Literacy and numeracy
for the new world of
un/employment

Implications of a fully literate
Australia

Ian Falk
John Guenther

ALNARC Tasmania

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## Acronyms

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<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
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<tr>
<td>ACAL</td>
<td>Australian Council for Adult Literacy</td>
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<td>ACE</td>
<td>Adult and Community Education</td>
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<td>ACT</td>
<td>Australian Capital Territory</td>
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<td>ALNARC</td>
<td>Adult Literacy and Numeracy Australian Research Consortium</td>
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<td>AMEP</td>
<td>Adult Migrant English Program</td>
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<td>ANTA</td>
<td>Australian National Training Authority</td>
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<tr>
<td>CPPM</td>
<td>Centre for Public Policy Management</td>
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<td>CRLRA</td>
<td>Centre for Research and Learning in Regional Australia</td>
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<td>CRRI</td>
<td>Centre for Regional Research and Innovation</td>
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<tr>
<td>DEST</td>
<td>Department of Education, Science and Training</td>
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<tr>
<td>DETYA</td>
<td>(Commonwealth) Department of Education, Training and Youth Affairs</td>
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<td>DEWR</td>
<td>Department of Employment and Workplace Relations</td>
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<tr>
<td>DIMIA</td>
<td>Department of Immigration and Multicultural and Indigenous Affairs</td>
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<tr>
<td>ESL</td>
<td>English as a Second Language</td>
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<td>GST</td>
<td>Goods and Services Tax</td>
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<td>IALS</td>
<td>International Adult Literacy Survey</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>LLANT</td>
<td>Language, Literacy and Numeracy Training</td>
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<tr>
<td>MCEETYA</td>
<td>Ministerial Council on Education, Employment, Training and Youth Affairs</td>
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<td>NCVER</td>
<td>National Centre for Vocational Education Research</td>
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<td>NSW</td>
<td>New South Wales</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<td>OHS</td>
<td>Occupational Health and Safety</td>
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<tr>
<td>PISA</td>
<td>Programme for International Student Assessment</td>
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<td>RTO</td>
<td>Registered Training Organisation</td>
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<td>SAL</td>
<td>Survey of Aspects of Literacy - Assessed Skill Levels</td>
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<td>TAFE</td>
<td>Technical and Further Education</td>
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<td>Acronym</td>
<td>Description</td>
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<td>U3A</td>
<td>University of the Third Age</td>
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<tr>
<td>VET</td>
<td>Vocational Education and Training</td>
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<td>WELL</td>
<td>Workplace English Language and Literacy</td>
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Literacy and numeracy for the new world of un/employment grew from the need for a synthesised body of research about the impacts of the literacy and numeracy of adults on contemporary society. There was no single source of research that collated the multi-disciplinary and multi-sectoral research about adult literacy and numeracy in a way that showed how it might relate to the well-being of nations.

It became clear that research about several different sectors and interests was required in order to present the potential roles that literacy and numeracy have in all aspects of people's lives, including work, civic, leisure and community activities. Take, for example, the issue of new forms of literate and numerate practices that may be identified in new forms of work. How can these be identified then catered for? How do we know they are important? How do we know who they are important to? What are the consequences of this for the unemployed who may seek entry to these forms of work? How can policies and strategies be developed and implemented so teachers, trainers and adult learners understand, manage and respond appropriately to necessary changes? How can we tell if these strategies impact favourably on sustainable socio-economic goals?

The first Chapter of the book contains a synthesis of research on literacy and numeracy, and the ways it is viewed and practised. Chapter Two overviews research about the recent adult literacy and numeracy large-scale test outcomes and what this tells us—and doesn’t tell us. Third is a chapter on the research on some of the main issues related to new forms of work, ‘knowledge work’ and un/employment. Chapter Four describes the research on funding of literacy and numeracy, while in Chapter Five, there is the research on the type of policy configurations that might be beneficial in developing, implementing and evaluating policy and related strategies.

The concept of a nation’s well-being is, of course, problematic in itself—and problematic terms provided another reason for the book—how do we go about pinning down the meanings of slippery terms such as lifelong learning, the knowledge economy, non-standard employment and socio-economic well-being? Chapter Six tackles the ways in which literacy and numeracy might be judged to impact on all spheres of people’s lives and society’s socio-economic well-being. Seventh, there is the chapter containing the implications of the research covered to that point. The eighth and final chapter discusses implications, then poses some conclusions about, literacy and numeracy as it intersects with the ‘new world of un/employment’ that
the research suggests will become our reality to a greater or lesser extent.

In times when the policy agenda of Western nations seems determined to account for outcomes (in this case of literacy and numeracy policy initiatives) via rhetoric about their ‘impact’ on society, it seems important to clarify what might be meant by ‘impacts’—and indeed what it might mean to describe literacy and numeracy’s impacts—on socio-economic well-being.

The book represents a beginning attempt to bring together research that might help throw light on these concepts and relationships. What remains for future work is to fill in some of the gaps in our knowledge that this book exposes.
CHAPTER 1
RESEARCH ON LITERACY AND NUMERACY: SOCIO-CULTURAL CONTEXT & TRADITIONS

What does ‘being literate’ mean?

Through the socio-cultural values place on the written word, proficiency in literacy and numeracy practices (e.g., Barton 1994, Baynham 1996) is considered fundamental for all age groups in contemporary Western society. In a society that places such a high premium for all its citizens on ‘being literate’ and ‘being numerate’, the impacts on individual adult lives are pervasive. Even adults who are considered ‘highly literate’ are reported to feel ‘illiterate’ when faced with new literate or numerate practices, a sensation familiar to many who have used new computer software packages, written email messages or used automatic teller machines for the first time.

‘Being literate’ transparently involves much more than the basic skills associated with being able to read, write and calculate. Yet, with the possible exception of so-called ‘mass’ literacy campaigns (e.g. Street 1984; Freire 1985; Arno 1988; Hassanpour 1993; Limage 1993), until the early 1990s, comparatively little inquiry had taken place in literacy learning which focuses on adults’ acquisition of literacy in their first language. Until the 1990s, there was even less research on the acquisition, informally or formally, of adults’ numerical capabilities. However, over the last fifty years, our societal values have shifted from an emphasis on the benefits of education to individuals to an emphasis on how those benefits will impact on the society’s economic well-being. As resources to government shrink, the issue of accountability for public funds increases. So does the need to find ways of justifying expenditure in high expenditure areas such as education, welfare and health.

The ramifications of increased public accountability have also changed the political landscape, in Australia and similar Western countries such as the USA and the UK. The traditionally well-defined ‘left’ and ‘right’ of politics have found common ground in areas such as tariff, banking and trade deregulation. Both ‘sides’ of politics have embraced—admittedly to greater or lesser extent—the need for a vigorous play of market forces. The corporate sector struggles to find ways of becoming more flexible, more cost-effective, more productive and more profitable. All kinds of entities have become engaged in the corporate battle for

1 Chapter 1 draws in large measure from Falk & Millar (2001)
CHAPTER 1 RESEARCH ON LITERACY AND NUMERACY: SOCIO-CULTURAL CONTEXT & TRADITIONS

Discourses about literacy and numeracy have therefore been caught up in the highly competitive global and globalised economic conversations that have ensued. A country’s ‘literacy levels’ are now widely reported—accurately or inaccurately as causally connected—to that country’s industry productivity and the national economic status, as is apparently confirmed by on-going publications from authorities such as the OECD (Temple 2002) (“growth in output per worker can be decomposed into changes in factor inputs (notably physical and human capital), p. 4) and The World Bank (1999) who make statements such as this:

...education has become more important than ever before in influencing how well individuals, communities and nations fare....Education will determine who has the keys to the treasures the world can furnish. (p. 1)

The publicity material in Australia, the USA and UK for International Literacy Year in 1990 directly reinforced this connection based on reports such as Singh (1989) who argued for the hidden costs of literacy (meaning, in fact illiteracy) in the Business Review Weekly. It is no accident that considerably more resources have been dedicated to research, policy and practice in these areas since 1990 (DEET 1991, 1993).

Suda (ALNARC 2000b), however, places literacy in the context of lifelong learning in an investigation of innovative approaches from four OECD countries. This research urges a rethink of the policies and pedagogies of strategic literacy practice to incorporate a broader approach to literacy and numeracy education so as to locate it within a lifelong learning framework. In this way, Suda argues, Australians can more effectively participate in a ‘knowledge society’.
There is a seeming tension between the desire to return to the values of the 'old basics' with the so-called 3R's and a recognition that the social structure of developed countries in the world is in a process of transition from an 'old economy' built around manufacturing, to one built on highly skilled service industries that have been often described in terms of a 'knowledge economy' (OECD 2000b).

Knowledge and information is being produced today like cars and steel were produced a hundred years ago. Those, like Bill Gates, who know how to produce knowledge and information better than others reap the rewards, just as those who knew how to produce cars and steel a hundred years ago became the magnates of that era. (Stiglitz 1999)

The significance of the changing demands of the social environment in which young people are growing up in, is recognised in *Literate Futures* (Queensland Government 2000). While the focus of this report is on strategic planning for school based literacy programs, it is significant that the report acknowledges the inadequacy of basic literacy skills, which were thought to serve Australians well 50 years ago.

The tool kit of basic skills that served many of us well in the 1950s is inadequate today. In information-based economies and mass-media cultures, young people face a complex, potentially overwhelming and virtually limitless sea of written, spoken and multimedia texts. They have to manage themselves in environments where cultural identities, personal life pathways and emotional and spiritual lives are shaped by the texts and textures of institutions like schools, churches, community groups, businesses and corporations — through talk shows, online communications, video games, cinema and consumer designs. (p7)

The statement above applies equally to adults as it does children. The suggestion is that literacy then is not only about the three Rs, but also about a multiplicity of literacy and numeracy interactions in an increasingly complex social milieu.

Even though expectations of literacy and numeracy for adults in our society are high, there is nevertheless very little in the way of formal education for adults in these areas. If the literacy and numeracy practices of adults are themselves prolific, so are the theories informing them. There are many different and emerging theories about literacy, and the contexts in which literacy and numeracy are applied: in workplaces and industry, communities, public life, family life and for leisure pursuits. In each of these
contexts, the literacy and numeracy demands are equally as varied. The nature of the literacy and numeracy practices and knowledge required to access funds at an automatic teller machine differs significantly from those required to chair a business meeting.

The task of this review is to make some kind of sense of the different thinking in a particular field of adult literacy. Numeracy is included as it is discussed in the literature related to adult literacy, but it should be noted that there is a specific and quite extensive literature on numeracy itself which cannot be included here. Here, we will approach the task by offering a review of the literature that looks at the theoretical traditions of literacy's heritage.

**Adult literacy and numeracy’s theoretical heritage**

The research literature associated with adult literacy and numeracy draws upon, and can be understood through, four groups of theory about literacy and numeracy (see in part Freebody et al. 1993). These are the Basic skills and functional approach, the Growth and heritage approach, the Critical cultural approach and the Learning literacies through social capital approach.

**BASIC SKILLS AND FUNCTIONAL APPROACH**

This approach views reading and writing as perceptual and/or cognitive skills. There is an emphasis on how sight word recognition and phonics affect the acquisition of literacy. A body of literature has emerged which links these ‘basic skills’ of human capital theory with the supposed benefits of education in basic skills to industry and the economy, and thus also with vocational education and training (e.g. Temple 2002; The World Bank 1999).

The most commonly understood meaning of the term ‘adult literacy’ is of those adults who seek assistance with the literacy skills of English as their first language. That is, the word literacy is often used in the sense of ‘illiteracy’. This meaning is affected by, and in turn affects, the most commonly reported meanings of literacy used in the media. Within this framework of understanding, one such popular meaning is usually reported in terms of ‘problems’ associated with a ‘deficit’ of ‘basic skills’, which appears as a form of ‘illiteracy’ perpetuated in the back-to-basics debates of the last two decades (e.g. Luke 1988).

Numeracy, similarly, is commonly interpreted as basic skills, arithmetic and computational work (Cumming 1996).

