labour intensive and levels of skill were adequate. This view seemed diametrically opposed to many of the other respondents in the total sample, who generally saw skill demands increasing.

(d) Literacy is not an issue in our industry

The remaining five ITO managers determined that literacy was not an issue for their industry. Two were from the Service Sector, and one each from Community & Social Services and Engineering & Technology. One was not

yet classified by field. This group comprised one large and one medium ITO and three ITOs with no trainees as yet.

Two of these ITOs had fully developed qualifications and were assessing against them, representing industries which had established training systems in the past. In both cases, the respondents believed the recruitment and selection processes used, including the pre-requisite skills sought, meant that people with limited literacy were screened out. In two of the five ITOs, the industries concerned only recruited mature people, who either had the skills or who, because of their maturity, could get around the situation effectively:

> Even if the majority were not academic, and not strong in written skills, once they have a sense of how to do it they're fine. (NT, Service Sector)

In one of these two cases, potential workers in the industry had to undertake a course of study at their own expense. This served as a screening mechanism, particularly for those NESB participants. In the other, a recent demographic study had shown an increase in the academic levels of industry participants, so 'there shouldn't be any literacy difficulties'.

Only one of the remaining three ITOs was quite categorical in stating these skills were not an issue for the industry as a whole, although they had no evidence to verify this position. The other two, whose qualification and accreditation processes were similarly still in development, thought perhaps it could be an issue for some parts of their industry, again where there might be higher proportions of Maori or Pacific Island workers. The numbers of these workers were thought to be small.

Summary

While only four of the 32 managers said literacy was a significant issue, another 23 respondents recognised it as either a low priority issue or anticipated it becoming one in the future. A very small minority said it was of

no concern, and even one of those acknowledged it could be for some sectors in the future.

THEMES FOR DISCUSSION

A number of themes emerged here that are important to bear in mind while considering the findings in this and the next three chapters.

The nature of the industry and workforce

It was expected there might be similarities between the responses of manufacturing and service sector ITOs, because of their concentrations of low-skilled process workers with low levels of education. They also employ significant numbers of non-English speaking employees. ITOs from these two fields together make up nearly half the sample (15), so they are a significant group. The responses bear out the assumption that literacy and language skill levels are more significant in low-skill industries. All the 'significant' responses and half of the 'issue but not a priority' responses came from managers of Manufacturing or Service Sector ITOs. The 'not an issue' group represented industries with fewer process workers.

ITO history and stage of development

Initially ITOs have two years funding to establish their systems and attract trainees, because future funding depends on the numbers of training agreements signed. Concern for getting the stream of funding may have overshadowed consideration of really complex issues such as literacy and language, an observation validated by the comments of more than one respondent, as they referred to the need to get all the ITO systems in place before considering literacy. In Liz Moore's view, ITOs had not taken (or been able to afford to take) the time to think about big issues, such as what was meant by competency in a particular industry? How would an industry

recognise the communication expertise - the so-called 'soft skills' - in their qualification?.

It became apparent early in the research that those ITOs where assessment against unit standards had not (or only just) commenced had not yet encountered some of the problems that as a literacy worker I would anticipate - i.e. trainees having difficulty reading the written material, trainees signing up but months later having not come forward for assessments, needing repeated assessments.

In general, those ITOs which have emerged from large pre-existing industry training bodies were larger in terms of training agreements and income, and had been in existence longer than other ITOs. None of these identified literacy as 'significant'. Some have pre-entry level requirements that they believed would screen out people with low levels of skill. These ITOs were referred to by some respondents from other ITOs as 'old world' organisations, which had converted already existing qualifications to standards-based assessment. A number of those interviewed whose organisations did not have this history were sceptical about the extent to which the old world organisations' perception of education and training had changed with the arrival of the concept of competence, believing that old style qualifications and assessment processes had simply been carried forward.

Respondents from ITOs representing industries where vocational training was a new development, and where industries had no existing training culture, ('new world' ITOs) tended to identify literacy as a possible issue for the future.

Another factor implicated in the 'significance' question may be the markets in which the ITOs' respective industries are operating. Liz Moore said there was some evidence that training was perceived quite differently depending on the context in which the company operated:

New and developing markets do not necessarily see literacy, numeracy and language as issues while those in mature markets, highly competitive, are looking to training to provide solutions for them staying in their markets. When markets are mature and are involved in highly competitive areas, training is a solution to skill levels and competitiveness.

Strategies to encourage access to training

One manager representing an industry which had offered very limited training for its large and very diverse workforce, said that literacy would not be an issue, not because workers in the industry had more or less skills than others, but because they would structure out the need for it. The ITO concerned intended that all lower level assessments would be done without the need for writing, taking particular care would be taken to ensure the training and assessment contexts were closely matched to the job situation. This position is contrary to the research findings presented in Chapter Two and despite their confidence, it remains to be seen whether the actual job performances sought are as free of reading, writing and maths tasks as has been assumed.

In a similar vein of working around the problem, others believed that writing training and assessment materials at low reading-age levels, together with good quality presentation and graphics would overcome any literacy difficulties. Although these are important considerations for which all ITOs need to make allowances, by no means do they constitute the whole solution.

The implications of using a limited definition of literacy

Most respondents appeared to see literacy and language difficulties as a problem that belongs to the least skilled in the workforce, with only one or two specific comments relating these skills to an organisation's overall communication strategy. Certainly, most respondents were not discussing the complex concept that was laid out in the earlier chapter on definitions. Moore believes making a distinction between literacy and communication is both inaccurate and unhelpful:

> *[The] majority when they are talking about literacy are talking about basic reading and writing. They are able to draw a distinction, which I think is a false distinction, between literacy and language, and communication skills. They see those things as fundamentally different and I don't think they are. There's no evidence to suggest ..that you do literacy and when you're good enough you move into communication skills.*

When literacy is viewed as a limited concept, it is recognised to be an issue because of 'potential hazards, inefficiencies and problems' in the workplace (Moore, 1996: 184). This assumes workers can have their literacy 'fixed up', never again to be a problem. This interpretation certainly makes workers with low levels of skill vulnerable if the 'fixing up' doesn't transfer back to work. Workers' skills are more readily challenged than the competence of trainers or the appropriateness of a training programme for the learning needs of a particular person. As discussed earlier, there are also many reasons outside of personal competence why workers may not wish to use the communication skills they have. In particular, the communication practices within organisations set the tone for whether people feel safe enough to participate, or to practice what they've learned.

Incorporating soft skills into qualifications

If, on the other hand, literacy, numeracy and language skills are considered as part of an overall package of 'soft skills' required by all workers, a completely different perspective emerges. In this scenario all employees will

be seen to have communication skill training needs, of varying types and levels, depending both on their current employment and the possible scope of their job in the future. Moore paid particular attention to this point:

> *You wouldn't expect Business and Finance ITOs to identify large numbers of people with difficulties with communication skills if they are thinking about it as basic literacy and language. But if they move away from that notion that literacy skills are down here and communication skills up there and ask 'is it important that people can talk to each other', its going to be crucial.*

Liz Moore believed that in many cases, standards and qualifications may have been constructed without communication skills having been considered as an important part of competence.

> *One of the things I see is that unit standards and qualifications have been constructed without communication being considered an important part of the competence of a particular role holder.*

The validity of the respondents' perceptions

Because there was no other corroborating data about literacy levels, key informants have had to be relied on to accurately present the situation in their organisation. The respondents were generally giving personal opinions based on experience and anecdote, rather than necessarily representing an official policy position of their ITO, or reporting on research, so the accuracy of their assumptions may be challenged by others. The senior managers I interviewed may not have been accurately aware of the scale of literacy difficulty in their industries because they were not operational staff. In one instance, an ITO staff member with responsibility for organising training agreements joined one interview about half-way through. This person had a much stronger sense of there being literacy difficulties among trainees than did the CEO and had anecdotes to illustrate her concerns:

> We don't find out until they go to Poly[technic] and the tutor picks it up. If you look at some of the application forms that obviously the trainee has filled in, they're pretty shocking, you can't read it let alone anything

> else. We have a lot of employers fill out the form for the trainees. (Large, E&T)

Several other of the respondents said their opinion about literacy differed from the general feeling of their Boards. However, some of the smaller ITOs had only one or two staff and the manager was the person with over-view and policy responsibility. The understanding and opinions of senior staff are vital to policy making because they have considerable influence about the matters which become organisational priorities. Although their opinions may not be statistically representative and notwithstanding any limits to the influence they exert in the policy making process within their organisations, senior ITO managers appeared to be the only key informants available and I contend their perceptions are valid.

CONCLUSION

This chapter has analysed the respondents' assessment of the significance of literacy and language skills for the ITOs and the industries they represent. The analysis shows a number of patterns:

- literacy and language skill levels are already seen as significant problems in the manufacturing and service sector ITOs;
- ITOs representing workers with low levels of education, or significant numbers of non-English speaking workers are more likely to recognise the issue;
- organisations with more experience with trainees have encountered more difficulty than those with less or no experience. The latter believe, erroneously in my view, that they will be able to work around literacy and language problems;
- literacy and language skills are perceived as basic skills, separate from the concept of communication.

CHAPTER EIGHT

FINDINGS - LITERACY AND THE FRAMEWORK

This chapter gathers together the information about the structure of industry qualifications, and the unit standards assessment processes for each ITO. The material has been analysed by theme, because there were no particular patterns according to size of the 'significance' question.

LITERACY, LANGUAGE AND NUMERACY SKILLS IN QUALIFICATIONS

When ITOs began constructing their qualifications, a key was how to include the 'soft' or 'enabling' skills of which literacy and language are a part, the skills that were encompassed by communication or interpersonal skills unit standards. There are two choices: either ITOs include separate communication unit standards in their qualifications; or they integrate the desired on-job skill or behaviour into the elements or performance criteria of other unit standards.

Respondents were asked whether literacy unit standards were included in their entry level, beginning or most basic qualification(s) (Table 9). Half the ITOs (16) have included specific standards. The question was complicated by the fact that some of the larger ITOs, responsible for large numbers of diverse parts of an industry, were putting together more than 20 qualifications, across quite distinct industry groups.

Table 9 - Communication unit standards in qualifications (N=32)

Inclusion of literacy unit standards in qualifications	No. of ITOs
Specific literacy unit standards in qualifications	16
Literacy unit standards NOT included	9
No decisions yet	3
No unit standards below level 3	3
No response	1

Specific literacy and language unit standards

Where specific unit standards were included, respondents were asked to identify them by number. One did not provide titles or numbers that could be traced in the Unit standard catalogue. The 15 others collectively listed 40 unit standard numbers for what they described as communications skills. Some of the unit standards specified were industry-specific, where reading or writing was inherent in completing the tasks, but these were not communication units per se.

The information provided in response to this question was neither complete nor necessarily covered all the basic qualifications for the industries concerned. Nevertheless, the data did give an indication of the sorts of skills that are being considered significant by ITOs. Numeracy skills were the most frequently included by ITOs in the survey (Table 10). The two unit standards from the interpersonal domain were used extensively in industries with multi-cultural workforces.

Table 10 - Frequency of use of Level 1 & 2 Unit standards

No.	Unit standard title	Level	Times used	Domain
533	Add, multiply, subtract and divide whole numbers	1	8	Maths
534	Reading basic graphs and tables	1	6	Maths
1277	Communicating information in a specified workplace	2	6	Interpersonal
536	Convert ratios and percentages	1	5	Maths
535	Calculate standard units of measurement	1	4	Maths
1304	Communicate with people from other cultures	1	4	Interpersonal

Three managers were looking to the inclusion of literacy and language and other broad skills in training to bring about real change in the workforce, (and by inference, the way to achieve this was thought to be specific unit standards for those skills):

> The industry wants to improve the calibre of the person who works in [the industry]. Maybe as a result [of the communications unit standards] we'll get a better workforce. (Medium, Manufacturing)

> We see literacy as an issue - not just literacy, but communication skills both verbal and written....industry will need to have good communication skills, good literacy skills, good computer skills. All our big qualifications have core generics. (Large, AF&F)

Two interviewees mentioned that an important factor in specifically including communication unit standards was the opportunity it gave to access off-job training funds from ETSA.

Literacy skills embedded in other unit standards

Nine ITOs chose not to include specific literacy and language unit standards in their qualifications. By implication, those communication skills have been incorporated as part of the requirements for competence in other industry-specific unit standards (although the extent to which these skills have been fully identified and incorporated into unit standards is not clear). Eight respondents of the nine in this group described the factors they took into consideration.

The literacy, numeracy and maths skills embedded in industry-specific unit standards were obvious:

> Work-based units mean labels to read, equipment, people to be spoken to, information to be passed on...work safety implies literacy and language. (Medium, Service Sector)

In general, the respondents recognised that employees would need support and training to be able to achieve competence in those basic communication skills.

Three respondents believed specific unit standards would prove to be a barrier to people who were otherwise good at their jobs:

> The industry believed incorporating those specifically would inhibit a lot of people in the industry attaining the practical parts of what the certificate was trying to achieve....A lot of people out there were good [at their job] but if we asked them to do communication unit standards that in itself would be a huge hurdle. (Medium, Service Sector)

However, this conclusion implies that the reading, writing and other communication tasks to be assessed were not part of their requirements of the job, otherwise workers would need to be competent at them to be good at their job.

Cost was cited as a factor in not including essential skills unit standards by two ITOs:

> If they are in, they've got to be tested and that will cost money. (Medium, Manufacturing)

The other of the two said that the industry would not have control over the assessment or moderation processes for essential skills, because they didn't have the expertise in-house. External assessors would have to be brought in, at additional expense.

For three respondents, these skills were not included because their industries drew heavily (or exclusively) on pre-trade training for prospective employees. It was therefore the responsibility of the training providers running those programmes to ensure people were adequately skilled. It was assumed that people without adequate literacy or maths would be unable to achieve competence or finish their course. They would simply not get employment in their industries, and literacy skills would therefore not be a problem. Anyone who had gained entry into the workforce could be assumed to have adequate skills. Unfortunately, this begs the question of extent to which the skills of the existing workforce are adequate to deal with current and future communication skill demands. It also places great faith on training providers, not necessarily warranted by some of the anecdotes respondents shared.

Effective literacy pedagogy

If educators on ITO staff were to follow the research on literacy transfer and sound pedagogical practices (for example Falk, 1995; Lytle & Wolfe, 1989) literacy, numeracy and communication skills generally would be integrated as appropriate into all industry unit standards. Separate standards may in practice be quite discriminatory, because they pose a barrier that is artificial to actual job performance. The key to successful literacy acquisition is the context, as Liz Moore points out:

> *If someone is learning to use a machine, they don't go off and do a course on reading and writing machine instruction, they do it at the same time. All the literature on literacy transfer shows (and this is what informs my opinion) literacy really transfers when the context in which*

the skills is transferred into is as similar as possible as the context in which the skill was developed or formed.

If communication competencies are an integral requirement of work performance rather than an additional element that can be clipped on at will, they need to be made explicit within the industry unit standard in the same way that other requirements of work performance are specified or be assessed in conjunction with industry-standards, i.e. integrated assessment.

ASSESSMENT OF UNIT STANDARDS

For an industry to be ready to assess, they must have assessors ready (either in the workplace or available through an off-job training provider), an industry assessment strategy and a moderation system in place, and establishing these processes tends to be the last major steps in ITO development. Some ITOs are preparing evidence guides which provide detailed information about how respective competencies are to be assessed, to guide and support assessors, while moderation is intended to ensure consistency of assessment across enterprises and across industry sectors if necessary.

Respondents were asked questions about a range of assessment issues, including: the extent to which an ITO was assessing; feedback from assessors and moderators; the systems and information available that would highlight literacy and language problems; the training of workplace assessors; whether assessors were coping with the literacy demands of their role; the capacity of training providers to offer literacy and language support to trainees; whether assessors are trained to be aware of lack of these skills in the candidate when assessing them.

Nineteen ITOs were already assessing against unit standards, 13 were not. Almost all of the latter expected to have training agreements signed and assessments beginning by the start of 1997. A significant number (7) of the

managers in the non-assessing group had said literacy was not an issue yet, but they could foresee it becoming so in the future. Three recognised it as an issue now, although not an organisational priority. Two did not believe it was an issue at all and one thought it a significant issue, that they were having to take into account as they planned.

Assessing communication unit standards

Some industries were assessing industry-specific unit standards but the provision of communication skills to any great extent was going to start in 1997. Most of the training for, and assessment of, these skills was going to be done off-job, and in most cases off-site. In general, the respondents interviewed had very limited knowledge of the extent to which literacy difficulties were emerging for trainees in general. They did not know the extent to which trainees were needing, or being offered learning support. Most did not appear to have (nor believe they needed) systems that would allow them to establish the number of assessment attempts people were needing, or the reasons trainees were not being able to achieve competence. These were considered issues for enterprises (in the case of workplace assessment), or for training providers (for off-job training).

Moderation of non-industry specific unit standards can pose particular problems according to Liz Moore:

> *If ITO are using standards from another field or another standards-setting body they have to participate in the accreditation procedures for that and also the moderation action plan for that and that has been a strong reason why ITOs have not included unit standards that they do not own or control... and participation in those of other standards setting bodies is often seen as time-consuming and expensive.*

It would be useful if a clear picture was obtained of the manner with which these skills are being incorporated into qualifications.

Repeated assessments

One ITO had just commenced a pilot of off-job essential skills training, and after only three weeks, the literacy and language skills and in particular maths skills of trainees were emerging. Feedback from providers had come to one ITO about trainees needing more attempts at assessment (5 or 6) than had been anticipated. This raised questions about the associated costs, and whether the number of attempts will be restricted in some circumstances, but it was too early for the matter to be taken further. Repeated assessments are one of the hall marks of CBE, where theoretically learners never fail, simply repeating the exercise until competence is achieved. Nonetheless, for the learner having repeated attempts may seem more like repeated failure, at what personal cost to the learner.

The experience of workplace assessment overseas has not been particularly positive according to Liz Moore, largely it seems because of inappropriate models, with unmanageable numbers of assessments and reassessments being required. Assessment must be related to learning, so that if at each new assessment the learner is not conscious of having made real progress towards competence, they may not be receiving enough effective training. Learners and enterprises pay a high price for ineffective training, so much more research is needed about assessment practices and effective literacy pedagogy in the workforce, to develop our understanding of good practice. Repeat assessments might be acceptable in the short term while systems were being established and streamlined, but in the long term if they do not show a trainee's steady improvement, they are both economically unsustainable and have a detrimental effect on the learner

Workplace assessment

Several respondents mentioned that enterprises were looking for a direct payoff from training through increased use of literacy skills on the job, rather than improved literacy skills *per se*. Therefore, there was great value in the

ability of the workplace assessors to recognise, and get around, literacy and language difficulties:

> Standards are based on operational competency. Assessors have the opportunity to say "don't tell me you can't pass this bloody test. You've been running this machine for 2 years. Why is it you can't tell me or write it down?...Books, manuals, log sheet and pie graphs, these things are the problem, not knowing how [to do the job]. (Large, Manufacturing)

> Our workplace assessors have to be able to do common sense assessments of whether the person is not being assessed as competent because they don't know or because they didn't have the capacity for the written material. (Large, AF&F)

On the other hand, the efficacy of workplace assessment was challenged by one ITO, where trials of this process had been unsuccessful. The employers who are the on-job trainers and assessors were deemed not to have enough skills for either specialist role.

Workplace assessor training in itself demands sophisticated skills of participants, and for some challenges their literacy and language skills:

> The course in itself, even though it was very good, just about knocks out about half the people who would be very good workplace assessors, because of the level required to be attained, not only in a literacy and language sense, but in an application sense. Time management, priority management, all the implied skills. They don't have grounding in writing out documents, writing down key points, listening to someone and being able to summarise the key points. (Medium, Service Sector)

Being a workplace assessor involves paper work - preparing evidence guides and assessment tools in some cases, recording evidence and so on, which several respondents believed was difficult for some people to sustain. Several ITOs have trained significant numbers of workplace assessors, but fewer than half have gone on to complete the requirements to achieve competence:

> The majority of people who are being put forward to become assessors are experienced practitioners. They are not people with study skills or academic backgrounds. Every provider who runs assessor courses runs 2 ½ -3 day course with follow up projects. We are starting to correct this by requiring them to be more aggressive in scheduling follow-up. That's proving to be quite successful. A lot of them find assessment quite daunting. (Medium, Manufacturing)

There will be duplication and additional costs if different or specialist workplace assessors are required for communication unit standards. If an integrated approach is adopted, workplace assessors would be selected for their capacity to be trained to assess communication skills in addition to technical areas. This will pose problems for some industries, where the assessor training that already exists is proving difficult, demonstrated by the high non-completion of workplace assessor courses that respondents reported.