Functional literacy refers to those literacy skills required to perform certain ‘functional’ tasks, such as those related to managing one’s domestic life, work life or public life. The
example of operating an automatic teller machine illustrates the way in which ‘literacy’ is seen in the above definitions to incorporate ‘numeracy’ and that the literacy skills required in the task are viewed as ‘functional’. To operate an automatic teller machine, one first has to understand the task, its purpose and its social meaning. One needs also to understand basic technological operations. Reading words is the next obvious task involved: one cannot proceed with this functional life task without reading words such as ‘Enter PIN number and press ENTER’, and ‘Which account do you wish to access?’ The argument here is that the actual mathematical or numerical components of the operation are only a small part of the overall task, and involve entering a few digits.

Much of the skills research performed by Sticht (e.g. 1978) in the context of the USA armed services is considered to be part of ‘functional literacy’ (e.g. Philippi, 1988), an approach made popular in the workplace literacy procedures of literacy audits. However, the literacy and numeracy required for ‘functional literacy’ tasks is conceived of and taught as separate ‘basic skills’. That is, while it is recognised that literacy and numeracy skills are those that are integrated into real life tasks, they are abstracted from those tasks for the purpose of skills acquisition. Literacy and numeracy skills are taught as such on the assumption that they can then be applied in those functional tasks that rely on them.

However, the assumption of transferability of the literacy and numeracy skills that are integrated into tasks is not taken as given in the following topics to be discussed, which include various theories and practices of ‘integrated literacy and numeracy’.

GROWTH AND HERITAGE APPROACH: ‘WHOLE LANGUAGE’, ‘LANGUAGE EXPERIENCE’

The ‘growth and heritage approach’ focuses on the processes of literacy’s acquisition as part of the ‘whole’ social context in which it occurs, and that comprehension should develop alongside skills (Cambourne 1988; Goodman 1986). The emphasis is not so much on the text or the product but on the relationship between comprehension, sight words, grapho-phonics cues and the context in which these are used. The primary principles of whole language (e.g. Edelsky 1991), are that learners are actively constructing meaning the whole time. The focus is on the whole texts as the primary unit of meaning rather than words or graphemes (Campbell & Green 2000, p. 130).
‘Language experience’ is a teaching approach based on the ‘whole’ experience of the learner (Bird & Falk 1977). The experiences of the learner are drawn upon before the language activity begins. These experiences form the basis for the language activities, and required sight words and phonic elements are covered in the context of the whole experience. Reading and writing activities are then related to these experiences so that they carry more meaning for the learner, and the issue of ‘comprehension’ is overcome.

‘Whole language’ is often set against ‘basic skills’ in media reports, but this is a false dichotomy when seen in the light of subsequent views and practitioner experience of literacy.

CRITICAL-CULTURAL, NEW LITERACY STUDIES, INTEGRATED LITERACY, MULTILITERACIES

Literacy is here seen as social practice and is socio-culturally situated (Gee 1996). This is the view of ‘critical literacy’ as a set of socially organised practices (Fairclough 1989; Gee 1990, 1992, 1999; Hammond et al. 1992; Lankshear & McLaren 1993) in which basic skills for decoding, encoding and fluency connect to all aspects of an individual’s and a community’s sense of social identity and capacity. The purpose of literacy in this case is to gain command over social resources (Fairclough 1989, 1992; Gee, 1999), sometimes referred to as ‘empowerment’ (Freire 1985).

Because of the dynamic natures of language and society, people continually have to embrace new and specific practices, which in turn form a specific literacy (Lankshear et al. 1997). In fact, the multiplicity of literacies for different purposes in different contexts has come to be known under the heading of ‘multiliteracies’ (Cope and Kalantzis 2000; The New London Group 1996). Once again, perceptions of numeracy parallel those of literacy. Varying numeracy skills are required to deal ‘systematically [with] problems of concern in everyday life and [to] better understand the physical, economic and social environment in which we live’ (Crowther 1959, quoted in Cumming 1996, p. 11). Literacy and numeracy, therefore, both have social, political and educational implications. They are often seen to be involved with power and control of social resources (Searle 1999) of one group or individual in society over another. It is the important place of literacy and numeracy in this control over social resources that leads to a consideration of literacy, numeracy and VET in connection with that social resource known as social capital (Putnam 1993).
Like multiliteracies and critical literacy, *New Literacy Studies* argues that literate practices (Barton & Hamilton 1998, New London Group, 1997) are embedded in different social practices, and that these practices represent a multiple concept of literacy, or in fact 'literacies'. It makes more sense then, that the learning of 'literacy' is instead treated as learning multiple literacies or multiliteracies.

Literacy and numeracy skills are here viewed as the capacity to perform the literacy and numeracy components that are a part of and integrated into the existing and expected tasks with which people are confronted in all aspects of their daily lives. Literacy is seen to be embedded in the social context (Baynham 1995) and there is a diversity of literacies in society (Hamilton, Barton & Ivanic 1994).

The literacy and numeracy practices required are both at a basic level and those required for more complex tasks. The first systemic recognition of integrated literacy and numeracy occurred with the 1993-1994 Australian Language and Literacy Policy project, undertaken by the Foundation Studies Training Division of the NSW TAFE Commission, titled *Integrating English Language, Literacy and Numeracy into Vocational Education and Training: A Framework* (Courtenay & Mawer 1995).

The intersection of literacy and numeracy in the vocational education and training (VET) sector was supported by the Australian National Training Authority throughout the 1990s. The integration of language, literacy and numeracy competencies in national Training Packages has been ANTA policy since 1995, following the decision that relevant underpinning literacy and numeracy skills and knowledge would be embedded in the core competencies specific to each industry sector (Fitzpatrick & Roberts 1997). Issues of literacy and numeracy in the implementation of training packages were a primary focus for the 2000 ALNARC research program (Haines & Bickmore-Brand 2000; Kelly & Searle 2000; McGuirk 2000; Millar & Falk 2000; Sanguinetti 2000; Trenerry 2000).

**LEARNING LITERACIES THROUGH SOCIAL CAPITAL APPROACH**

This stresses the importance of learning as the development of social capital resources (Castleton & McDonald 2001; Falk 2001a; Falk, 2001b; Falk, 2001c). These resources are the appropriate networks, trust and common values to the task in hand. The development of the learners' social capital resources of role-related networks, trust and common values is made explicit in this theory of learning.

It is through the learning of social capital resources that the four roles identified by Freebody and Luke (1990) are adopted; that of
CHAPTER 1  RESEARCH ON LITERACY AND NUMERACY: SOCIO-CULTURAL CONTEXT & TRADITIONS

Code breaker, Text participant, Text user and Text analyst. Social capital makes the connection to the wider society's socio-economic framework in a way that is not made in previous theories. The research literature reports that there is now a wide recognition that a purely economic strategy is insufficient (e.g. Saul 1996; Rifkin 1999) for socio-economic well-being. Western society along with its educational and training systems is currently promoting the idea of lifelong learning, with the associated concepts of a learning society (Young 1995) and learning communities (Alheit & Kammler 1998; Holford, Jarvis & Griffin 1998; Falk 1999). Effective engagement with these concepts requires that traditional forms of education and training be combined with social capital (Putnam 1993; Schuller 1996; Schuller & Field, 1998).

The Learning literacies through social capital approach also provides a functional explanation of the ‘transfer of learning’ issue. Askov and Aderman (1991) note how Sticht's (1987) research demonstrated that ‘...general literacy skills instruction ... does not translate well to job-related basic skills needed for job performance’ (Askov & Aderman 1991, p. 17). Sticht's work on the lack of transfer of skills has been supported by Mikulecky (1988), who concludes that ‘Even though it is possible to note similarities across occupational and school settings, researchers have found transfer on the part of learners to be severely limited’ (p. 25). However, Falk (2001a) finds that purposeful and appropriate networks provide the vehicle for transferring literacy learning to other life settings, in this case employment. In addition, Falk (2001b) shows how trust in self and trust in the tutor provides the first step in transfer of informal learning to formal learning processes.

Chapter summary

The connection between literacy and numeracy and performance of those practices in applied contexts, such as jobs, is highly complex and often misunderstood, with misguided views about workers' capabilities presenting barriers to permitting and requiring them to be literate and numerate at work (Hull 1993, 1997, 1999, 2000). However, it is one of the roles of the researcher to raise these kinds of issues for debate and clarification, which is the purpose of this book as a whole.

This chapter has introduced the historical themes that set literacy and numeracy in a socio-cultural context. These themes include the values the society places on ‘being literate’, the development of an accountability framework for government that requires entities such as literacy to be seen to impact on the economic targets it sets and the resultant positioning of adult literacy and
numeracy as the 'meat in the sandwich' between society's expectations and government accountability requirements.

From the socio-cultural and policy backdrop, the chapter then overviewed the theoretical and research literature on literacy and numeracy according to four main traditions, which are the Basic skills and functional approach, the Growth and heritage approach, the Critical cultural approach and the Learning literacies through social capital approach. The main message here is that literacy and numeracy practices are as numerous as there are educational, work, civic and leisure activities in which they are embedded. The issue as to whether 'high literacy and numeracy levels' are causally related to the economic status of a country, or whether there is another truth—that countries define their economic status by mechanisms that include high literacy and numeracy levels—remains problematic.

What can be claimed with confidence is that Western society is falling increasingly into the 'haves' and the 'have-nots'. The rich are indeed getting richer. Meanwhile the poor are improving their income position a little but are becoming much more numerous and are subject to increasing and entrenched unemployment. The drivers of the so-called 'knowledge economy' or 'new economy' seem however, to belong mainly to the 'haves'. This raises important issues about the future cohesiveness of our society and leaves us with the big question, What is 'good and productive knowledge' for the 'have-nots'? The chapters to follow address some of these issues, particularly about whose knowledge it is that counts in the 'knowledge economy' and what the implications for literacy and numeracy are in the context of growing employment / work dilemmas. In terms of policy implications of this last point, the research suggests that existing measures of 'literacy' and 'economy' do not capture, or measure, the complexity of literate and numerate practices that society presently engages in pursuit of striving for socio-economic well-being for all its members.
CHAPTER 2
RESEARCH ON IALS AND SAL LITERACY & NUMERACY STATISTICS

The International Adult Literacy Survey (IALS), *Literacy Skills for the Knowledge Society* (IALS 2000), of which the ABS (1997) *Survey of Aspects of Literacy* - *Assessed skill levels* (SAL) is a subset, shows that literacy is more than knowing how to read, write or calculate. The *Literacy Skills for the Knowledge Society* report (IALS 2000) states, the term 'literacy' refers to particular skills, namely the ability to understand and use various forms of print and digital text in day-to-day activities at home, at work and in the community.

The figures show that the higher a person's qualification, the higher the income level. Qualifications are entirely dependent on literacy and numeracy skills, yet according to the ABS (1997): less than 20% of the adult population have the level of functionality deemed as appropriate for a knowledge-based economy.

What the SAL reveals

What does the ABS (1997) *Survey of Aspects of Literacy* expose about literacy and numeracy needs in Australia? What doesn't it reveal? This chapter summarises the outcomes from the report and explores some of the literacy issues that the survey fails to pick up on in the light of an emerging multi-literate environment.

The Australian Bureau of Statistics (1997) *Survey of Aspects of Literacy*, based for international comparability on the International Adult Literacy Survey (IALS) found that nearly half of the population are in Levels 1 and 2 on the prose and document scales, while 46% are in Levels 1 and 2 quantitative literacy skills (Norton 1997). Equally significant was that 17% only are in Levels 4/5 combined. Interpreting these broad results, it is fair to say that nearly half of all Australians are not literate or numerate in the light of the demands of the knowledge economy.

Table 1 summarises the findings of the report by headings used in the summary report.

SAL found that less than 20% of the adult population have the level of functionality deemed as appropriate for the new knowledge-based economy.