Assessment strategies that support workers with low levels of skill

Altogether, five respondents referred to the need for the writers of training materials to take into account the literacy and language skills of potential users. A small number of these believed that the training materials, trainees' log books or trainers' manuals already prepared by their ITOs were inappropriate and inaccessible, but they didn't necessarily relate that to literacy skills. However, their description of the problem -the need for plain and simple English - certainly suggested literacy skills might be one of the factors in poor understanding:

> We believe a number of the problems we are experiencing out there in the industry can be related to the training material. It is not attractive to use. It is strictly NZQA language. In fact, to be honest, its basically the unit standard. We are going to redesign it. We are going to make it more visual, rewrite into plain English, simple English. The format is very off-putting. In itself it is a barrier to understanding and therefore use. This is not a literacy and language problem, it is the way we have packaged the material that is the barrier. (Large, Service Sector)

A significant number of respondents (8) said that they specifically allowed for extensive oral assessments because they recognised written literacy skills might prevent people from being assessed as competent:

> Our policy is, we will never say written only because our reading is.. that a proportion have difficulties doing written examinations for one reason or another...quite a few are finding the theory really hard going but don't know if that is literacy and numeracy, or course content, or boring tuition. (Large, E&T)

> ..people could successfully complete a national certificate without being able to read and write. (Assessing, not a priority) (Large, AF&F)

> The Framework is great for people with special needs. It allows them that choice of verbally answering without being marked down, or a [reader]writer.[20] (Large, Service)

It was recognised that enterprises were likely to be putting forward their most skilled workers first, so there was a guarantee of success:

> "No fail first step". That's what you've got to do when you introduce change...encouraging companies to take their experienced people first and assess them, so that their first assessments are always going to be successful. It also takes the stress off the assessor. (Medium, Manufacturing)

However, the success of the whole system depends on sound assessment practices. The most alarming feature of discussions about assessment was the extent to which the respondents described, or showed me, examples of assessment practices that reinforced all the criticisms about the reductionist tendencies of standards-based assessment, in particular the heavy use of checklists. There was also an apparent lack of understanding about the relationship between the assessment task and actual job performance. For competency-based assessment to represent actual work requirements fairly and support competence on the job, successfully completing the assessment should not require more skills than the job itself does (Sutton, 1996a). As an example, a learner had to prove their competence by completing seven

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[20] Dispensation may be given for students to dictate their answers to a writer.

written assignments or projects, while the unit standard did not specify written activity as a requirement of competence. Assessment in itself becomes the barrier which the Framework is supposed to eliminate.

Integrated assessment

Integrated assessment appears to answer many of the principal concerns about poor assessment methodology. Liz Moore described an effective integrative process:

> *Integrated assessment allows the planning of evidence gathering to meet the requirements of more than one unit standard , or a variety of elements across unit standards. In this way, an industry unit standard and a communication unit standard can be achieved together in the context of a real activity.*

However, it needs considerable development and publicised research to support its adoption. NZQA sells training in integrated assessment to ITOs, but very few of the CEOs I spoke to seemed familiar with the concept. Certainly in some of the larger organisations, assessment philosophy and practices may have been the responsibility of someone other than the CEO, but in most cases the ITO had small numbers of staff and the managers were conversant with the type of assessments being expected. Moore agreed that while integrated assessment appears to offer ITOs an educationally sound process with which to respond to the new system's demands, it is not being vigorously championed. If assessment is not fully understood, trainers and designers may be reverting to a known, more procedural approach, whereby individual skills are perceived to need independent validation through (often mechanistic) assessment.

SOFT SKILLS IN QUALIFICATIONS

There had obviously been considerable debate about the mechanism of representing literacy and language skills in qualifications, but there is not enough evidence as yet to know which method will prove effective. However,

the responses suggested that far more attention was being paid overall to specific technical skills. Literacy skills, as part of broader communication or 'soft' skills were not in the forefront of thinking of many ITOs.

However, the relationship between soft skills and performance is being increasingly borne out by research (Bullard et al, 1995; WEB, 1996) and Moore showed some frustration at the limited acknowledgement that has been given to them by policy makers as well as enterprises:

> *All the other studies show that these skills are the difference between a high performing company and a company that doesn't perform so why is it that people don't make this more of an issue? The reasons is that its complex. All the key stakeholders need to pay more attention to it.*

'Hard' technical, psychomotor and cognitive skills are increasingly recognised as quickly obsolescent, compared to less tangible and observable 'process' or communication, problem solving and interpersonal skills (OECD, 1991; Bullard et al, 1995). Moore anticipated a long-term trend away from large numbers of narrow technical unit standards:

> *.. large numbers of operational unit standards will be obsolete in 5 years time. By the time the ink is dry they are obsolete, so if you pin the unit standard to the technical performance in the job you've lost the plot already... and the bits that stay are the bits around working with other people, team skills, interpersonal skills.*

If this is the case, some ITOs may be radically reviewing their qualifications and the manner in which industry-specific unit standards reflect the communicative practices of competent on-job performance when qualifications come up for periodic review.

CONCLUSION

This chapter examined the manner in which literacy and language skills are being incorporated into competency-based qualifications. The most important points are:

- a small majority of the ITOs in the sample have included specific communication unit standards in their qualifications. However, this does not reflect research findings about effective literacy practice which suggests communication skills are more easily acquired when seen as part of the performance of other technical skills
- it is unclear how well the literacy and language components of real work performance are being addressed in those qualifications where literacy and language are supposedly integrated into industry-specific unit standards
- some strategies for assisting learners with low levels of skill are being put in place, in particular oral assessments. Training and assessment material is being made more attractive and reading-age accessible with graphics and layout changes;
- some low level qualifications are regarded as having no literacy components in them, but it is unclear (and seems unlikely) that this is an accurate reflection of the communicative competence required of workers
- integrated assessment offers an opportunity for literacy and language skills to be measured in context, but there was little evidence of its use
- the manner in which literacy and language skills are incorporated into qualifications needs to take into account the research on the relationship between those skills and high-performance organisations, and literacy transfer research.

CHAPTER NINE

FINDINGS - LITERACY AND EMPLOYMENT

This chapter presents the comments made by respondents about general literacy and language issues. Recruitment and training emerged as prominent themes.

RECRUITMENT

Almost half the respondents (15) identified literacy, numeracy and language skills as issues at recruitment:

> If you went back 15 years, anybody, literally anybody they could press-gang off the streets could get a job. We have still got people from that era in factories, although they are under threat from younger people coming through. (Medium, Manufacturing)

The recruitment patterns from times of full employment were illustrated by this quote. Obviously this pattern was not exclusive to manufacturing. Several other respondents described how in the past the need for labour meant literacy and language skills weren't taken into consideration. Indeed, there may well have been no obvious need for them in processing and assembly plants. The emphasis was on 'strong backs' rather than literacy skills. Prospective employees only needed:

> 'the ability to fill in the form, but they could take it home and have someone else fill it in and that would do'.

Economic reforms have changed the picture for those with limited skills. Where industries have undergone massive restructuring and reductions in staff numbers, many unskilled jobs have disappeared:

> The people who are left are multi-tasking, they have a lot more tasks to do, which are making higher demands on their literacy. There is a lot of technical support for numeracy [computers]....but the ones who

> haven't been able to cope with the levels of skill needed as jobs have changed over the last ten years have gone. (NT, B&F)

While many of the respondents said enterprises now recruit more skilled workers, finding adequately skilled staff is sometimes still difficult. One manager from an industry with a multi-cultural workforce doing poorly-paid service work said that, 'if they can sign the form they get the job'. Another manufacturing ITO manager said that getting staff in the Auckland region was so difficult with the economic upturn:

> ..we would hold up a mirror. If it mists over, they're in (Medium, Manufacturing)

Several respondents discussed the cost inherent in recruiting workers with low levels of literacy skills, particularly when the demand for worker flexibility and skill increased:

> In the past they have employed low skilled people so they didn't have to pay them much. They are being bitten by that, because now they are trying to change technology and increase the person skills - the knowledge content of a person's input into a job and finding they have considerable problems - reading manuals, understanding process control, how to fill out logs - stuff like that. (Large, AF&F)

The organisational cost of downsizing and the skill demands on those who are left were mentioned by two respondents:

> When companies down-size their staff numbers, they generally lose their better people. The better people take their redundancies and run and get another job, and they're left with the less skilled. (Large, AF&F)

> The less (sic) process workers, normally the brighter they've got to be or the more skills they've got to have. (Medium, Service Sector)

Several respondents from Auckland-based ITO believed the problem of employees with limited skills was more peculiar to Auckland, and that more stable less multi-cultural workforces elsewhere did not encounter the same problem. While it is true that Auckland has a high proportion of Maori, Pacific

Island and migrant workers, other areas have similarly high numbers of people with no school qualifications (Sutton, 1996a). The IALS survey results will provide some indication of whether this is really a 'northern' problem.

Five CEOs believed that literacy and language issues will be solved by enterprises changing their recruitment strategies.

> ..companies saying oh no, its too dangerous, we won't employ people in those positions who can't [read and write]. (Medium, Manufacturing)

But as has been pointed out, this strategy only works when there are other people to employ. While there may be choice about unskilled labour, the skills shortage research makes it clear that skilled labour is in short supply.

The inadequate skills of new recruits

The (in)adequacy of the skills of prospective employees was a constant theme throughout this section, with ten respondents commenting on the need for prospective employees to come better prepared. They believed there were significant numbers of young people attempting to enter the workforce without adequate skills:

> Manufacturing ITOs should be telling you this is a big problem. That's where all these kids are going to find their jobs - in factories. They struggle even to find jobs in retail. (Medium, Service Sector)

Enterprises were making it clear to ITOs that they expected the school system 'to deliver people with sufficient skills'. There was a widespread perception that schools were not doing an adequate job:

> Low literacy rates in a major industry demonstrate the failure rate of the education system. (Large, AF&F)

> ... you get a bunch of employers together, they'll start talking about schools and say wouldn't it be nice if people could read and write. (Large, E&T)

However, it is unclear whether schools had produced a better 'product' in the past, when the limited skills of the current workforce are considered. Perhaps it is not that schools are turning out demonstrably less competent people but rather that the needs of the job have changed dramatically and more literacy, numeracy and language skills are needed and expected of recruits at the outset (OECD, 1992). One respondent put a slightly different perspective about the perceived lowering of academic standards, suggesting that more varied job opportunities meant there was more competition for skilled applicants:

> They complain that the raw material is getting worse. But there is change in the available work. In the past clever women did this work. Now bright women are going on to other jobs. Bright ones with high levels of English aren't doing commercial. (NT, B&F)

Several interviewees commented on the apparent inability of ETSA to produce trainees with adequate communication and literacy skills. However, one also drew attention to that fact that ETSA's client base had few skills to begin with:

> The work ETSA are having to do on second chance education is getting more difficult as unemployment figures go down because the people they are having to deal with have less and less [basic skill] to work on. (Medium, Manufacturing)

Screening for literacy skills

Only two of the 32 respondents referred to industries routinely testing or assessing literacy skills at recruitment time, but others believed enterprises were changing their recruitment patterns to ensure that people with low levels of skill did not enter their industries. Liz Moore corroborated this, with Workbase staff observing a big increase in the use of psychological and skills testing at pre-entry level. But the efficacy of this as a strategy is questionable. As some respondents stated, it is not always possible to recruit enough people with adequate skills. Generic skills testing may not reflect the real

communication requirements in particular industries and they do not necessarily address future skills needs. Constructing industry-specific screening instruments is expensive and perhaps not appropriate in rapidly changing environments. Nor does changing recruitment address the needs of those already in the workforce, who as was pointed out in Chapter Three, are a significant group. Moore suggests it is as much about cost as responsibility. Accepting responsibility implies a tacit acceptance of costs, which those in industries with tight profit margins may be unwilling to undertake:

> *So in a way, there is a double bind because by taking it on as an aspect of competence that they want to see in their industry, they are actually taking it on as their issue and kind of owning it.*

Skills required at recruitment

The majority (28) who responded to this question said industries were seeking either passes in School Certificate or three years of schooling as indicators of literacy ability. Three years secondary schooling was expected to be adequate to 'achieve sufficient standards of English and maths to be a competent trades person'. This seems simplistic given the complaints about the lack of skills in new recruits. ETSA accept people with two School Certificate passes as TOP trainees, a high percentage of whom are expected to have literacy and language difficulty, reflected by their poor School Certificate mark. Therefore it is unlikely three years schooling will ensure new recruits have enough generic literacy, numeracy and language competence to draw on in a rapidly changing workplace.

Only four ITOs appeared to require specific qualifications, although the picture is confused, because ITOs embrace many different sections of one industry, some of which may have higher entry-level requirements than others.

Several industries had a minimum recruitment standard - for example, School Certificate passes in English and Maths. However, several CEOs made the

point that this was more rhetoric than reality. Enterprises 'still needed labour to work', and employing people with low skill levels was used as a mechanism for keeping labour costs down. One respondent, whose ITO represented a large service sector industry, thought that companies would be 'struggling to be picky' in their recruitment, because as unemployment went down, the potential labour pool shrank.

Eight ITOs were seeking scientific or maths skills as prerequisites for employees. Managers of several others stated that personal qualities, such as honesty or willingness to work, were more important than specific skills:

> What we are saying is that it's not skills but attitude. You can teach them anything. (Medium, Not classified)

THE SKILLS OF THE EXISTING WORKFORCE

The section on recruitment above illustrated respondents' positions on the skills required of prospective employees. The skills and training needs of the current workforce are even more important to consider, because the bulk of the workforce until 2010 is already in employment. There was recognition that current employees were vulnerable because of changes in work practices or technology:

> ..its absolutely critical that they have it [literacy skills] or they won't get employed. And we have to do something about existing employees that have been working for a company for many many years and now some fragility in their skills is developing because of technology. (Large, E&T)

Three managers had anecdotes of employees who had successfully taken part in literacy and language courses:

> They [employers] would say "guess we're going to have to accept it because these people would never admit they were illiterate. They have been so clever at hiding it so far, and they won't allow themselves to be exposed." And yet our experience is that if people have the opportunity in a sensible environment, that is their

> environment, they will jump at it once you get them on that discovery track you won't hold them. (Large, AF&F)

There was some scepticism about both the ability to provide adequately training for all employees and the efficacy of doing so. Quotes from three other interviewees illustrated the perceived cost of supporting people with very low levels of skills, and the likely response from enterprises:

> [I'd] doubt we'll be able to afford extensive remedial training for someone who has no skills at all. We will be able to provide for the majority for people who have some skills that just need building on. But for someone who is totally illiterate, we won't be able to help them. It'll be up to the enterprise whether they want to retain that individual. (Medium, Manufacturing)

> Companies can deal with people who are in employment now. The frustration is that they can't really do anything with people who are going to come into employment. The answer for the industrialists will be to eliminate people out of the equation if they can't solve it. (Medium, AF&F)

> Industry is hard-nosed. They are prepared to support the [low-skilled] workers they have but don't want any more of them. (Large, Manufacturing)

Several managers mentioned that enterprises were more likely to put more skilled employees forward for training, not the person with fewest skills:

> Companies will offer a traineeship to a more competent worker rather than trying to upskill a poor literacy worker (Medium, Manufacturing).

One CEO argued strongly for not lowering standards to make training more accessible to those with fewest skills:

> At some point, we will have to pick up some sort of remedial system or change levels. I have no intention of dealing with it by dumbing down the qualifications. I am not going to lower the level [of the qualification] - I am going to raise the people (Large, AF&F)

Two CEOs were sceptical about the emphasis on qualifications. They believed that participation in industry-specific training might be perceived as more useful than completing whole qualifications:

> Industry is not necessarily interested in having all its people completing national qualifications. The industry is interested in upskilling in industry factory-based unit standards. There is no barrier to achieving 33 unit standards and not even a Level 1 numeracy - and they will be regarded as a very highly skilled operator. This business of a national certificate - they are seen as might be nice to have but may not need to have them. (Medium, Manufacturing)

In some instances industry-related training (possibly unrelated to the NQF) may be linked to skill-based pay developments, although that connection was not made in the case quoted above.

A respondent from a processing industry with a multi-cultural workforce, did not believe that training and educational opportunities were going to be universally accepted or even considered desirable by employees themselves:

> Not everyone may want to take part in training. Skill New Zealand assumes everyone wants to upskill. The reality is that to ask them to do anything other than what they are paid for is an intrusion on their human rights. They are quite happy with their lot. (Medium, Manufacturing).

The jargon and 'NZQA edu-speak' in themselves were proving to be barriers to employees understanding what the training outcomes were expected to be, even before they started work towards them:

> Even reading the damn things [unit standards]...it still takes someone with a reasonable amount of understanding. (Large, AF&F)

> It will hit them as soon as they give one of their [employees] a unit standard to read because they are written in fairly cumbersome terms and you have to have quite a high level of literacy, as well as two years of practice working out how NZQA works. Anyone one with minor literacy will hit a barrier. Highly literate people hit a barrier. (NT, B&F)

LITERACY SKILLS TRANSFER AND EFFECTIVE TRAINING

Literacy and language skills are not only difficult to define, they are complex skills to structure into qualifications and curricula. If literacy skills are recognised as portable and readily transferable from one situation to another, a logical response from ITOs and enterprises is to set up a training course (almost always off-job and often off-site), sometimes described as a 'short sharp fix'. However, this belief flies in the face of research about literacy skills transfer from the training or learning situation to the workplace. Transfer is known to be dependent on the training approximating the workplace as much as possible (Mikulecky and Lloyd, 1993). On the other hand, defining literacy as 'socially situated, widely varying and site dependent' (Falk, 1995: 25) requires different and more sophisticated training, in particular on-job training strategies that are not commonly developed as yet.

Many ITOs were clearly looking to investment in pre-entry training, and most of these had been heavily involved in this before with strong apprenticeship systems and established programmes with day release. Others from the 'new world' recognised a different situation, where workers actually on site needed skills. Release from production lines is expensive and may not be able to be sustained for long, so the onus will be on training managers and providers to link skill development to daily work activities.

Off-job training and competence

Several respondents were concerned about the ability of providers to offer effective off-job training, and told their training 'horror stories'. They also drew attention to the contradiction between open-ended notions of competence, and assessment when the learner was ready, with the reality of a 20 hour course, at the end of which would (supposedly) emerge competent performers, all of whom could assimilate the required material and practice their skills. Concerns about pre-packaged off-job training were reinforced by Liz Moore:

> *[Off job pre-determined programmes] flies in the face of everything that is known about literacy acquisition. You do not pick off the shelf a generic literacy or language programme and whack everyone on it. You actually have to tie it really carefully to the job requirements and the workplace requirements...you have to plan around the skills and levels of the people you are working with to provide an effective programme.*

Traditional pedagogy was clearly seen to be contrary to the underlying tenets of competency-based education. Liz Moore questioned whether the training and assessment some people were experiencing was actually leading to competence in the long term:

> *People do not see literacy and language acquisition as problematic, so they purchase it the same way they purchase forklift truck driving. Based on the assumption, which can be challenged, that going on a course and getting [unit standard no.] 1277 means you can communicate in a specified workplace. Five years down the track, you could find enterprises who have people in the workforce with 1277 but they are putting in place training and support for them to be able to communicate more effectively, in exactly the same way people are sitting in the workplace now with School Certificate English but who cannot deal with the communication demands made on them.*

Very few respondents knew or had considered whether consultant course designers and private training providers they contracted for educational services had any expertise in supporting workers with low levels of literacy. Ensuring they have adequate levels of expertise and experience may reduce costs to participant and employers in the long term.

LITERACY SKILLS AND WORKPLACE REFORM

Only one CEO related literacy, numeracy and language skills specifically to workplace reforms and the new communication strategies that were needed as part of that:

> The practicality of running [this industry] means that everyone must contribute if you want integrated participation, if you are asking your workforce to contribute ideas, concepts. There has been a big push over the last 10 years for flatter organisations - a lot of people who are

> shop floor workers have to be able to communicate. If they are unable to communicate, unable to express themselves on paper, if they are unable to read the invitation to contribute, without enabling skills... (Large, E&T)

This very limited response was surprising, given how fundamental literacy and language skills appear to be in underpinning real workplace change. However, reforming the workplace is far more the specific milieu of enterprises, and quite different responses about the relationship between improved workplace communication and literacy may have come if human resource or training managers in companies had been interviewed.

Workplace reform calls for an organisational culture of learning. Logically, this commitment to on-going learning must be fostered within individuals as well. Gaining confidence in literacy skills often allows people to consider taking on other forms of training, but that willingness and capacity to learn must be fostered, as Liz Moore points out:

> *Now just putting in place industry unit standards and assessing against them does not guarantee you that [willingness or disposition to learn] and yet the literature on competence show you that you have to generate that broader concept of competence that includes the disposition to go on learning.*

As Ryan (1995) discovered, commitment to workplace reform is still more rhetorical than substantive, so until more companies undertake restructuring to a significant extent, the centrality of literacy and language skills may remain unrecognised. Respondents did not talk about workplace reform *per se* demanding greater literacy skills. However, ten respondents reported employers looking for higher levels of basic skills either because of industry demands for additional skills, or because workplace changes were requiring greater industry professionalism.