SAL claims that nearly half of Australians in Levels 1/2 are not literate or numerate in the light of the demands of the knowledge economy.
Table 1 – Summary of findings from ABS Aspects of literacy survey

<table>
<thead>
<tr>
<th>Factor</th>
<th>Impact on literacy and numeracy skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>• Early school leavers have lower skill levels than those who completed any level of qualification.</td>
</tr>
<tr>
<td></td>
<td>• People with vocational qualifications have skill levels similar to those still at school, but lower than those completing school.</td>
</tr>
<tr>
<td></td>
<td>• Higher qualifications are associated with higher skill levels.</td>
</tr>
<tr>
<td></td>
<td>• Of people who had completed school, those in the 55+ age group tended to have lower skill levels.</td>
</tr>
<tr>
<td></td>
<td>• Higher parental qualifications relate to higher skill levels.</td>
</tr>
<tr>
<td>Labour force status</td>
<td>• Increasing participation in the labour force is associated with higher skill levels; those not in the labour force have lower skill levels than any other labour status group.</td>
</tr>
<tr>
<td></td>
<td>• Part time workers have lower scores than full time workers on the quantitative scale.</td>
</tr>
<tr>
<td></td>
<td>• Employees in construction have lowest prose / document scale skill levels; accommodation and manufacturing have lowest skill levels on quantitative scale.</td>
</tr>
<tr>
<td></td>
<td>• Professionals and para-professionals have highest skill levels on all scales among occupational groups.</td>
</tr>
<tr>
<td></td>
<td>• Level 1 and 2 scores increase with duration of employment.</td>
</tr>
<tr>
<td>Daily activities</td>
<td>• Writers have higher skill levels than readers.</td>
</tr>
<tr>
<td></td>
<td>• Those who own reading material have higher skill levels than those who don’t.</td>
</tr>
<tr>
<td></td>
<td>• Those who use libraries tend to have higher skill levels.</td>
</tr>
<tr>
<td></td>
<td>• Involvement in social activities is associated with higher skill levels.</td>
</tr>
<tr>
<td>Demographic and other factors</td>
<td>• ESL respondents had higher level 1 scores than others.</td>
</tr>
<tr>
<td></td>
<td>• People aged 22-44 are more likely to have higher skill levels than others.</td>
</tr>
<tr>
<td></td>
<td>• Level 1 respondents are more likely to earn less than others.</td>
</tr>
<tr>
<td></td>
<td>• Indigenous respondents had lower skill levels than others with English as a first language².</td>
</tr>
<tr>
<td></td>
<td>• Tasmania had the lowest proportion of level 4/5 skill respondents among all states and territories.</td>
</tr>
</tbody>
</table>

² The report cautions interpretation of this result because indigenous communities in remote areas of Australia were excluded from the survey.
Many of the findings presented in the ABS Aspects of Literacy report are not necessarily surprising. For example those with higher post-secondary qualifications could be reasonably expected to have higher skill levels. Similarly those in employment could be expected to have higher skill levels by virtue of their experience in a greater variety of situations that demand literacy skills, than those who are either unemployed or who are not in the labour force. People over the age of 44 could expect to have lower skills because of lower educational expectations during their formative years.

A few findings do provide some interesting insights however. VET qualified respondents had lower skill levels than those who had only completed secondary school. Furthermore, employees in traditional VET industry sectors (construction, accommodation, and manufacturing) had lower skill levels than other employees. Norton (1997) concludes that:

> These people could have difficulty with many literacy tasks that are now taken for granted within the workforce, such as completing non-routine aspects of safety audits, following written safety procedures especially in new situations, completing an incident report and reading the minutes of safety meetings.

These findings therefore suggest that the ‘built in’ (ANTA 2000) literacy components of VET programs (discussed in detail in 0) do not satisfy the broader requirements of the ‘knowledge economy’ or for that matter every day life. The job- and enterprise-specific nature of traineeships means that the literacy demands of certificate qualifications will remain low; arguably too low to allow for a transition to higher education or higher skilled jobs.

**How SAL can be used**

While causal linkages can be disputed, the IALS and SAL confirm a close relationship between employment status, earning capacity and literacy levels. Further, given that IALS defines literacy to include tasks required for everyday life, the survey supports a view that higher literacy levels are required by adults to help them to integrate better into family, social and community life as well as working life.

While previous surveys of adult literacy have identified inadequacies in the provision of adult literacy and numeracy programs (Lo Bianco 1997), the SAL provides the most extensive and definitive data of any study about literacy and numeracy undertaken to date. While measures of literacy and numeracy will undoubtedly change with time and social context, the 1996 SAL can act as a benchmark to determine the impact of current and
future strategic initiatives. It can also provide a quantitative basis for goal setting within a strategic planning framework.

**What IALS and SAL do not say**

Using the Internet, automatic teller machines, e-mail, complying with Goods and Services Tax (GST) returns, filling in government forms or understanding supermarket checkout procedures are just some of the now-common day-to-day tasks that require people to draw on complex and different literacy and numeracy skills. These forms of literacies and numeracies are the new basic skills of the 21st century.

By way of confirmation, *Literacy in the Information Age* (OECD 2000b) also finds that one in five Australians do not have the necessary literacy skills to effectively participate in daily life. *Literacy Skills for the Knowledge Society* (IALS 2000) also suggests that a broad range of policy areas such as those related to youth, seniors, employment, human resource development, health, families, social welfare and crime prevention are involved when considering how to address adult literacy needs.

Perhaps of greater interest is what the Aspects of Literacy survey does not say, particularly in the light of the emerging 'knowledge economy' and changes that have occurred since it was administered.

A number of strategic developments have taken place in the VET sector since the survey was undertaken. Little is known about the impact that the increased uptake of traineeships in the VET sector has had on literacy and numeracy. However, what is known is that there are concerns among stakeholders about the educational value and the quality of traineeships (CRLRA 2001b; Schofield & Associates 1999a, 1999b, 2000), which may suggest that the situation has not changed significantly. The impact of the 'built-in, not bolted on' (ANTA 2000) approach on VET in terms of literacy and numeracy is also unknown.

The survey does not reveal anything about the impact of remoteness on literacy and numeracy, as people living in remote areas were excluded from the sample. Norton's (1997) analysis of the data does show that 'the proportion of Level 1 and 2 people was higher outside the capital cities than in the capital cities'. The importance of regional and remote issues is compounded when factors such as quality and availability of Information Technology infrastructure is taken into account. A further omission from the SAL sample is the increasingly large group of people who are incarcerated.

The survey uses measures based on common workplace and daily life expectations of the time. The impact of information
technology on the workplace is not taken into consideration. Use of email, internet and a variety of computer applications is considered to be 'normal' in many workplaces today. Even in manufacturing and primary industries the uptake of technology is irrevocably changing the nature of work. For example, business use of the Internet doubled in the two years from 1997 to 1999 (ABS 1999a) as shown in Figure 1.

Figure 1 – Growth of IT in business (source ABS Cat. 8129.1)

Compared on an international basis, Australia’s growth of knowledge based industry ranks third, highlighting further the significance of this issue for Australia (see Figure 2).
The research upon which this book is based is focused on the impact of literacy and numeracy on socio-economic well-being in the broad sense, with particular emphasis on the implications for policy, provision and research.

The literature analysis so far suggests that there is a mismatch between adult literacy and numeracy education and policy and the demands of the ‘new basics’ required in a contemporary society. The research shows that, since the early 1990s, Australia has travelled a narrow path on the road to managing its own future literate and numerate requirements, and following a short period when funding and policy were both managed nationally and coherently (Lo Bianco & Wickert 2001) there is now no such concerted approach. There is presently no policy or strategy around adult literacy and numeracy in any state (except Queensland) or nationally. Practitioners are neither resourced for the professional development required for the knowledge-economy nor are they resourced to provide the kinds of literate and numerate learning options required of a society that demands a flexible, problem-solving workforce actively engaged in lifelong learning (ALNARC 2001a). The research shows that the principles of ‘integrated literacy and numeracy’ that embed these skills in Training Packages are sound in conceptual terms. However, access to these embedded skills is found to be decreasing, as will be shown later in this book.
Other branches of government have, over the decades, opted for the apparent ‘quick fix’ approach, emphasising old basics not new basics, and aiming resources overwhelmingly at literacy in the compulsory schooling sector (DETYA 1998). The assumption, misproven earlier in this book, is that if the problem is fixed here, the problem of literacy in adulthood and workplaces will therefore be fixed. This, the research shows conclusively, is a misleading and unproductive assumption—‘unproductive’ in that it has not produced the anticipated outcomes since its inception. The outcomes (or lack of them) have been anything but ‘quick’, and as the test results (ABS 1997) show, neither is the situation ‘fixed’—it is in fact shown here to be degenerating. With the exception of the Queensland Government (2000), governments have ignored those aspects of the research advice that has shown repeatedly that the ‘bolted on’ skills of reading and writing (etc), while important, are simply not sufficient for the work tasks of the modern age, with their new basic, built-in literacy and numeracy demands.

The surveys do demonstrate that in order to take advantage of the emerging benefits of the knowledge based economy, literacy skill levels need to be high. The international surveys also show that Australia’s performance is not adequate to meet the demands. Given the growth in knowledge based industries within Australia (see Figure 2) it is likely that adult literacy standards will restrict our ability to maximise the benefits that accrue from these changes. If this is not addressed, one possible scenario is that knowledge resources will increasingly be imported to meet the local demand, while producing a corresponding increase in unemployment and the associated welfare costs.

What the survey results do not show is why and how the shortfall in skills has arisen, and without a whole-of-government evidence-based policy development, implementation and evaluation process in place, governments are only able to respond in ‘old policy’ ways. This has not produced results. The literacy and numeracy levels remain as reported herein.

ALNARC’s 2001/2 research program, via its four major national projects address the how and why questions that existing research leaves untouched.

A senior state/territory TAFE Head of Department and long-time literacy and numeracy practitioner confirmed this point succinctly:

They’re finding that students have learned in a very passive way, and skills like problem-solving and initiatives, and thinking for themselves just aren’t coming—and neither are the literacies that go with that. (ALNARC 2002)
CHAPTER 2  RESEARCH ON IALS AND SAL LITERACY AND NUMERACY STATISTICS

The research also tells us that a whole-of-government evidence-based policy strategy would ensure the full picture from the research is taken into account (see also Evidence-based policy and accountability, page 41). The evidence base would need to include a review and development of the nationally comparable data available on expenditure according to re-developed outcomes from literacy and numeracy expenditure. The re-developed outcomes would also be a product of the review process, and reflect the wider impact of literacy and numeracy on socio-economic well-being as described herein.

Literacy is task-based. It is simply not possible to ‘take the literacy out of the task’ any more than it is possible to take the content out of literacy tasks. It is not possible to read—one can only read something, as Gee (1996) has shown in his research. The common recourse of governments it to test populations to establish common knowledge about matters such as literacy ‘levels’. This is an important activity, and the outcomes of these national tests such as the International Adult Literacy Survey (IALS) (e.g., ABS 1997) show all too clearly the problems faced by our society.

Because of their very nature, which is standardised, cross-country and comparable, surveys and tests do not tell us why we in Australia have these problems. Nor can they tell us how they may be addressed. After all, if simply going back to the ‘old basics’ was the answer, the ‘problem’ would have been fixed years ago, going by the huge quantity of resources that have been dedicated to the old basics.

Assumptions in the policy strategies

FOCUS ON SCHOOL-BASED LITERACY

The Federal Government’s Literacy for all (DETYA 1998) strategic initiative aims to improve the literacy standards of children as a foundation for improving participation in further education and the world of work.

Australia will go a long way towards countering other forms of educational and social disadvantage if strong foundational literacy and numeracy skills are successfully taught to all children.