> Technology has become far more complex, and basic levels of education need to be higher. (Large, Service Sector)

Training costs

Several respondents compared the paucity of funding here with Australia where there is both policy and financial commitment to literacy and language issues:

> It's the responsibility of the ITO to establish if there is a literacy problem because the ITO is responsible for setting training standards for the industry. But the next step - it's actually an economic issue. The guys in Australia were saying that they have a grant for all immigrants to train them in basic literacy, so they can be more employable and more functioning to an employer. Industry can't do it on its own, it has to be wider. (Medium, Manufacturing)

The industry training strategy clearly puts the responsibility for essential skills in the hands of the employer; however literacy education is expensive because it requires much more time than the acquisition of other vocational skills.

The commercial implications of training, and the need for there to be a 'pay-off' from offering literacy training was raised by three interviewees:

> Businesses don't want to train just for the sake of training. There needs to be a return. If we accept it as an investment, we want to measure the return on the investment. If I give you skill, albeit literacy, that had better be designed to enable me to have less spoilage and waste and higher productivity. (Large, E&T)

However, one person argued that more significant costs were related not to providing employees with literacy skills but to the costs of having untrained staff:

> The least trained person is the most expensive. Their supervisor is not producing. (Medium, AF&F)

Several respondents discussed how effective performance will involve both the ability to communicate with internal, as well as external, customers and the management of quality control mechanisms.

While acknowledging the need to increase qualifications, one manager referred to the difficulties for people in their industry in accessing even the most basic training. Their industry had no training history, a majority of employees without any qualifications and an increasingly multi-cultural workforce. There was concern about the ability of people to access any qualification, because achieving Level 1 unit standards were believed to beyond the abilities of their staff. 'Our discussions have centred around unit standards below Level 1'.

This perception probably stems from the understanding that literacy has to be 'done' before other on-job skills are developed. However, during the course of the research, several workplace literacy tutors spoke about the seemingly enormous gap between people's commencing skills and the levels required for competence at Level one unit standards. Extensive tutoring and support is needed to help them achieve, and it involves both training time and potential loss of production.

CONCLUSION

This chapter focused on the manner in which literacy, numeracy and language skills were being perceived as recruitment issues, and the emphasis being placed on training to enhance those skills. The key points raised by respondents included:

- literacy and language skills are being demanded to support enterprises' search for a competitive edge;
- literacy and language skills are recruitment issues for almost half the respondents, even for those who said literacy was not an issue for their ITOs;
- many new recruits are deemed to have inadequate skills and respondents reported that where possible enterprises screen for adequate literacy skills;
- the cost of training the existing workforce in literacy and language skills is seen as an issue;

- the effectiveness of skills transfer from the literacy training context to the workplace is uncertain when the training is not integrated into other workplace training or the 'real world'.

CHAPTER TEN

POLICY IMPLICATIONS AND FUTURE DIRECTIONS

Widespread awareness that the literacy, numeracy and language skill levels of people already in employment are less than satisfactory has been slower to develop than concern about those skills in the pre-employment or unemployment re-training context. My years of experience in the adult literacy field led me to believe that that there were substantial literacy, numeracy and language skill problems throughout many levels of the workforce. Working people came to community-based literacy schemes for help, describing the techniques they had for getting around the literacy demands of their workplace. Listening to these stories, preparing annual statistics for the ARLA Federation and reading the international literature on national literacy levels gave a different perspective from that gained by reading descriptions of the successes of the New Zealand education system. It seemed to me that low literacy and language skill levels were still largely unrecognised problems in New Zealand and the motivation for this research was to draw attention to them.

The initial focus for this study was to discover to what extent workers with low levels of literacy have or will be able to take up the new training opportunities provided under the Skill New Zealand initiative. Unfortunately, it proved too early in the development of these initiatives to answer that question. Data were not yet available and the policy of not collecting educational status from learners as they gain their first credits on the Framework means it will be difficult to pursue this avenue of research in the long term anyway.

My intent then became to inform policy-makers about the extent of the problem, by presenting a perspective from one major group of stakeholders.

The significance of literacy and language skills in the workplace

The primary research focus then moved to an evaluation of the extent to which literacy, numeracy and language skills were recognised as significant by managers from a sample of 32 ITOs. Only four respondents identified the issue as significant. On the other hand however, only five said it was not an issue at all. All the rest (27) said it was either an issue now or would probably have to be faced in the (foreseeable) future. In fact, regardless of the responses given to that particular question, almost all ITOs are paying attention to the readability and presentation of their promotion, training and assessment material, at least tacitly taking into account the literacy and language skills of their respective workforces. Even where it was reported as 'not an issue', the respondents believed recruitment strategies avoided or solved literacy skill problems, rather than that these problems did not exist.

While staff recruitment is not an ITO responsibility, some of the respondents made it clear that their industries would be concentrating on training the 'bright-eyed keen worker', accepting as inevitable that those with the fewest literacy skills would eventually have to be moved out, if they had not already been made redundant in the massive economic restructuring processes of the last 10 years. However, this attitude potentially ignores the talents of many who may not seem particularly effective in the work context specifically because they are lacking in confidence and basic communication skills. The first hurdle for adult literacy learners is to overcome their fears about revealing the limitations they have carefully covered over for long periods of time. Focusing only on the few and looking to recruit staff with the required skills may be as costly an option as attempting to raise the levels of skills broadly for all workers. Reliance on recruitment to solve the problem is a crude mechanism that is costly and probably impractical for the sectors with the greatest problem. In this scenario, the highly-skilled workforce sought by the government's reform strategy may in fact be only the primary labour market, inadequately augmented by very poorly skilled peripheral and part

time workers whose skills may be unsatisfactory when they need to be called on in times of economic growth.

Assessment of unit standards as an indicator of literacy problems

The second research focus was the process of assessment on the Framework. Would the assessment process reveal that people had literacy and language difficulties that had been hitherto unrecognised? The evaluation was not able to answer this question fully because there was no statistical data to draw on. Nor was it clear whether the systems ITOs are using to track the progress of trainees will be subtle enough to answer it in the future. However, the anecdotal evidence strongly indicated that assessment highlights literacy and language problems. As substantial numbers of trainees begin training and attempting unit standard assessments in 1997, literacy and language skills are likely to emerge as major problems. Private training providers and training staff in companies may be the most effective sources of data on the extent of the difficulties faced by learners in the future.

The manner in which communication skills are incorporated into qualifications, and the importance of these skills in producing a flexible, highly skilled and competitive workforce emerged during the evaluation as areas that warrants further study. What is the most effective way to include literacy, numeracy and language skills in qualifications - as separate literacy and language unit standards, or through the integration of those skills into the performance of other unit standards? The efficacy of these two approaches in enhancing the skill of workers on-the-job has yet to be determined, yet this knowledge is vital to the construction of effective qualifications.

Strategies that support people with limited literacy

It became apparent during the evaluation that much of the support given to trainees actually comes from their employers and on the worksite, and

therefore is beyond the scope of this investigation. But ITOs do have a responsibility to ensure the accessibility of any national training and assessment systems to a wide range of people, particularly those who have not been involved in training in the past. More care has been (or is about to be) taken by the ITOs in the appropriateness of written material within these systems and many respondents acknowledged the importance of oral assessments. But there was also evidence of poor assessment practices that may potentially limit some people from demonstrating their true abilities at the skills sought.

Difficulties faced when accessing the NQF

As already discussed, it was not possible to determine the numbers of people with low literacy skill levels accessing the Framework. However, the evaluation collected enough evidence to suggest that if they do attempt to utilise the new training opportunities there are many potential obstacles, including:

- the readability and jargon of many of the training agreements
- the accessibility of training and assessment documentation
- the appropriateness and quality of the training offered
- the lack of contextualised workplace assessment
- poor assessment methodology
- a lack of understanding of the degree of support people with low levels of literacy will need on the job.

POLICY IMPLICATIONS

In general, the key stakeholders in the new training environment appear not to have recognised the complexities of literacy and language issues. The incorporation of these skills into the Framework has been equally complex and problematic. Further research and policy developments are required to ensure these skills are effectively acquired through the qualifications system.

The national adult literacy survey

Results of the national adult literacy survey will be forthcoming in early 1997, and the comparative data for the international cohort in this round of the IALS will be available later that year. The international nature of the IALS meant the survey instrument was not adapted uniquely for the New Zealand situation, which may make it open to criticism. Nevertheless, the skills required at levels one and two are not particularly complex, and poor results at those levels may not auger well for competence in straightforward workplace literacy practices, let alone the sophisticated skills required by workplace reform initiatives. It is important that due consideration be given to this data by a wide range of groups. The results will undoubtedly provoke interesting and timely debate about the capabilities of our education system, current adult literacy skills and the sorts of skills required by the workforce and our society generally in the 21st Century.

One of the characteristics of literacy is that skills decline when they are not used -'if you don't use it you lose it'. Identifying peoples' levels of skill at a given point is no indication of what their skills might be like five years later. The task-completion approach taken in the national incidence study may need to be repeated periodically and repetition of this or a similar study in the future has already been discussed by the Ministry of Education.

The roles of the major agencies

There is no organisation with statutory responsibility for adult literacy and language issues - although of course many would argue that these skills are the outcomes of the school system and are therefore the Ministry of Education's responsibility.

- *Workbase*

Workbase, the National Centre for Workplace Literacy has taken up the role of advocating workplace literacy and language skills, researching in the field and encouraging best literacy and language educational practice, but it does not have responsibility for ensuring the sufficiency or adequacy of these skills in the workforce.

- *ETSA*

ETSA is obliged by its governing statute to promote industry training to people for whom training has not traditionally been available, which certainly encompasses some of the people with poor literacy skills. ETSA also requires 'essential' skills to be an integral part of training providers' contracts for pre-employment training through TOP. Anecdotes from respondents suggested that TOP trainees were not achieving levels of literacy, numeracy and language skills that would adequately equip them for the workforce. Unfortunately, literacy-focused outputs are incorporated along with other output information, so it is not possible to know to what extent literacy and language skills tuition is being required in the pre-employment sector, nor the extent to which these skills are being achieved. Both these questions are worthy of further investigation.

ETSA is also in a contract management role with ITOs, but only with regard to trainees, the development of ITO structures and funding. They have no responsibility for, or involvement with, the construction of qualifications. However, it would be useful if ETSA and NZQA had a common conceptual framework for literacy and language skills and used common terminology.