The strategy is based on a belief that increasing literacy and numeracy skill levels of school children will increase job prospects and retention rates at schools (MCEETYA 1999). The strategy on the surface appears to be working with initial results suggesting significant improvements in reading levels—87% achieving the year 3 reading benchmark in 1999 compared with 72% in 1996 (DETYA
However, this result does not translate into a 15% improvement in literacy levels in the general population for a number of reasons:

Firstly, demographic analysis shows that while the number of people in Australia who are of working age (15-60) is increasing significantly, there is a decrease in the number of people who are of school age (5-14). Figure 3 shows that by 2010 there will be more than an additional one million people of working age, while there will be slightly fewer people of school age. What this means is that there will be far fewer people entering the workforce who might have benefited from additional school based literacy programs compared to the additional adult population who have had no benefit from these programs. Any benefits that accrue from primary school based literacy programs will not be of benefit until about 2005 by which time there will be an additional 1.2 million working aged people none of whom had benefited from programs which commenced in 1998 for primary school children. Therefore an over-reliance on school-based literacy programs will take a long time to make a significant impact—by 2010 only about 7.5% of the working aged population may have benefited from primary school initiatives implemented in 1998.

Figure 3 – Population counts and projections for school age and working age people in Australia (1986 to 2010)

Second, the possible benefits of school-based literacy programs do not translate into a corresponding increase in literacy levels once the child enters the workforce because literacies are learned in a situated and evolving context. For example, literacies learnt in
CHAPTER 2  RESEARCH ON IALS AND SAL LITERACY AND NUMERACY STATISTICS

On the basis of demographic analysis and research, there are doubts that it will work.

1950 are insufficient for the working world of the ‘knowledge economy’ of 2001.

Third, literacy levels are affected more by socio-economic and home background factors than by inputs at school levels. The Programme for International Student Assessment (OECD 2001d) found that:

Home background influences educational success, and socio-economic status may reinforce its effects. Although PISA shows that poor performance in school does not automatically follow from a disadvantaged socio-economic background, it appears to be one of the most powerful factors influencing performance on the PISA reading, mathematical and scientific literacy scales. (p. 210)

The PISA findings suggest that it may be better to address socio-economic issues of standards of living and inequality before addressing issues at a school level. PISA did find that some school based factors did influence student literacy outcomes, but that these were secondary to issues of home background and socio-economic status.

There is, therefore, a misplaced assumption that the ‘old basics’ will fix a new problem, and there is little provision in the policy strategies for the ‘new basics’ of literacy and numeracy increasingly required in the new world of un/employment in an integrated economy marked by a need for knowledge (in the broad sense of knowledge for all) and its management.

THE BUILT-IN NOT BOLTED-ON MODEL

In the VET sector, ANTA builds literacy and numeracy competencies into Training Packages. In theory this should enable literacy and numeracy to be ‘built in’ to work tasks, not ‘bolted on’ or separate. It is noted that ANTA have recently appointed a team of ‘equity experts’ to ensure that Training Packages meet the needs of target groups (ANTA 2002). However, there are associated issues that arise in practice. What if the required tasks are not work tasks? What if the person involved does not need to, or cannot access training?

In terms of the existing, sound, national integrated VET policy and strategies, the issue has a flip side. As the following pages indicate, fewer and fewer workers in the new world of work have access to the Training Package structures (they more typically have dispersed work patterns across different jobs, across localities and across training cultures). Therefore, increasingly, access to training via training packages is becoming more...
restricted as workers are increasingly precluded from in-house training provision.

While access to training packages is limited by the changing nature of work, access to higher education tends to be limited to those on higher incomes. While research suggests that higher levels of income are achieved through further education, access is limited to those who have the financial resources in the first place—a ‘Catch 22’.

That is, the sound conceptual principles of the ANTA approach are only able to be utilised by an increasingly smaller proportion of workers in the new Australian economy who have access to the financial and literacy resources required to advance to higher levels of training. The remainder of the population, those in fact who need the skills most for across-employment, entry to employment (whatever their age) or for increased social civic participation, do not have access to these skills. Innovative and sunrise industries also fall into this group.

The situation in Australia is worse than in most other countries of the OECD. While the proportion of managers and professionals who have high literacy skill levels is comparable with other developed countries, Australia ranks well down the list for technicians (see Figure 4).

Figure 4 – Skill levels for technicians – international comparison (IALS data), Source OECD 2000b.
Doyle et al. (2000) analysed occupations in terms of elite, good and less skilled jobs. They found that those with VET qualifications were more likely to access 'good' and 'elite' jobs than those with no post school qualifications (see Figure 5). While these findings would appear to support a built-in approach to literacy as a way forward for people who want to participate in the 'knowledge economy', NCVER (2000) data shows that most VET participants are under 24 years of age (see Figure 6). For example in 2000 while 7.5% of the 20-24 year age group participated in apprenticeships and traineeships, only 0.8% of the 40+ age group participated. What this means is that those who are older than 24 and therefore not as likely to benefit from 'built-in' literacy of VET programs have little chance of moving up the ladder toward elite jobs. Doyle's assertions are unsupported by SAL (ABS 1997) data which show that literacy levels among those with VET qualifications are worse than for those have only completed secondary school, a matter discussed further in section 0.

**Figure 5 – Job types, occupations, qualifications and post school qualifications**  
(Source: Doyle et al. 2000)

<table>
<thead>
<tr>
<th>Job Type</th>
<th>8 Occupation Groups</th>
<th>Average Income</th>
<th>Per cent with Post School Qualifications*</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELITE JOBS</td>
<td>Managers, Medical Doctors, and Lawyers</td>
<td>$48,400</td>
<td>62%</td>
</tr>
<tr>
<td></td>
<td>Business Professionals</td>
<td>$42,500</td>
<td>61%</td>
</tr>
<tr>
<td></td>
<td>Medical and Educational Professionals and Specialists in Arts and Letters</td>
<td>$32,200</td>
<td>89%</td>
</tr>
<tr>
<td>GOOD JOBS</td>
<td>Skilled Manual Workers</td>
<td>$30,500</td>
<td>59%</td>
</tr>
<tr>
<td></td>
<td>Supervisors</td>
<td>$26,700</td>
<td>36%</td>
</tr>
<tr>
<td></td>
<td>Clerical and Administrative Support</td>
<td>$24,100</td>
<td>26%</td>
</tr>
<tr>
<td>LESS-SKILLED JOBS</td>
<td>Operatives</td>
<td>$25,600</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td>Salesclerks, Service Workers, and Labourers</td>
<td>$16,900</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>All workers</td>
<td>$28,400</td>
<td>42%</td>
</tr>
</tbody>
</table>

*This category incorporates the attainment of higher education or vocational education and training (VET) as the highest qualification held.*
Figure 6 – Apprentice and trainee participation rates* (Source: NCVER, 2000)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15–19 years</td>
<td>4.3</td>
<td>4.6</td>
<td>4.7</td>
<td>5.0</td>
<td>5.6</td>
<td>5.9</td>
</tr>
<tr>
<td>20–24 years</td>
<td>5.2</td>
<td>5.9</td>
<td>6.3</td>
<td>6.6</td>
<td>7.1</td>
<td>7.5</td>
</tr>
<tr>
<td>25–39 years</td>
<td>0.3</td>
<td>0.5</td>
<td>0.7</td>
<td>0.9</td>
<td>1.2</td>
<td>1.5</td>
</tr>
<tr>
<td>40 years &amp; over</td>
<td>0.0</td>
<td>0.1</td>
<td>0.2</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
</tr>
</tbody>
</table>

* Derived from NCVER apprentice and trainee statistics and unpublished ABS data, December estimated resident population. Participation rates use Australia’s working age population (15 to 64 year olds) as a base.

It is important to point out that there are indeed some other ways in which literacy and numeracy is provided for those who need additional literacy resources for matters such as health, family and legal matters, but these services are marginalised and inadequate. The system is skewed towards educational and vocational outcomes. However, in other portfolios, there is equal concern about literacy and numeracy.

ALNARC (2000a) highlighted a number of issues from a series of case studies. The recurring themes included concerns about practices of training provision, quality of trainers, the implicit (as opposed to explicit) inclusion of literacy within Training Packages, funding issues and access and equity issues. Many of the findings concern provision in the context of change, where the stated policies relating to training packages, particularly those around the ‘built in’ approach, are not as yet being reflected in practice with any degree of generality. The research suggested that literacy goals should be more clearly articulated and reflected in Training Package content. It also identified professional development gaps as an issue requiring attention. These findings were confirmed by Wyse and Brewer (ALNARC 2001b) in research about language, literacy and numeracy and assessment processes. Research conducted for TAFE NSW (McGuirk 2000) highlighted professional development as a significant issue for trainers that prevented them from achieving ‘best practice’ literacy and numeracy provision.

The above research suggests potential areas for improvement within the current systems of VET training as they relate to literacy and numeracy training.

This chapter has highlighted the results of IALS and SAL as they apply to the Australian literacy and numeracy context. It has shown that SAL can be used as a useful benchmark to provide a basis for measuring the impact of new strategic initiatives. IALS and SAL along with PISA, also suggest that in the changing world...
of work and the increasingly complex demands of society, that there will be significant shortfalls in literacy and numeracy skills that current strategies are unlikely to address. The research suggests that more consideration needs to be given to the changes brought about by a shift to a 'knowledge economy'. These changes are the subject of the following chapter.
In the world of the middle of last century, a vocational qualification gained immediately after leaving schooling usually lasted a lifetime. Whether it was for apprentices, teachers or medical practitioners, initial entry-level training was for school leavers, and was designed to prepare the trainee for a lifetime of work. Re-training was a rare event in those ‘stable’ times when Australia could still rely for its economic base on its primary industries, and the labour market was ‘steady as she goes’. Education and training, then as now, were expected to impact on the socio-economic well-being of our country—that is their structural purpose under the human capital economic model, although the concept of ‘well-being’ has until recently been narrowly defined as ‘income’.

At the same time, the concept of ‘being literate’—which even then included numeracy in the idea of being educated in the three Rs—became as stable, entrenched and taken-for-granted as a highly valued cultural commodity in those industrialised times and for the prevailing societal purposes. Conversely, to be ‘illiterate’ was frowned upon and implied not only being deficient in the technical aspects of reading, writing and numeracy, but also being ignorant and stupid. Literacy and numeracy were and still are valued as being vital for the well-being of adult Australians.

Literacy and numeracy in a changing society

Times have changed. In a post-industrial era, possession and manipulation of ‘knowledge’ is as prized as ownership of ‘skills’, so knowledge is an increasingly sought after commodity in the instantly communicating, globalised economies of new times—so much so that it is often used to capture the essence of new times in the term ‘knowledge economy’. However, while society has changed, many old ways of thinking from last century persist. The old model that said, ‘learn it in school, use it for life’ still underlies much of policy, research—and indeed practice—in post-industrial countries today. The presumption that literacy and numeracy, once taught in schools as unitary, measurable entities that are stable and can be abstracted from the societal contexts in which they occur, does not match reality. Neither does the notion that, once acquired, they can be applied for the rest of our lives without deterioration.
It is a presumption, which was perhaps, appropriate for the industrial age, but not for life and work in new times, as the International Adult Literacy Survey found (IALS 2000):

'[T]he challenge of maintaining and improving the literacy skills of adults is an issue that is much broader than formal education. The International Adult Literacy Survey reveals that literacy skills can be lost if they are not used throughout life.'

(p.1)

The implication of this is that resourcing models weighted towards school literacy and numeracy alone in the expectation that it will eventually ‘cure’ adult illiteracy and innumeracy are fallacious. Four grounds underlie this fallacy:

(a) The existing population of adults needing literacy and numeracy skills has very little chance of accessing resources for their life’s needs. There are simply not enough programs that might help them in existence;

(b) Old literacy and numeracy skills are lost if they are not used, and these old skills are increasingly not used because they are not relevant to work in the ‘knowledge economy’;

(c) Not all children acquire adequate literacy and numeracy skills while at school, and research and history demonstrates that to presume otherwise is impractical;

(d) Once students leave school, the contexts in which they use their skills are so different that the skills cannot easily be transferred.