- *NZQA*

NZQA is responsible for guiding and supporting the standards-setting bodies and within the Framework structure there is a communication skills advisory group, which has broad responsibility for communicative competence unit standards. The complexity of the issue is made more challenging because

these are cross-sector skills and there are many perspectives to be taken into account. A recent review of the literacy and language unit standards has proposed changes to many of the unit standards but further research will be needed into the effectiveness of those unit standards in representing the communicative requirements of industry.

The need for NZQA to promote, research and encourage the adoption of integrated assessment methodology more actively has been repeatedly stated throughout this evaluation. The current 'product' status of integrated assessment methodology may well be limiting its potential to overcome many of the pedagical concerns about literacy teaching and assessment.

It is hard to see at this point how any agency will be able to ascertain the extent to which people with low levels of literacy are accessing the Framework, because there is no mechanism for collecting evidence. Perhaps the national survey data and what can be gleaned about non-traditional learners from it could be correlated in some way to provide a fuller picture. Research at enterprise level may give a more accurate account of the NQF participation rates of those who have not traditionally been participants in post-school training and education.

- *ITOs*

As large numbers of trainees participate in job-related training and seek to achieve successful assessments against unit standards, ITOs should get a clearer picture of the effectiveness of their training and assessment structures. If fewer trainees than expected are gaining credits, it would be useful for ITOs to investigate the extent to which this was because of literacy and language issues and adjust their training systems accordingly. For example, private training providers could be asked to demonstrate more of their expertise in supporting people with low levels of literacy.

The cost of literacy support

Cost was brought up in a number of contexts:

- the costs inherent in ITO development, and their constant under-funding
- the cost of literacy and language training which can take a long time, requires additional expertise from training staff or external providers and where the outcomes are not always directly transferable into production
- the cost of moderation for unit standards and in particular, the expenses incurred when ITOs participate in the moderation of either non-industry specific unit standards, or other-industry specific unit standards.

Another major theme was a sense that the cost of rectifying literacy and language skill deficiencies should not be falling on ITOs or enterprises, but rather the education system should be ensuring all school leavers had adequate skills. While there was (sometimes reluctant) recognition by the respondents that employers had some responsibilities for the skill levels of existing workers, they saw this as a limited responsibility for a limited time and looked to the schools to do a more effective job in ensuring the workforce of the future was adequately skilled.

The off-job training fund administered by ETSA makes it possible for ITOs and enterprises to purchase off-job training in literacy and language, while the research literature indicates that integration with on-job training is more effective. The evaluation did not pursue the mechanisms whereby ITOs are able to fund the development of this sort of literacy provision, but it is evident that this whole area needs further research.

A national policy on literacy and language

Policy direction and co-ordination is badly needed. One mechanism to achieve this is the development of national policy. In the early 1990's, moves were made to establish a national languages policy similar to Australia but went into abeyance (Sutton & Benseman, 1996). A new policy impetus is now required, involving a consortium of government departments, crown agencies,

educators, business people and other interested parties (see Chapter Three for a list).

RESEARCH DIRECTIONS

At the present time, our knowledge and understanding of literacy, numeracy and language skill levels in the workforce is very limited, based primarily on anecdote and conjecture. We are unable to determine the importance of these skills in workplace practice, the levels of skills within our population or the most effective methods of increasing people's skills. The current paucity of research limits the quality of the current debate and research needs to be undertaken to ensure policy makers have an informed position from which sound policy and procedures may be generated. An appropriate research programme would include:

- follow-up research from the IALS results, including detailed analysis and discussion and repeat task-assessment surveys using New Zealand-specific instruments. The responsibility for this lies in the first instance with the Ministry of Education. Researching the match between school leavers' skills and workplace demands, both current and projected, is of particular importance, particularly with the increased emphasis on process rather than technical skills that is predicted for the future.
- investigations into effective literacy programmes and provider practice, and in particular, assessment practices. These are necessary for the TOP and pre-employment area generally, as well as in the workplace context. Parallel or collaborative investigations by NZQA and ETSA into these issues would be useful to ensure that there is integration between these two arenas.
- developing initiatives that support smaller businesses which lack a training infrastructure and whose training resources are limited. This is again a potential site for joint ETSA and NZQA investigation.

- research into the integration of literacy training into enterprise training generally as well as into actual on-job training. This falls within NZQA's ambit.
- estimating the business costs incurred because of literacy difficulty, as a spur to policy formulation and effective provision. Potential sponsors and/or interested parties for this research include for example, Workbase, Employers Federation, Ministry of Education, the regional Business Development Boards and enterprises.

CONCLUSION

This evaluation provides a snapshot of the current situation, which will change dramatically during 1997. The findings reveal that literacy, numeracy and language issues are at this point substantially unrecognised, if recognition is measured by the presence of policy, resourcing, definitions, well-formulated research and data on the subject, together with an awareness of, and commitment to good literacy educational practice. In the long term, if more emphasis is not placed on literacy and language skills, and if a more sound pedagogical base is not developed, the hoped-for return from investment in vocational education and training may not be realised.

BIBLIOGRAPHY

ALBSU (1994), *Basic Skills Support in Business and Industry*, The Basic Skills Agency: London.

ALBSU (1987), *Literacy, Numeracy and Adults - Evidence from the National Child Development Survey*, The Basic Skills Agency: London.

ALBSU (1993), *The Cost to Industry: Basic Skills and the UK Workforce*, The Basic Skills Agency: London.

ARLA Workbase (1995), *Making Connections: Introducing Literacy, Language and Numeracy Training in the Workplace*, ARLA Federation: Auckland.

Athanasou, J. (1995), 'Issues in the evaluation of adult education', in Foley, G. (ed.), *Understanding Adult Education and Training*, Allen & Unwin: Sydney.

Australia's Language: The Australian Language and Literacy Policy. (2 Vols.), (1991), Department of Employment, Education and Training/AGPS: Canberra.

Barker, A. (1995), 'Standards-based assessment: The vision and broader factors' in Peddie R. And Tuck, B. (eds.), *Setting the Standards; Issues in Assessment for National Qualifications*, Dunmore Press: Palmerston North.

Barlev, D. (1996), *FRSITO Demographic Study*; Wellington.

Beder, H. (1991), *Adult Literacy: Issues for Policy and Practice*, Krieger: Florida.

Benseman, J., Findsen, B. and Scott, M. (eds.), (1996) *The Fourth Sector: Adult and Community Education in Aotearoa New Zealand*, Dunmore Press: Palmerston North.

Benseman, J. (1996), 'Participation in the fourth sector' in Benseman, J. et al. (eds.) *The Fourth Sector: Adult and Community Education in Aotearoa New Zealand*, Dunmore Press: Palmerston North, pp 274-284.

Benseman, J. (1992), 'Just how big is the issue? The role of a national incidence research study', *Adult Reading Assistance News (ARAN)*, No. 37, July, pp. 8-9.

Benseman, J. (No date) *Report to ARLA Committee on the Otago Longitudinal Research Study Results,* unpublished paper, ARLA Federation: Wellington.

Berk, R. and Rossi, P (1990), *Thinking about Programme Evaluation*, Sage: Beverley Hills.

Bos, C. Roxborough, J (1995), *Preskill Requirements at Entry Level for National Certificates in Manufacturing Industries*, Basic Skills Training Ltd. and NZQA: Auckland.

Bullard, T., Capper, P., et al (1995) *The Hunting of the Skills*, paper presented to ANZAM '95 Conference, Web Research: Townsville, Australia.

Bulmer, M. (1982), 'Models of the relationship between knowledge and policy', in Bulmer, M. *The Uses of Social Research; Social Investigation in Public Policy making,* George Allen & Unwin: London.

Calalmai, P. (1987), *Broken Words: Why Five Million Canadians are Illiterate*, Southam Newspapers: Toronto.

Caudle, S. (1994), 'Using qualitative approaches' in Wholey, J., Hatry, H., Newcomer, K. (eds.), *Handbook of Practical Program Evaluation*, Jossey-Bass: San Francisco, pp. 69-95.

Caulley, D. R. (1994), The program evaluation standards (2nd Edition), *Evaluation News and Comment*, Vol. 3 No. 2.

Centre for Educational Research and Innovation (1992), *Adult Illiteracy and Economic Performance*, OECD: Paris.

Chambers, D., Wedel, K. and Rodwell M. (1992), *Evaluating Social Programmes*, Allyn & Bacon: Boston.

Chappell, C., Gonczi, A. and Hager, P. (1995), 'Competency -based education' in Foley, G. (ed.), *Understanding Adult Aducation and Training*, Allen & Unwin, Sydney, pp. 175-187.

Creative Research Group (1987), *Literacy in Canada - a Research Report*, Southam News: Ottawa.

Cope, B. Solomon, N., Prince D. and Kalantzis, M. (no date) *Communication, Collaboration and Culture: Meeting the Communication Demands of*

the Restructured Workplace, Occasional Paper 4, NLLIA Centre for Workplace Communication and Culture: Sydney.

Courtney, S. (1992), *Why Adult Learn: Toward a Theory of Participation*, Routledge: London.

Cunningham G. et al (1983), *A Job-Related Literacy Survey among Electric Power Board Workers*, NZCER: Wellington.

Dall'Alba, G. and Sandberg, J. (1992) *A Competency-based approach to Education and Training: Will it improve competence?*, Occasional Paper 92.4, EQARD, RMIT: Melbourne

Demographic Study (1994), Building Service Contractors Association of New Zealand Inc.: Auckland.

Denzin, N. K. (1989), 'Strategies of multiple triangulation' in Denzin, N K. *The Research Act* (3rd ed).

New Zealand Government (1994), *Education for the 21st century*, Ministry of Education: Wellington.

ETSA (1991), *Industry Skills Training Strategy*, ETSA: Wellington.

ETSA (1992), *A Guide to the Industry Training Act*, ETSA: Wellington.

ETSA (1993), *Skill New Zealand; A New Strategy for Lifelong Education and Training*, ETSA & NZQA: Wellington.

ETSA (1994), *The Skill New Zealand Development Project*: ETSA, Wellington.

ETSA (1995), *A-Z Guide for ITOs. A Guide to the Development and Operation of Skill New Zealand*, ETSA: Wellington.

ETSA (1995a), *ITO Update - December*, ETSA: Wellington.

ETSA (1996), *1996 Regional Purchasing Specifications, Auckland Central Region*, ETSA: Auckland.

Edwards R. and Usher, R. (1994), 'Disciplining the subject; the power of competence', *Studies in the Education of Adults*, Vol. 26, No 1, April, pp. 1-14.

Falk, I. (1995), *Comparisons and Evaluation of Adult Literacy Assessment Practices*, Commonwealth Department of Employment, Education and Training: Canberra.

Ferguson, P (1996), *Do Unit Standards Produce Unit Standards? Or, is the Assessment Tail Wagging the Educational Dog?,* Paper presented at the Assessment of Student Achievement Conference, Auckland, The Waikato Polytechnic: Hamilton.

Fitzsimons, P. and Peters, M. (1994) 'Human capital theory and the NZ industrial training strategy', in *Journal of Educational Policy*, No. 9 (3), pp 245-266.

Forrester, K., Payne, J. and Ward, K. (1995), *Workplace Learning*, Avebury: Aldershot.

Foley, G. (1992), 'Adult education and the labour market', in Harris, R. and Willis, P. (eds.) *Striking a Balance: Adult and Community Education in Australia towards 2000,* Centre for Human Resource Studies and South Australian Branch of AACE: South Australia.

Foley, G. (1995), 'A framework for understanding adult learning and education' in Foley, G (ed.), *Understanding Adult Education and Training*, Allen & Unwin, Sydney, pp. 5-19.

Foley G. and Morris R. (1995), 'The history and political economy of Australian adult education' in Foley, G. (ed.), *Understanding Adult Education and Training*, Allen & Unwin, Sydney, pp. 108-120.

Gonczi, A (ed) (1992), *Developing a Competent Workforce*, NCVER: Adelaide.

Gonczi, A. (1993) Integrated approaches to competency-based assessment, *Training Agenda,* Vol. 1, No 2, pp. 9-11.

Gonczi, A (1994), *The False War: Competency-based Education and its Critics*, Invited paper presented at the Professional Curriculum Conference, NSW TAFE Commission, Sydney.

Green B. Hodgens J. and Luke, A. (1995), *Debating Literacy in Australia: History Lessons and Popular F(r)ictions*, Deaking University and James Cook University: Australia.

Griffin, P (1995), 'Competency assessment: avoiding the pitfalls of the past', *Australian and New Zealand Journal of Vocational Education Research*, Vol. 3, No 2, pp 34-59.

Griffin P. and Forwood A. (1992), *Adult Literacy and Numeracy Competency Scales*, Department of Employment, Education and Training, Victoria.

Guba, E. and Lincoln, Y. (1986), 'The countenance of fourth-generation evaluation: description, judgement and negotiation', *Evaluation Studies: Review Annual*, Vol. 11, pp. 70-86.

Guthrie J. and Gittus A. (1995), *Retailers Attitudes to Training in New Zealand*, Retail and Wholesale Industry Training Advisory Group Steering Committee: Wellington.

Hager P. and Gonczi, A. (1993) 'Attributes and competence', *Australian and New Zealand Journal of Vocational Educational Research*, Vol. 1, No. 1. pp 36-45.

Halliday P. and Marr B.(1995*), Not One Right Answer- Mathematics Within the Certificates of General Education for Adults*, Adult, Community and Further Education Board: Victoria.

Hall, C. (1995), 'Why universities do not want unit standards', *Vice Chancellors Committee Newsletter,* July.

Harris R, Guthrie H., Hobart. B, Lundberg D (1995), *Competency-based Education and Training: Between a Rock and a Whirlpool*, Macmillan Education: Melbourne.

Hartley R. (1989), *The Social Costs of Inadequate Literacy,* Australian Government Publishing: Canberra.

Hill, K. (1990*), This Fragile Web - theAdult Literacy Movement in New Zealand; its Rise and Development*, NZCER: Wellington.

Hinkley & Associates (1994), *A Survey of Core Skill Requirements*, Wellington Chamber of Commerce: Wellington.

House, E. (1993*), Professional Evaluation: Social Impact and Political Consequences*, Sage: Newbury Park.

House, E. (1980), *Evaluating With Validity,* Sage: Beverley Hills.

Irwin, A. (1988), *The Literacy Needs of ACCESS Students*, Department of Education: Wellington.

Karabel J. and Halsey, A. H. (1977), *Power and Ideology in Education*, Oxford University Press, New York.

Kazemek F. (1985), 'An examination of the adult performance literacy project and its effects on adult literacy education in the United States', *Lifelong Learning*, Vol. 9 pp. 4-8.

Key Competencies (1992), A report of the Committee to advise the Australian Education Council and the Ministers of Vocational Education, Employment and Training, AEC: Canberra.

Kirsch I. and Jungeblut A. (1986), *Literacy: Profiles of America's Young Adults*, National Assessment of Educational Progress: New Jersey.

Law M. (1996), 'Workers' education and training in a new environment' in Benseman J. et al (eds.) *The Fourth Sector: Adult and Community Education in Aotearoa/New Zealand*, the Dunmore Press: Palmerston North, pp. 159-176.

Lee A. and Wickert, R. (1995), 'Reading the discourses of adult basic education teaching' in Foley, G. (ed.) *Understanding Adult Education and Training*, Allen and Unwin: Sydney. pp. 134-146.

Lindblom, C. (1987), 'Who needs what social research for policy-making?' *Evaluation Studies: Review Annual,* Vol. 12, pp. 163-184.

Livingstone, I. (1994), *Literacies, Numeracies and Scientific Understandings: a NZ Literature Survey with Implications for Lifelong Learning*, Chartwell Consultants: Wellington.

Lytle S. and Wolfe M. (1989), *Adult Literacy Education: Programme Evaluation and Learner assessment*, ERIC: Washington.

Margison, S. (1994), 'Is competency based education a good enough framework for learning?', *Critical Forum*, Vol. 3.

Marginson, S. and O'Hanlon, S. (1993), *From the Generalist Courses to Work: An Annotated Bibliography on Generic skills*, Centre for the Study of Higher Education, University of Melbourne, CSHE Working Papers 93.5.

Mikulecky L. and Lloyd P.(1993), *The Impact of Workplace Literacy Programmes: A New Model for Evaluating the Impact of Workplace Literacy Programmes*, National Centre on Adult Literacy, Philadelphia. NCAL Technical Report TR93-2.

Miles, M. and Huberman, A. (1984), *Qualitative Data Analysis; A Source Book of New Methods*, Sage: London.

Ministry of Education, (1994), *A Single Harmonised Qualifications Framework*, Report of the Ministerial Lead Group: Wellington.

Moore L. (1996), 'Workplace literacy: issues and trends in Aotearoa/New Zealand' in Benseman J. *et al.*, *The Fourth Sector: Adult and Community Education in Aotearoa/New Zealand*, the Dunmore Press: Palmerston North. pp 177-192.

Moore L. and Benseman J. (1993), *Literacy at Work: An Exploratory Survey of Literacy and Adult Basic Education Needs in the Workplace,* ARLA Workbase: Auckland.

Morrison, T. (1995), 'Global transformation and the search for a new educational design', *International Journal of Lifelong Education*, Vol. 14. No. 2, pp. 188-213.

Mudford, A. (1993), *Literacy Survey of Prison Inmates*, Department of Justice: Wellington.

Murray, S. (1995) *Proxy Measures of Adult Basic Skills: Lessons from Canada*, TR94-18: NCAL., National Centre for Adult Literacy: Pennsylvania.

New London Group (1995), *A Pedagogy of Multiliteracies: Designing Social Futures*, Occasional Paper 1, NLLIA Centre for Workplace Communication and Culture, Sydney.

Newman M. (1993), *The Third Contract; Theory and Practice in Trade Union Training*, Stewart Victor Publishing: Sydney.

Norris, N. (1990), *Understanding Educational Evaluation*, Kogan Page, London.

NZQA (1993), *Essential Skills and Generic Skills in the National Qualifications Framework*, Consultation Document, New Zealand Qualifications Authority: Wellington.

NZQA (no date), *Working For Industry: An Introduction to Workplace Assessment and the National Qualifications Framework*, New Zealand Qualifications Authority: Wellington.

NZQA (1995), *An Introduction to Integrated Assessment*, New Zealand Qualifications Authority: Wellington.

NZQA (1996), *Learning and Assessment: A Guide to Assessment for the NQF*, New Zealand Qualifications Authority: Wellington.

O'Connor, P. (1990), *Cost Implications for Workplace Basic Education*, Workplace Basic Education Resource Project: Sydney.

OECD (1991), *The Life-Long Learner in the 1990's,* CERI/CD (91) 16.

OECD & Statistics Canada (1995), *Literacy, Economy and Society: Results of the First International Adult Literacy Survey,* Statistic Canada: Ottawa.

Olssen M. (1996), 'Neo-liberalism and the welfare state: prospects for the year 2000' in *ACCESS, Critical Perspectives on Cultural and Policy Studies in Education*, 15 (1), pp 1-33.

Owen, J.(1993), *Program Evaluation: Forms and Approaches*, Allen & Unwin: Sydney.

Parlett M. and Hamilton, D.(1972), 'Evaluation as illumination: a new approach to the study of innovative programmes', *Occasional Paper No 6,* Centre for the Research in the Educational Sciences, University of Edinburgh: Edinburgh.

Patton, M. Q. (1982), *Practical Evaluation*, Sage: New bury Park.

Patton, M. Q (1984), 'Data collection: options, strategies and cautions' in Rutman L. (ed.), *Evaluation Research Methods: A Basic Guide*, Sage: Newbury Park, pp 39-63.

Patton, M. Q. (1986), *Utilization-Focused Evaluation* (2nd edition), Sage: Newbury Park.

Patton, M. Q. (1990), *Qualitative Evaluation and Research Methods (second edition*), Sage: Newbury Park.

Peddie R. and Tuck, B (eds.), *Setting the Standards; Issues in Assessment for National Qualifications*, Dunmore Press: Palmerston North.

Perry, M., Davidson, C. and Hill R. (1995), *Reform at Work: Workplace Change and the New Industrial Order*, Longman Paul; Auckland.

Quigley, B. A. (1993) 'To shape the future: towards a framework for adult education social policy research and action', *International Journal of Lifelong Education*, Vol. 12, No. 2, pp. 117-127.

Quigley, B. A., (1996), *Rethinking Literacy Education: The Critical Need for Practice-based Change*, Jossey-Bass: San Francisco.

Rasmussen, E., Wailes, N. and Haworth, N. (1995), *Where Are We and How Did We Get There? Skills Shortages & Industry Training in New Zealand*, paper presented at the 10th AIRAANZ Conference, University of Western Australia: Perth.