The links between Australia’s literacy and numeracy resources and human capital theory impact directly on individual and state socio-economic well-being. As Lee and Miller (2000) report:

One of the strongest empirical regularities in the Australian labour market is the positive association between educational attainment and labour market success. In analyses that examine the average income return to years of education, each additional year of education is associated with around eight per cent additional income. (p. 1)

However, one of the problems that emerges from the research is that fewer and fewer Australians are gaining access to this qualification / income scenario, as is shown in more detail later.
Characteristics of a so-called ‘knowledge economy’

Societies that have embraced the rhetoric of a knowledge-based economy support their claims by reference to a number of features. Acceptance of innovation and cutting edge technology is perhaps the most commonly understood indicator of such an economy (ABS 1999c). Running alongside this popular symptom is a more targeted emphasis on investment in human resources, particularly in terms of higher education to meet the growing demands of the society’s consumers. In this view of the economy, economic output is increasingly determined by services rather than physical goods (OECD, 2001b). The push for innovation is to some extent driven by an increasingly competitive environment created by a global focus.

It could well be argued that the Australian economy is shifting rapidly in the direction of a knowledge based economy. Apart from the evidence of Australians’ apparently insatiable demand for the latest forms of information and communication technology, the changes in the tax regime to a GST is a sure sign that services are increasingly important to the economy.

However, the conceptual basis of the term ‘knowledge economy’ remains highly problematic. There are critical questions that must be addressed, such as ‘whose knowledge is it that is being referred to here?’ What other kinds of knowledge contribute to socio-economic well-being apart from the rather narrow business-sector definition of knowledge usually referred to? Sound socio-economic well-being is at least as much a product of a strong ‘community’ (Rifkin 1999) as it is of a strong business sector. Neither does a corporate construction of knowledge account for the whole of the knowledge that counts in a society. However, in terms of media and policy rhetoric, the prevailing discourse on ‘knowledge’ is structured in corporate terms and serves as a strategic plank in corporate capacity to respond to and manage change through, primarily, efficiencies related to employment flexibility.

The changing nature of society is nowhere more evident than in the ways people earn their livelihoods. Whether this is through paid work, work for the dole programs or through social security payments of some kind, everyone must feed and clothe themselves. However, all people choose to do so in differing ways that are influenced as much by well-being factors such as physical and lifestyle amenities, as by income (Green 2001). The socio-economic bases of the new millennium show some notable characteristics which call into question the nature of the ‘knowledge’ required in the new world of un/employment.
CHAPTER 3  RESEARCH ON 'KNOWLEDGE', UN/EMPLOYMENT & NON-STANDARD
EMPLOYMENT: LITERACY AND NUMERACY’S PLACE

Changing nature of employment: Non-standard work

There has been a reported sharp increase in non-standard work—
casualisation, contractual, outsourcing and growth in telework in
the home (Marginson 2000 p. 21-2). Figure 7 shows the trend to
casual employment, which is primarily attributable to increases in
male casual employment, which increased 115% in the ten year
period to 1998 (ABS 1999b). In Australia, only 59% of the
workforce is now employed as permanent employees (Hall et al
2000).

The ‘portfolio worker’ (Handy 1993) has emerged as a major new
identity of the knowledge-based economy (Falk 2001b, p. 2).
These new workers carry with them a ‘portfolio’ of skills which,
ideally, transfer to multiple workplaces. As a consequence of
these multi-skill expectations there is an increasing requirement
for multiple literacies and numeracies (Barton & Hamilton 2000;
Cope & Kalantzis 2000).

Figure 7 – Trends in non-standard working arrangements, 1988 to
1998 (source ABS Cat: 6203.0)

The change in non-standard work is associated with a changing
occupational profile. In the ten years to 1996 the occupations that
grew as a proportion of the workforce in Australia were those that
tended to require higher qualifications and further education
while those that declined were those that tend to require fewer
skills (see Figure 8). The pattern is consistent with the rise of the
‘portfolio worker’ described above.
Figure 8 – Change in occupational profile in Australia, 1986 to 1996
(Source: ABS 2001c).

<table>
<thead>
<tr>
<th>Occupations</th>
<th>Change in proportion employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate clerical, sales and service</td>
<td></td>
</tr>
<tr>
<td>Associate professionals</td>
<td></td>
</tr>
<tr>
<td>Professionals</td>
<td></td>
</tr>
<tr>
<td>Managers and administrators</td>
<td></td>
</tr>
<tr>
<td>Intermediate production and transport workers</td>
<td></td>
</tr>
<tr>
<td>Labourers and related workers</td>
<td></td>
</tr>
<tr>
<td>Tradespersons and related workers</td>
<td></td>
</tr>
<tr>
<td>Advanced clerical and service workers</td>
<td></td>
</tr>
<tr>
<td>Elementary clerical, sales and service workers</td>
<td></td>
</tr>
</tbody>
</table>

Entrenched unemployment

There has been a trend to entrenched unemployment. In the mid-nineteen hundreds, unemployment stayed relatively steady, generally less than 3% in the period from 1940 to 1970 (see Figure 9). However, in the period 1986 to 2000, the average rate from 1986 to 2000 was 8.3%.

Figure 9 – Unemployment rate in Australia through the 20th Century

The logical outcome of this trend is that those in society, who are more vulnerable, including those with limited literacy and numeracy skills, will be more likely to be unemployed.
Rifkin (1999) claims that:

With near workerless factories and virtual companies already looming on the horizon, every nation will have to grapple with the question of what to do with the millions of people whose labor is needed less, or not at all, in an ever more automated global economy. (p. 2)

The signs for the future of work are already on the wall, with a decline in consumer purchasing power, the rise of the ‘portfolio worker’ (the out-sourced self-employed contractor) and the dramatic increase in numbers of the working poor—those who must hold down more than one job but still only manage to keep on the poverty line. For the latter group, in terms of income, unemployment is blurred with under-employment and multiple employment, in the sense that many people must work more than one job just to earn the same as the unemployment benefit. For what is anticipated to be the majority of people in our society who now and will increasingly in the future, fall into this group of unemployed, underemployed or working poor, what are the consequences for literacy? Where does this leave the present notion of ‘workplace literacy’?

**Increasingly inequitable income distribution**

There has been a change in the proportion of those who have access to high paid jobs and those whose incomes have remained stable or been reduced. During the last century income distribution has increasingly shifted so that more of the nation’s income is shared by a smaller proportion of the population (ABS 2001a). For example, in 1969, 50% of the population shared in 28.2% of gross income in Australia. In 2000, the same proportion of the population shared in 23.6% of gross income (see Figure 10).
Saunders (2001) summarises the growing divide between the rich and poor as follows:

The available statistics on the conventional measures of household income reveal that, while income distribution narrowed in Australia for much of the first three-quarters of the [last] century, incomes became less equally distributed since then. (p. 17)

The income divide has related spin-offs, such as the so-called 'digital divide' which is the tendency for some to be able to 'own' access to the knowledge, power and resources that come with technology, while others do not have this access. For those adults with low literacy and numeracy skills the material aspirations of 'mainstream' Australia are increasingly unreachable.

‘Knowledge’ economy and adult literacy and numeracy

This section provides a discussion and analysis of the consequences of the so-called ‘knowledge economy’ as it is referred to in the media and by some governments (e.g. CRRI & CRLRA forthcoming). It is noted that this book has so far identified the issue of ‘knowledge’ as being contended: Whose knowledge is it that is the subject of the rhetoric about the new ‘knowledge economy’? It will be seen by the analysis presented so far that there is a wide scope of knowledge required in the present un/employment situation, from the knowledge required to prepare a job application form to the knowledge required by corporations to become ‘learning organisations’.

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CHAPTER 3 RESEARCH ON 'KNOWLEDGE', UN/EMPLOYMENT & NON-STANDARD EMPLOYMENT: LITERACY AND NUMERACY'S PLACE

This section therefore focuses in on the kind of 'knowledge economy' that we assume is that being referred to in the media and by sections of government—the economy marked by fast and agile organisational development, especially in the technology and communications area.

Figure 11 summarises the issues in terms of the 'old' and 'knowledge' economies and the barriers that prevent people living in the 'old' economy from taking advantage of the opportunities presented by the 'knowledge' economy.

The 'old economy' is marked by:

- Low literacy and numeracy skill levels.
- Low income levels.
- Available occupations are in industries in decline and rationalising to remain competitive in the global marketplace: manufacturing, agriculture and construction.
- People who have limited access to financial, physical or human resources.

The 'old economy' is characterised by people who either have no formal qualifications or who have VET qualifications.

- Those with no formal qualifications have reasonably free access to VET qualifications, which to some extent enhances their job prospects.
- Those with no qualifications are more likely to be older, not in the labour force, from an Indigenous background, have left school early or who are dependent on social security.

The 'knowledge economy' is marked by:

- High skill levels.
- Higher income levels.
- Occupations in education, government, finance and communications industries.
- People with tertiary qualifications.
- People who have ready access to financial, human physical resources.
- A family history with high skills and / or literacy and numeracy levels.

The problem for those in the 'old economy' is that there are several barriers that inhibit them from accessing the world of the
'knowledge economy'. These barriers include low income, cultural and social factors, issues of physical access and age.

There are few resources available to the increasing numbers of people still living and working in the world of the 'old economy' to help them break through the barriers. Enhanced literacy and numeracy skills is a factor that bridges the gap but current funding arrangements are largely restricted to embedding literacy into VET programs where literacy skill demands are relatively low.

If things remain as they are, there are increasingly limited means for individuals living and working in the 'old economy' to access the potential benefits of the 'knowledge economy'. Individuals need to be young (less than 24 years old—see Figure 6) and training in an industry / occupational category (such as health / information technology, professional / associate professional) and come from a socio-economic / family background that provides them with appropriate financial resources and a positive learning culture. For those who are older than 24 or who are training in the more traditional areas of VET the probability that they will participate in Doyle's (2000) 'good' or 'elite' jobs is low.
Figure 11 - Old economy, 'knowledge economy' and adult literacy and numeracy

Chapter 3 Research on knowledge economy, unemployment & non-employment
While the current Federal Government has increased funding to schools through its ‘literacy for all’ plan, it is evident that there is a lack of direction in Federal Government policy to target the literacy and numeracy needs of adults. The National Policy on languages (1987) and the Australian Language and Literacy Policy (1991) provided direct policy direction and funding initiatives for achieving national goals for language and literacy in education. These policies set clear national goals and provided collaborative strategies to meet identified targets through funding arrangements. The rise of the ‘literacy for all’ plan has coincided with the effective redundancy of the Language and Literacy Policy. The lack of policy direction in part explains some of the difficulties associated with tracking funding for adult literacy programs. It could be argued that services are justified and funded through policy measures designed to meet other social policy objectives (ACAL 2001). For example:

- the Adult Migrant Education Program (AMEP) is funded through the Department of Immigration and Multicultural and Indigenous Affairs addresses the language needs of new arrivals for settlement;
- the Department of Education, Science and Training (DEST) provides labour market programs under the mutual obligation initiatives for job seekers (currently funded as the Literacy and Numeracy Program and the Advanced English for Migrants Program); and
- the Workplace English Language and Literacy (WELL) programme is funded to provide training for at risk workers in workplaces affected by restructuring and technological and industrial change.

Other funds are distributed to state bodies through the Australian National Training Authority (ANTA). Policies vary from state to state. Some states distribute funds to the major TAFE and ACE providers; others provide recurrent funding to TAFE on a dollar per student contact hour basis. The lack of uniformity or policy direction has led to a lack of accountability at state and territory administrative levels. Reporting at a state level is incomparable, which means that it is almost impossible to track how funds are actually used.
CHAPTER 4 RESEARCH ON CURRENT FUNDING ARRANGEMENTS

DEST budgets

Federal funding for literacy and numeracy programs is not keeping pace with increases in costs of living or demand for services.

Data shown in Table 2 is taken from 2000/2001 and 2001/2002 budget papers available from http://www.detya.gov.au/budget/contents.pdf.htm. It should be noted that the data presented here only relates to Output group 2.3, which is only part of the Outcome 2 budget relating to post-school education and training. The Advanced English for Migrants program budget is merged with Language, Literacy and Numeracy Training (LLANT) from the 2001/2002 budget estimate. The data suggests that funding for Workplace English Language and Literacy programs (WELL) is not keeping pace with general increases in the cost of living. Funding for Literacy and Numeracy training has declined sharply since 1999/2000 and even based on increases forecast in forward estimates, funding will not return to 1999/2000 levels by 2005.