Rasmussen, E. (1996), Workplace Reform and employee participation in New Zealand, in Markey, R. (ed.) *Innovation and Employee Participation Through Work Councils*, Avebury.

Reid, S (1996), *Industry Needs Research in Engineering and Manufacturing*, internal paper, ETSA: Auckland.

Roberts, P. (1995), 'Literacy studies: a review of the literature, with signposts for further research', *New Zealand Journal of Educational Studies*, Vol. 30, No. 2, pp. 189-214.

Robson, C. (1993), *Real World Research*, Blackwell: Oxford.

Ryan, R. (1995), *Workplace Reform in New Zealand- The State of Play*, Workplace New Zealand: Wellington.

Sarantakos, S. (1993), *Social Research*, MacMillan: Melbourne.

Scheirer, M. (1994), 'Designing and using process evaluation' in *Handbook of Practical Program Evaluation*, Wholey, J., Hatry, H., Newcomer, K. (eds.), Jossey-Bass: San Francisco, pp. 40-68.

Schultz, T. (1960), 'Investment in human capital' in Karabel J. Halsey, A. H. (1977) *Power and Ideology in Education*, Oxford University Press: New York, pp. 313-324.

Scriven, M. (1991), *Evaluation Thesaurus* (4th edition), Sage: California.

Serle, O. (1995), *Branching Out: A Report on the Forest and Forest Products Industry National Literacy and Numeracy project*, Forest and Forest Products Employment Skills Company: Victoria.

Shadish, W, Cook T. and Leviton, L (1991), *Foundations of Program Evaluation*, Sage: Newbury Park.

Sharp, C., Roffey, B. and Lewis, N. (1993), *Appropriateness in Audit and Evaluation: 'It all depends Minister'*, Accounting, Finance and Management Research Paper 3/93, Flinders University: Adelaide.

Smelt, S (1995), *Industry Training Organisations*, Education Forum: Wellington.

Snook, I. (April 1994), *There Is No Skills Crisis*, ARAN No. 42, pp. 2-3.

Statistics Canada (1993), *International Adult Literacy Pilot Survey 1993 Information Manual*, Statistics Canada: Ottawa.

Stern, D. and Tuijnman A. (1994) *Adult Basic Skills in OECD countries: Policy Issues and a Research Agenda*, CERI and OECD, National Centre on Adult Literacy: Pennsylvania.

Stevenson, J (1995), *The Metamorphosis of the Construction of Competence*, Inaugural professorial address, Griffith University: Queensland.

Sutton, A. (1996), *Bulk-funding for ARLA Federation Literacy Provision,* ARLA Federation: Wellington, (unpublished briefing paper).

Sutton, A. (1996a), 'Training and assessment -potential barriers to workers accessing National Qualifications', *People and Performance*, March.

Sutton A. and Benseman J. (1994), *National Statistics of ARLA Member Schemes for the Year January-December 1993*, ARLA: Wellington.

Sutton A. and Benseman J. (1995), *National Statistics of ARLA Member Schemes for theYear January-December 1994*, ARLA: Wellington.

Sutton A. and Benseman J.(1996), *National Statistics for ARLA Member Schemes for the Year January-December 1995*, ARLA: Wellington.

Sutton, A. and Benseman J. (November 1996), 'Adult literacy and basic education policy in New Zealand: One step forward and two steps back', *New Zealand Journal of Educational Studies*, (forthcoming).

Te Karere Matauranga Maori, *Demographic Report for the Footwear Manufacturing Industry*, Footwear ITO: Te Awamutu.

Te Karere Matauranga Maori, *Training Needs Analysis Report for the Footwear ITO*, Footwear ITO: Te Awamutu.

Thomas A. (1994), 'Definitions and evolution of the concepts' in Taylor M. and Draper J. (eds.) *Adult Literacy Perspectives,* Krieger, Florida, pp. 3-13.

Tight M. (1996), *Key Concepts in Adult Education and Training*, Routledge: London,

Tout, D. (1995), 'Numeracy: Essential and a priority? An ANT's journey', in *ACAL/VALBEC Conference Papers, Critical Issues, Essential Priorities', 1995:* Victoria.

Tuck, B. and Peddie, R. (1995), 'Introduction' in Peddie R, Tuck, B (eds.), *Setting the Standards; Issues in Assessment for National Qualifications*, Dunmore Press: Palmerston North.

Unit Standards Catalogue (June 1995), NZQA: Wellington.

Valpato R. (1996), 'Call for Australasian Illustrative case studies of the North American Evaluation Standards' in *Evaluation News & Comment*, Vol. 5, No 1, pp. 11-12.

Venezky R. (1992), *Matching Literacy Testing with Social Policy: What are the Alternatives?* National Centre on Adult Literacy, Pennsylvania Policy Brief PB92-1.

Wagner D. (1990), 'Literacy assessment in the third world: An overview and proposed schema for survey use', *Comparative Education Review*, Vol. 34, No 1, pp. 112-138.

Walker, J. (June 1992), *The Value of Competency-based Education*, paper presented at a conference on 'The effects of competency based education on universities' University of Western Australia.

Walker, J. (1994), *The History and Philosophy of the Competency Movement in Australia*, Paper presented at the 1993 CPE Conference, University of New England.

Watson, A. (1993), 'Competency -based Vocational Education and Training in Australia: Some Unresolved Issues', *Australian and New Zealand Journal of Vocational Education Research*, Vol. 1, No. 2.

WEB Research and Enderwick, P. (1996), *What is Workplace Reform: The Ideas and the Practice in New Zealand*, Workplace New Zealand: Wellington.

Weiss, C. (1977), 'Research for policy's sake: the enlightenment function of social research', *Policy Analysis,* Vol. 3.

Weiss, C. (1987), 'Where politics and evaluation meet' in Palumbo, D. *The Politics of Program Evaluation* Sage, Newbury Park.

Wickert, R. (1989), *No Single Measure: A Survey of Australian Adult Literacy*, Alken Press: Smithfield, NSW.

Wickert, R. (April 1992), 'Constructing adult illiteracy: mythologies and identities', *Discourse,* Vol. 12, No. 2.

Williamson, A. (1995), 'Australia as a learning society: issues, trends and prospects', *Australian Journal of Adult and Community Education*, Vol. 35, No 1, pp. 3-11.

APPENDIX A - SAMPLE QUESTIONNAIRE

These are examples of the questions asked.

PROFILE OF INDUSTRY AND ITO

Approximately how many full time people are employed in your industry?

Approximately what % of your workforce would be from Non-English Speaking backgrounds (NESB)

What are the key features of your workforce?
- ethnicity
- educational profile

PROGRESS ON CONSTRUCTING QUALIFICATIONS
How far has your ITO come in developing qualifications? Tick more than one

- All quals registered
- all unit standards adopted on Framework
- some development still to do
- learners being assessed
- other

Do any of your qualifications include Level 1 & 2 unit standards for the following skills

Please supply the unit standards numbers

- reading
- writing
- Spoken English -for ESOL
- basic maths
- None

ENTERPRISE RESPONSE
To what extent are enterprises in your industries finding literacy, numeracy and language to be an issue?

Are literacy skills an issue at recruitment?

SCOPE OF LITERACY DIFFICULTY IN THIS INDUSTRY

Are you aware of literacy, maths and language difficulties in your industry? How are these evident?

Has your workforce investigated the literacy, numeracy or language needs of the workforce?

If yes - what were the findings/

How are literacy, numeracy and language skills regarded in your ITO

- significant issue being addressed now
- issue but not a priority
- not an issue yet but may be in the future
- not an issue
- other (please specify)

What % of the people in your industry do you estimate have difficulties doing their jobs satisfactorily because of lack of literacy , numeracy and language skills?

What data can your ITO provide on successful assessments of literacy standards, repeat assessments etc.?

What systems do you have in place for identifying difficulties for learners?

ASSESSMENT

Have literacy, numeracy or maths issues emerged from these assessments?

Have literacy skill levels emerged as an issue in the training of assessors?

STRATEGIES FOR DEALING WITH THE PROBLEM

If literacy, numeracy or language skills have been identified as an issue, what has been done?

- Curriculum design
- presentation of materials
- resource materials
- use skills in literacy support as a criteria when selecting training providers or consultants

APPENDIX B SPREADSHEET SUMMARY OF RESULTS

Field	Size	Significance	Issue/not priority	Future issue	Not an issue	Separate unit standards in quals
E&T	L				1	
AF&F#	L		1			
E&T#	L		1			1
AF&F#	L			1		1
SS	L		1			1
E&T#	L		1			1
Large total	**6**		**4**	**1**	**1**	**4**
Man	M		1			
AF&F#	M		1			1
SS#	M	1				1
Man	M		1			
Man	M			1		
Man	M		1			
C&SS	M				1	1
Man#	M			1		1
Medium total	**8**	**1**	**4**	**2**	**1**	**4**
AF&F	S		1			1
not class.	S			1		1
SS	S			1		
SS#	S			1		1
Man	S	1				1
SS	S	1				
P&B	S			1		
Small total	**7**	**2**	**1**	**4**	**0**	**4**
Health	NT			1		1
SS	NT				1	1
C&SS	NT			1		
B&F	NT			1		
SS	NT				1	1
Not class.	NT				1	
C&SS	NT			1		
Not class.	NT		1			
CS&S	NT		1	1		
Man	NT		1			
Man	NT	1				1
No trainees total	**11**	**1**	**3**	**4**	**3**	**4**
GRAND TOTAL		**4**	**12**	**11**	**5**	**16**

- Early Harvest ITOs

APPENDIX C

NAMES OF ORGANISATIONS INVOLVED IN THIS RESEARCH

Agriculture ITO
Ambulance Service ITO
Apparel & Textile ITO
Aviation, Tourism & Travel ITO
Boating Industries Association
Building Services Contractors
Contractors Federation
Dairy Industries Employers Association
ETSA
Electro-Technology ITO
Engineering ITO
Enterprise Development Solutions
Enhancing Potential ITO
National Equine Training Committee
Fire Rescue Service
Food & Beverage ITO
Forestry Industry Training & Education Council
Funeral Service Training Trust
Furniture ITO
Hairdressing ITO
Horticulture ITO
Hospitality Standards ITO
Joinery ITO
Kai Awhina Social Services ITO
Leather & Shoe Research Institute
Maritime ITO
Motor ITO
NZQA
Open Polytechnic
Paperboard Packing Association
Plastics ITO
Public Service ITO
Real Estate Institute
Retail Meats ITO
Sport, Fitness & Recreation ITO
Stevedoring Employers Association
Workbase, National Resource Centre for Workplaec Literacy and Language