Table 2 – DEST (formerly DETYA) budget actuals and forward estimates - $'000 (based on 2000/2001 and 2001/2002 budget papers)

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Placement, Employment and Training Program (JPET)</td>
<td>18,766</td>
<td>19,992</td>
<td>18,038</td>
<td>18,399</td>
<td>18,785</td>
<td>19,180</td>
</tr>
<tr>
<td>Workplace English Language and Literacy</td>
<td>11,823</td>
<td>11,869</td>
<td>12,068</td>
<td>12,189</td>
<td>12,397</td>
<td>12,657</td>
</tr>
<tr>
<td>Job Pathways Program</td>
<td>16,962</td>
<td>25,830</td>
<td>24,901</td>
<td>22,891</td>
<td>23,372</td>
<td>23,862</td>
</tr>
<tr>
<td>Advanced English for Migrants Program</td>
<td>5,420</td>
<td>2,357</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Career Counselling and information</td>
<td>2,940</td>
<td>1,677</td>
<td>16,661</td>
<td>1,926</td>
<td>2,819</td>
<td>3,066</td>
</tr>
<tr>
<td>Language, Literacy and Numeracy Training</td>
<td>44,094</td>
<td>26,365</td>
<td>35,157</td>
<td>38,196</td>
<td>43,982</td>
<td>47,910</td>
</tr>
<tr>
<td>Disability co-ordination officers</td>
<td></td>
<td></td>
<td>1,224</td>
<td>1,250</td>
<td>1,276</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100,005</td>
<td>88,090</td>
<td>91,825</td>
<td>94,825</td>
<td>102,605</td>
<td>107,951</td>
</tr>
</tbody>
</table>

Budgets at state and territory level

The breakdown of spending shown above in Table 2 above, is not mirrored in State or territory budgets. An examination of treasury documents does not detail where funds allocated from DETYA (now DEST) are distributed. Similarly, reporting from TAFE institutions around Australia does not show how funds are allocated to adult literacy programs. There are a number of difficulties associated with extracting detailed data at a state or regional level.
TAFE institutions all report allocations of adult literacy funds differently and within a larger pool of funds. For example in Tasmania, courses that have specific literacy outcomes are embedded in the General Education program. In Queensland 'Language and Literacy Services' is a corporate unit of TAFE Queensland. What these differences highlight is that there is no uniform reporting system within public providers. Further complicating the situation is the fact that training packages all have literacy and numeracy components embedded in them at different levels. In addition, TAFE is not the only organisation to receive public funds for literacy and numeracy provision—tracking the spending of the many small RTOs that use DEST resources is an almost impossible task.
Issues of greater public accountability, evaluation and reporting of literacy and numeracy are not only rising in importance in regards to the financial aspects discussed in the previous chapter. The same strands are manifest in the area of public policy development and implementation.

Public policy, as the written and legally documented intent of government, is "the public expression of the mandate of a democratically elected political" party (e.g., Marginson 1993, p. 55). Policy is characterised, according to Considine (1994, p. 4), by reciprocity between those affected by the policy, and those who need to develop and implement it. That policy may entail:

- Clarification of public values and intentions;
- Commitments of money and services;
- Granting of rights and entitlements.

Many definitions begin with phrases such as ‘Public policy is a complex phenomenon...’ (Howlett & Ramesh 1995), or ‘Policy is clearly a term that is used in a variety of ways at different levels’ (Colebatch 1998, p. 6). Considine defines public policy as ‘an action which employs governmental authority to commit resources in support of a preferred value’ (p. 3). Policy is an intervention in people’s lives. The particular values and socio-economic circumstances of the target group must be taken into account. Effective policy that is intended to be implemented (as opposed to purely rhetorical displays of goodwill) needs to be evaluated.

What broad trends impact on literacy and numeracy policy?

Underlying policy for adult language, literacy and numeracy are broad changes in the public policy environment. In a high proportion of the State and Commonwealth elections in the last six years, the balance of power has been exercised by a small number of voters in a small number of seats. These phenomena influence the policy-making environment, especially when uncertainty in policy is reflected in terms such as the so-called ‘rural backlash’ and the rise of Hansonism. These shifts emphasise the importance for governments of maintaining two-way connections with the ‘ordinary person’ in their electorates. Two-way connections have implications for both the ways in which policy is developed and implemented, as well as for the
The economic paradigm guiding policy over the last several decades is not sufficient by itself to explain the extent and vagaries of socio-economic well-being, social cohesion and the strength of the civil society. Evaluation (and implied accountability) mechanisms that go with it.

In tandem with the above, there is a growing awareness that society’s fundamental changes require an holistic response if the ‘ordinary person’ is not to be completely overwhelmed. This awareness, combined with the threats and unknowns of the forces and impacts of globalisation, have resulted in a return to the safe ideologies of past. These recourses to the security of the past ‘knows’ in response to the insecurities and uncertainties of the ‘globalised’ include the ‘back to basics’ movement. However, as already pointed out in Chapter One of this book, socio-cultural and political changes have moved beyond what might often be enhanced through hindsight.

Perhaps because of the greater information available in more media forms, there seems to be a recent and growing recognition in developed countries at least that the economic paradigm guiding policy over the last several decades is not sufficient by itself to explain the extent and vagaries of socio-economic well-being, social cohesion and the strength of the civil society. Indeed these characteristics have become ‘selling points’ to attract businesses in the new global economy. The public reaction against the perception of a ‘clinical’ and ‘inhuman’ hand of economic rationalism has seen most Western countries introduce a formalised social policy descriptor to capture their intent in this area. The UK Labor Party calls it the ‘Third Way’. President Clinton supported policies he grouped under the banner of developing ‘social capital’. In Australia, Prime Minister Howard’s defines these policies under the umbrella of the ‘social coalition’.

Noticeable in developed countries’ policy profiles is a move towards evidence-based policy processes. There has arisen a reported public climate of mistrust and cynicism carried in the media about the often ‘top-down’ or imposed policy processes that have prevailed until the last decade of the twentieth century (e.g. Hugonnier 1999; Stewart-Weeks 2000). This is confirmed by Steelman (2001) when he finds that:

...theorists and practitioners have called for more public involvement in policymaking and for greater citizen input in decisions. The move towards participatory and community-based approaches in policymaking can be seen as a backlash against more elitist technocratic, top-down models of decision-making. (p. 71)

For a range of reasons, then, credibility of policy is becoming more of a party-competitive issue, where policy-makers are increasingly pressed to justify their policy-development in terms of the evidence that can be brought to bear in justifying the
development of particular policies, which is loosely referred to as ‘evidence-based’ policy-making (e.g., Centre for Public Policy Management [CPPM] Research Unit for Research Utilisation [RURU] 2001; deLeon 1998; Weimer 1998). The accountability issue surrounding policy development and implementation is a key ‘driver’ of policy-makers, since public monies in the form of Federal or State budgets are locked into policy strategy. In most countries, there are structural mechanisms for accountability, often bipartite, that allow an interrogation of expenditure-related policy strategies. Expenditure on the kinds of processes that are demanded for effective evidence-based policy implementation at a community level must be related to policy ‘outcomes’ that are evidenced (countable and reportable) in simple and clear terms.

Current approaches to public policy are found in recent research, as well as from the trialing of new models. Hugonnier (1999), for example, describes recent OECD research that analysed the success of policy interventions in 27 OECD countries over the last 20 years for patterns associated with success and sustainability of those interventions. In every case, top-down driven policies did not succeed while bottom-up policies did succeed. Hugonnier’s work shows that ‘endogenous planning’ as the OECD calls locally originated or bottom-up planning (Kenyon 1999), appears to be the crucial variable in success. Some Australian state systems report similar results (e.g., Balatti & Falk 2001) where there have been promising outcomes from areas that have undertaken their own planning and development. Where the planning is initiated and driven locally at community or regional levels, it is found to be both successful and sustainable (e.g. Allen 1999; CRLRA 2000; Moore & Brooks 1996; Schorr 1997). When it is perceived as ‘top-down’ or in some way imposed from outside, it is judged unsuccessful and is not sustained (Aigner et al, forthcoming 2001; Gittell & Vidal 1998; Kenyon 1999). Such initiatives have implications for the development of policy in compartmentalised ‘policy silos’.

Evidence-based policy and accountability

The more recent trend in public policy is characterised by sectoral collaboration in the development as well as implementation processes. Input and evidence from stakeholder groups is called for in order to justify why certain policy developments are taken. Cross-sectoral flexible and responsive policy advice mechanisms are put in place and a great reliance is placed on evidence. Continuous evaluation procedures are conducted from the outset and there are frequent whole-of-government policy processes involving the cooperation of two or more departments while there is a devolution of accountability for policy outcomes ‘down the line’. Accountability in new policy terms is not simply about
The eight OECD bands suggest a concrete and practical evidentiary basis for gauging literacy and numeracy policy’s impacts on the socio-economic fabric of our nation.
With fewer Australians accessing the socio-economic well-being associated with the desired qualifications / income link, the outstanding issue is, what criteria can we use to evaluate the impact of literacy and numeracy on socio-economic well-being?

To help answer this question, the following sections will consider how the work of the OECD provides a more accurate and contemporary investigative framework.

**OECD and literature on social well-being**

When attempts are made to establish the extent of the impact of literacy and numeracy on areas of well-being, including but in addition to income, no ready-made measure exists. There are, however, other research endeavours to act as guides here. For example CRLRA (2000, 2001a & 2001b) use the OECD (1982) eight indicator bands of socio-economic well-being to evaluate the impact of vocational education and training on society. Falk, Golding and Balatti (2000) use these same indicator bands to gauge the impact of adult and community education programs, including literacy programs, on their communities. Balatti and Falk (2001) report the detail of an adult and community education program on society, showing that there is the capacity for these programs to impact on a wide range of the OECD indicator bands.

**BACKGROUND TO EIGHT BANDS**

While the OECD thinking about measures of social well-being has moved on since 1982, there is a fair degree of concordance between the measures of well-being posited recently by OECD (2001a) and previously (1973, 1982) as shown in Table 3. More recently, ABS (2001b) has produced a report that uses the eight bands as a framework for measuring well-being. The report outlines a series of data sources under each heading of the OECD categories suggesting there is an ample supply of quantitative data to assess well-being within this framework. One of the problems with the more recent literature is that it offers no definitive framework, opting instead for a composite measure or index of well-being. Indeed the sources of data are far richer than suggested by the range of measures shown in Table 3.
CHAPTER 6  RESEARCH ON LITERACY AND NUMERACY IN RELATION TO ACHIEVING SOCIO-ECONOMIC WELL-BEING

The eight indicators are:

Health

Education and learning

Employment & quality of working life

Time and Leisure

Command over goods and services

Physical environment

Social Environment

Personal Safety

The OECD (1982) eight indicator bands therefore provide a more detailed and trialed means of reporting and evaluating socio-economic impacts such as the literacy and numeracy impacts that are the subject of this report. The OECD report on Social Indicators, finalised after an exhaustive developmental and research process spanning the previous decade, established the above eight categories of socio-economic well-being. These eight indicator bands will be used here as a framework for the development of the discussion points. Explanatory information is provided under the indicator headings to show how literacy and numeracy 'fit'.

1 Health

Health is directly impacted by literacy and numeracy issues, be these related to Occupational Health and Safety (OHS), capacity to read and interpret medical information (ABS 1997), workplace issues (Wyse & Casarotto 2002; Shohet 2002) or benefits to health flowing from greater participation in society. Balatti and Falk...
(2001) and Freebody & Freiberg (1997) show clearly the links between literacy and health.

2 Education and learning

Literacy and numeracy underpin all effectiveness in education and learning. In addition, there are education and learning outcomes that occur as a consequence of undertaking literacy and numeracy courses, such as when the course provides a springboard for accessing another course of some kind.

3 Employment and quality of working life

Research finds that participants in literacy and numeracy courses perceive that literacy and numeracy contributes to their employment outcomes (Falk 2001a). Literacy and numeracy gained during the provision of Vocational Education and Training (VET) is also perceived to contribute to wealth and income creation in the direct way that a change in status from unemployment to employment demonstrates (CRLRA 2000, 2001b). On-the-job and in-house VET learning, facilitated by skilled literacy and numeracy trainers has the potential to provide career enhancement (ALNARC 2002: ACT data).

4 Time and Leisure

Literacy and numeracy provision contributes to the quality and quantity of time and leisure available to people. Literacy and numeracy commonly taught in the TAFE and Adult and Community Education (ACE) sector via other courses, such as hobby or alternative lifestyle and technology courses contribute to the value (in both personal and monetary terms) of leisure. In connection with Australia's ageing population whose skills and knowledge are valued for mentoring and income-creation potential, organisations such as the University of the Third Age (U3A) form another fairly discrete and large category where literacy and numeracy underpin and contribute to impacts on the quality and quantity of time and leisure.

5 Command over goods and services

This grouping applies to the way in which people learn to manage aspects of their environment to their own benefit, particularly in terms of income and resources. There are literacy and numeracy courses, for example, that assist people to be discriminating consumers, to write letters of complaint and enquiry, and to manage their personal lives in difficult circumstances and on tight budgets (Hajaj 2002). Many English as a Second Language and first language adult literacy and numeracy courses fall into this group. Adult literacy courses are perceived to empower participants, increasing their propensity to contribute to household income.
through paid work (CRLRA 2001b) and through job enhancement (Bynner 2002).

6 Physical environment

This band incorporates ecological and other physical environment aspects to well-being. The indicators include measures of access to facilities and services.

How does literacy and numeracy contribute to the environment? Education and training courses that explicitly offer such content are one obvious example, but sound training and education in the ACE sector might contribute to this category through programs such as the Study Circles, and through self-care, safe driving and catering courses for older persons with literacy and numeracy components shows how to categories waste for re-cycling. Lowe (2002) suggests that commitment to environmental literacy will ‘lead to a better educational preparation for the complex, rapidly-changing world of the future’.

Literacy and numeracy has particular relevance to this band of social need in the ‘knowledge economy’. Access to services is increasingly dependent on ability to use Information and Communications Technology. While it has been noted that generally, there has been a strong uptake of this technology in Australia, the problem faced by many people is how to use it. ACE and Adult Literacy programs have been shown to contribute to the multiple new literacies required by people, and are particularly relevant to people living in remote and regional areas of Australia (CRLRA 2001b).

7 Social Environment

Included in this grouping are explicit literacy and numeracy courses and skills that contribute to qualities of social capital, trust-building, social cohesion, civic participation in community functions and groups, as well as the general feeling of contentment that results in a reduced drag on public resources. For individuals on the fringes of mainstream society, increased literacy levels has a direct impact on their sense of social attachment by increasing self-esteem and self confidence. Literacy and numeracy have been successfully incorporated into many VET programs that have intended social outcomes such as suicide prevention. Funding constraints in some states of Australia, dictate the need to subsume literacy into VET programs, but research suggests that VET is more effective when social needs (often directly related to literacy needs) are the primary focus of training (CRLRA 2001b).
Personal Safety

The ways literacy and numeracy might contribute to citizens’ safety in both a physical sense, and the sense in which they perceive they are safe, are a major contributor to civic and social well-being in the workplace and elsewhere. Personal safety, citizen’s rights and being armed with the appropriate forms of skills, knowledge and attitudes appropriate to the required forms of literacy, numeracy, written and spoken English language.

RECENT OECD LITERATURE ON WELL-BEING

In the period since the 1982 OECD social indicator bands were defined, there has been much discussion and research undertaken by OECD on issues relating to social well-being. What follows here are only some of the references concerning these themes particularly in relation to this book’s focus.

Human Capital

In the OECD literature the term human capital is often used. Although the concept of human capital has a long history, the expression, in OECD terms, has come to refer to the knowledge, skills, competencies and attributes embodied in individuals, which facilitate the creation of personal, social and economic well-being (OECD 1998). It includes motivation, moral behaviour and attitudes. It also includes knowledge and skill that is tacit and interpersonal in nature such as the knowledge and information shared at work between workmates. However, the inherited culture and traditions of a given society heavily influence the acquisition and use of these skills and knowledge. This seems to be an important factor in explaining why human capital formation and accumulation is quite different across cultures, both within countries, as well as across different countries OECD (2000a).

Learning and cognitive skills

An essential component of personal autonomy (eg. command over goods and services) is learning and cognitive skills. The degree of comprehension individuals have of themselves and their culture depends on the understanding which they have of the knowledge and rules of that particular culture, along with their ability to reason consistently about them. Many basic skills are common to all cultures, including language and basic motor social skills—those necessary to join in ‘constitutive activities’. The acquisition of language is widely recognised as the most crucial cognitive skill enabling individuals to impose order and understanding on their world. Indeed, the bases for the skills needed in the ‘knowledge economy’, notably communication skills, are of utmost
importance for participation in society and therefore VET (OECD 2001b).

Communication and teamwork skills are two of the most universally acknowledged competences for a modern economy (Levy & Murnane 1999). These can be interpreted at a basic practical level, where productive efficiency requires good communication among work group members. But the same message applies at other levels, where a professional community depends for its health on trust and openness of information sharing, whether this is explicit or remains tacit. Human capital can certainly be understood to encompass social as well as technical skills of individuals, but social capital—that is networks, trust and values—is what enables the skill portfolios to be built, deployed and rewarded.

Social cohesion

A further theme relating to the indicator of well-being is that of social cohesion. Social cohesion is an intermediate category that is a partial input to human well-being. It is also an outcome of human and social capabilities. Social cohesion has been described as 'a reconciliation of a system of organisation based on market forces, freedom of opportunity and enterprise, with a commitment to the values of solidarity and mutual support which ensures open access to benefit and protection for all members of society' (Ritzen 2000). Jenson (2000) outlined five essential elements to social cohesion: belonging; inclusion; participation; recognition; and legitimacy. All these elements lead to the shared values and commitment to a community and, are integral parts of social cohesion. Therefore, social cohesion can be viewed as an important input for economic growth and human well-being.

The OECD warns of the need to balance attention to economic restructuring with caution about the integrity of societal cohesion, in order to sustain that very restructuring. Social cohesion is not a condition. Rather, social cohesion is a set of social processes that help instil in individuals the sense of belonging to the same community and the feeling that they are recognised as members of that community (OECD 1997a):

... it is safe to assume that most people prefer a world where life is characterised by stability, continuity, predictability, and secure access to well-being. Societies with such attributes garner more easily the commitment and adherence that sustain societal cohesion over time (OECD 1997a, p. 7).

Social cohesion can then be defined in terms of people's values and collective identities. A sense of identity allows people to feel committed and part of the same community. A feeling of
belonging is clearly a dimension of social cohesion in this OECD (1997a) publication. A threat to social cohesion is associated with feelings of isolation and alienation from the community, a point that becomes more significant for marginalised groups in society, including those who live in rural and remote communities.

In recent years OECD research and literature added to the concepts of well-being by referring to ‘endogenous development’ (Hugonnier 1999, p. 13). Endogenous development refers to the social space in which ‘people act out their lives and is seen as building social cohesion, from the grassroots community level through participatory processes and horizontal and vertical social and economic partnerships’ (p. 11). For instance an analysis of factors influencing the growth or decline of regional economies in OECD countries (Hugonnier 1999) found that policies linking training to the local needs of enterprises, especially small- and medium-sized enterprises, were a feature of growing regional economies. The local needs of the social space in which literacy and numeracy takes place is therefore of vital importance for economic growth, not only levels of skills and knowledge of the people inhabiting that space.

Social equity and social capital

A strong theme that comes out of the OECD literature is one of social inequity and how it affects access to learning. Willms (2000) for instance argues that learning under-achievement is often due to the fact that knowledge opportunities are unevenly distributed across different socio-economic groups: the lower the educational inequalities, the better the learning performance for the country as a whole. A coherent lifelong learning strategy is therefore required, as reiterated by OECD Education Ministers at their meeting of April 2001 in the United States. Over the past two decades there has been a widening inequality in tertiary completion between the children of low and high-income groups. Targeted programmes can help break this ‘vicious circle’ of educational inequalities according to OECD literature. These programs need to take into account the importance for learning achievement of a trust-based environment and, more generally, social capital. Social networks, shared values and trust, i.e. social capital, can help realise human capital. Communities with high levels of social capital tend to achieve better learning outcomes than communities faced with social fragmentation and isolation—diminished social capital (Willms 2000; OECD 2001a).

Social capital, particularly the elements of shared values, trust and networking are often related to the success of inter-enterprise arrangements, including training (OECD 2001a). Trust-based relations facilitate cooperation and are essential to good economic performance. If individuals trust each other, and share
CHAPTER 6 RESEARCH ON LITERACY AND NUMERACY IN RELATION TO ACHIEVING SOCIO-ECONOMIC WELL-BEING

one another’s basic values, then they will be more prone to exchange information and knowledge, compared with environments characterised by secrecy, self-sufficiency and territoriality. Guiso et al. (2000) for instance argue that trust-based relations between enterprises and credit institutions in Northern Italy may lie behind a more risk-taking mentality there. In short, social capital provides the glue that facilitates co-operation, exchange and innovation.

Time and leisure

For many people it is participation in cultural transmission, and the framing and enforcement of social rules that constitutes a socially significant activity. Perhaps the best single indicator of the opportunity for such participation is the amount of ‘free time’ they have available, after satisfying personal and family needs (sleep, meals, personal hygiene, domestic work) and contracted activities (work or study). Time budgets reveal large variations in this potential for participation, according to gender, family size and occupation, in particular (OECD 1986). Many disadvantaged groups throughout the world face an unenviable choice between no work and excessive hours of work, both of which inhibit these broader forms of participation. In particular, time budget studies graphically illustrate the obstacles to broader social participation that some women, for instance, encounter as a result of their dual burden.

Education (lifelong learning): access and equity

Knowledge is the only meaningful resource today. The traditional factors of production-land, labour and capital-have not disappeared, but they have become secondary. They can be obtained and obtained easily, providing there is knowledge (Drucker 1993, p.38).

The Education Ministers of member countries of the OECD highlighted this theme when they declared: ‘Lifelong Learning will be essential for everyone as we move into the 21st century and it has to be made accessible for all’ (OECD 1996, p.21). A key further development in this evolution of the lifelong learning concept was made in October 1997 when OECD labour ministers endorsed the concept as being central to their portfolios (OECD 1997b). The lack of lifelong learning was seen as being a critical contributor to low earnings and unemployment. Lifelong learning is recognised as being a central feature of strategies designed to facilitate structural adjustment through the acquisition of new skills and to promote skilling to take advantage of new technologies.
The concept of lifelong learning as defined by the OECD (1996) is to create a society of individuals who are motivated to continue learning throughout their lives—both formally and informally. A nation of lifelong learners is a society of individuals who are motivated to learn and have the capacity to do so. OECD governments are increasingly concerned to ensure that the education and training system promotes lifelong learning. Economic changes such as the impact of globalisation and new technology underpin this new policy commitment to lifelong learning (OECD 2000b). As economic growth depends more on 'knowledge industries', individuals without the capacity for lifelong learning are at risk of becoming marginal to the labour force (Bynner 2002).

How do current literacy and numeracy policies and provision fit within the framework of social well-being?

In the area of adult literacy and numeracy in Australia, the focus of current strategic policy is clearly directed at achieving employment outcomes. Discussion presented earlier (See section 0) suggests that adult literacy and numeracy has a much wider role to play in the full range of social needs than purely to facilitate entry into the labour market. Further, the current strategic focus does little to allow people to make the transition from the ‘old economy’ to the ‘knowledge economy’ (see Figure 11).

Figure 12 describes the current strategic focus of adult literacy and numeracy within Australia, in the context of a full range of Departmental influences. For example literacy and numeracy is a major focus within the Department of Education, Science & Training (DEST), the Department of Immigration & Multicultural & Indigenous Affairs (DIMIA) and to some extent the Department of Employment & Workplace Relations (DEWR) but has little or no apparent relevance to other Government departments, shown in the diagram at the periphery of literacy and numeracy’s sphere of influence. Given the multiple intersections between literacy and numeracy and the OECD bands discussed earlier in this chapter, it can be argued that there is scope for literacy and numeracy policy to command a greater sphere of influence across a wider range of Government departments than is currently the case.
Figure 12 – Intersection of Government strategic policy in terms of Departmental influence, with strategic focus for literacy and numeracy.

If, as suggested here, the current strategic focus is inadequate for the emerging ‘knowledge economy’, what are the implications for policy areas that encompass the other six areas of the well-being described earlier in this chapter? The following chapter reviews the implications for nine policy areas that encompass a broad range of society’s stakeholders. While these policy areas may not be exhaustive the issues raised provide a starting point in the debate about the functions and uses of literacy and numeracy policy in Australia today.
So far, this book has set out the research backdrop to the practice and policy context using margin notes to summarise and raise the issues that stem from the context. Consistent with the need to show how literacy and numeracy impact on socio-economic well-being more generally, the following sections use a cross-cutting format to discuss the implications of this research for different stakeholder groups.

Youth

Research in this area is summarised most clearly by reference to Curtain (2001). Curtain’s research on the 14 year statistical trend of at-risk youth, concludes that around ‘a quarter of young people aged 18 to 24 years may be ‘at risk’ in the labour market. These results are consistent over a decade or more. They show the persistence of a sizeable group of young people who face continuing difficulties in obtaining full-time work’ (p. 1).

Implication 1: The direct implication of this point is that around one quarter of our present day’s youth are likely to become enculturated as entrenched unemployed, acting against the national interest in knowledge-based economic terms, and further encumbering the public purse with welfare benefits. Entrenched unemployment will lead to the children of that generation adopting these cultural practices and rapidly escalating the proportion of long-term unemployed.

Implication 2: The parallel implication is that Australia’s international standing as a resilient and viable economy will slip and the gap between the rich and poor will widen. Persistent poverty will rise. A radical new approach to literacy and numeracy regarding literacy, numeracy and the preparation of youth for their civic, community and employment futures is indicated.

New ‘flexible’ workforce

Three recent pieces of research sum up the background to the implications for the new and flexible workforce required of the ‘knowledge economy’. Lee and Miller (2000) found that

One of the strongest empirical regularities in the Australian labour market is the positive association between educational attainment and labour market

There must be a re-definition of the nature of what counts as ‘work’ in Australia
success. In analyses that examine the average income return to years of education, each additional year of education is associated with around eight per cent additional income. (p. 1).

CRRI & CRLRA (forthcoming) find ‘evidence of the increased demands for ‘embrained’ and ‘embodied knowledge’’ (p 79) in their detailed three-year study of the rapidly emerging ‘knowledge economy’ in NSW.

Owen and Bound (2000) find that out-sourced ‘contractors typically operate as sole operators and have limited, if any, formalised organisational structure [in] the uncertain and changing environments contractors typically work within...’ (p. 6). Owen and Bound’s study (2000) concludes that ‘the definition of communication provided within the generic competencies...does not adequately describe the communication processes used’ (p. 52).

Together with the literature overviewed earlier in this document, the research points to a different ‘brave new world’ from the glossy dreams of high tech knowledge workers. Those who ‘have’ will decrease in numbers, those who ‘have not’ will increase in numbers. The ‘have nots’ will certainly not have the skills in learning and literacy and numeracy that could equip them to be flexible and motivated new-age workers. The very term ‘have not’ demonstrates the low regard our society holds for those people who do not match the wider society’s ideas of ‘success’. Even with increasing demand for knowledge work, there will nevertheless not be enough to go around, so the question arises for those who are not knowledge-workers as to what the majority of this population will do. Job prospects in manual and service industries are good, but not sufficient.

**Implication 3:** The implication is that a re-definition of the nature of what counts as ‘work’ in Australia should be encouraged. Contributions to society occur in many forms of unpaid work—civic, leisure, family, community, volunteer organisation work, mentoring and age-related re-training among them. Encouraging lifelong learning and training for all these sectors would produce a valuable change in the meanings and measurement of productivity.
Implication 4: At present, however, the vast majority of public funds in the field of vocational education and training is directed to the existing ‘haves’—those learners already employed and who already have access to lifelong learning opportunities. This situation is in need of review.

Implication 5: Positive values about all forms of work need to be fostered. Schemes need to be put in place that shift society’s negative attitudes towards unpaid work by valuing contributions to civic, community and leisure domains of life. Literacy and numeracy programs are an ideal mechanism for these processes, as their content engages citizens in learning about civic, community, leisure and paid work processes and practices.

Poverty
Higher income generated through improving literacy skills and enhanced productivity contribute to increased collective and individual wealth and government and corporate revenues. Even a relatively small increase in national productivity through improved literacy can have a significant impact on public revenues. According to Literacy Skills for a Knowledge Society (IALS 2000), a 2 percent increase in wages and earnings from improvements in national literacy could provide approximately a 1.8 percent increase in revenue. Figure 13 shows the relationship between increasing economic inequality and literacy inequality. It shows that as literacy inequality (differential between the 9th decile and the 1st decile of literacy standards) increases so too does economic inequality (shown in the chart as the Gini coefficient). Research suggests that there is indeed a direct relationship between literacy levels and economic well-being of individuals (ABS 1997, OECD 2000b). The chart also suggests that Australia is grouped with countries of higher inequality. The obvious corollary is that a key to reducing poverty to increase adult literacy and numeracy skill levels, but the problem of lack of jobs remains (Black 2002) as a structural component of the so-called poverty trap.
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Figure 13 – Economic inequality and literacy inequality (Source OECD 2000b)

ECONOMIC INEQUALITY AND LITERACY INEQUALITY

Relationship between economic inequality (Gini coefficient) and inequality in the distribution of literacy (9th decile/1st decile) within countries, prose scale, 1994-1998

The related issue is, however, that in real terms, increased wealth is going to become restricted to fewer and fewer people. The remainder will increasingly be both more persistently poor and enculturated as ‘unemployed’.

Implication 6: Persistent poverty is strongly associated with enculturated unemployment with implications of higher national debt and loss of social cohesion, trust in political processes and structures and civic resilience. The implication is that literacy and numeracy provision with nationally appropriate curricula tailored for local needs is the most likely strategy that would address these concerns while retaining a flexible potential workforce and skill base.

Vocational education and training (VET)

The VET sector, via the Australian National Training Authority (ANTA) and (now) the Department of Education Science and Training (DEST), are responsible for the apportionment of the
majority of the public monies to adult literacy and numeracy. The research reviewed here has shown that the majority of the adult population has restricted access to the embedded literacy and numeracy skills available through work-related learning opportunities. In addition, much of the responsibility for training for the outsourced non-standard worker has shifted from the employer to the employee. No employers examined in research by Hall et al (2000) assisted with the acquisition of foundation skills. Where employers did provide training research identified a move away from accredited training and towards an increasing preference for their own customised workplace training (Smith 2000, p. 34). This has implications for the future of literacy when combined with a problem caused by the poor skill levels of many workplace instructors (Griffin et al 1998).

Other research evidence is provided by Curtain (2001): ‘New Apprenticeships are only taken up by a small minority of young people entering the full-time job market.’ (p. 12)

The 1996 ABS Aspects of literacy survey shows that people with vocational qualifications are more likely to have level 1,2 skill levels than those who completed school (see Figure 14).

Figure 14 – Skill levels by qualifications (SAL 1996)
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In view of this evidence, the following implication arises.

Implication 7: Policy and funding strategies do not align with the anticipated ‘new basics’ required of the changing society and its economy (see 0 above). Existing public funds go primarily to those who already have paid jobs and/or are already accessing training and other lifelong learning opportunities. The only means of addressing the nature of work and the needs of the future economy are for VET policy to be reviewed so as to incorporate VET’s many stakeholders and areas of impact (including communities, natural resource management, providers and those not in the labour force). Then more equitable resourcing strategies can be implemented, with the double-edged benefit that this will achieve a more cohesive and productive socio-economy overall.

Rural Australians

Regarding the IALS (ABS 1997) survey, Norton (1997) reports that the proportion of Level 1 and 2 people was higher outside the Australian capital cities than in the capital cities (p. 9). Wyn et al (2001) demonstrated the disparity between rural and non-rural Australians in terms of attendance at educational institutions, age left school and qualifications. On all measures, using ABS statistics, rural Australians are disadvantaged compared to those living in non-rural areas. Considering the IALS survey explicitly excluded ‘those living in remote and sparsely settled areas’ (Lee & Miller 2000, p. 5), this finding is even more significant, with direct implications for policy and funding based on a differential model, rather than a ‘one-cap-fits-all’ approach.

Implication 8: Rural Australians need literacy and numeracy skills that meet their needs. These opportunities are currently very thin on the ground due to the phenomenon of ‘thin markets’. Rural Australians need lifelong learning opportunities that are tailored to meet these local social and economic development needs. This would necessarily include integrated provision of paid and unpaid work, entrepreneurial social infrastructure development and face-to-face contact in conjunction with electronic learning access.

Health

Balatti and Falk (2001) find that the benefits of adult literacy community-based programs ‘go well beyond cost savings from reduced demand on health services’ (p. 13) and include the ‘[e]conomic and social contributions from more learned
employees and citizens engaging in family and social life, in paid labour, volunteer work, (re-)development of trust in society and civic participation can also flow from effective adult learning' (p. 13).

**Implication 9:** Along with vocational education and training, health is a good example of a sector that has ‘walls around it’. The policy and strategy silo effect is prominent in these areas. Health is also a critical area for literacy and numeracy: it is no accident that sample items from literacy and numeracy international and national tests always include health tasks such as aspirin packet directions. Evidence from research suggests that where literacy and numeracy programs are applied in the context of health needs, standards of health will improve. A whole-of-government approach to literacy and numeracy would assist overcome the problems occasioned by policy silos, and locally-based cross-sectoral agencies would act as the knowledge and resourcing brokers at the local level.

**Communities**

In a study of a regional populated centre in Queensland, Castleton and McDonald (2000) found that locally led and managed literacy programs, based in the community sector, appear to have the best attendance of clients and the overall endorsement of the community. However their funding is almost impossibly low and the programs run because of the enormous good will and commitment of significant key training and management personnel. The potential of these programs suffered though because it does not appear that key personnel are being replaced as the natural attrition of time and the ability to continue unpaid effort takes its toll. Furthermore their pedagogical practices are not well documented unless by an “inspired amateur in the field”, so much valuable community teaching experience has constantly to be ‘reinvented’ with changing personnel, which leads to a further negative impact on the overall success of the programs.

The prospect of successful literacy practice and use can be further enhanced by a systematic program to augment the skills of ‘trusted brokers’. It is anticipated that this would comprise just enough "institutional" literacy skills to enable their critical appraisal and fulfilment of the literacy requirements of bureaucratic tasks and procedures.

Locally led and managed literacy programs are well supported by local communities... 

...but suffer through lack of funding and loss of key personnel with time,...

...which results in teaching experience that is constantly being reinvented
Implication 10: Lifelong learning is as much about building community capacity and skills for daily living as it is about securing a job, even with higher literacy skills gained by participants. Thus at a policy level, it could be argued that there should be an integrated approach at all levels to the whole client group and the whole community including its service providers rather than an ad hoc managerial approach to the different elements which constitute disadvantage. Government funding programs need to reflect this integration and planning for social and physical infrastructure must coexist as part of this inclusive approach.

Implication 11: Literacy and numeracy programs and materials need to be reflective of hands-on community participation and community capacity building over an individual and/or the community’s life time, rather than a simple issue of access, predominantly centred on the single measurable outcome of a job for the low skilled client. Community literacy brokers who have a position of ‘natural’ leadership within their communities should be actively assisted to maintain the currency and accuracy of the skills and knowledge which they impart to other less skilled community individuals. Human service clients who lack the necessary critical skills to reflectively assess everyday literacy tasks should be assisted to develop skills that enable them to access relevant information from literacy brokers in their communities.

Balatti and Falk (2001) found that:

(a) “The main groups of resources that impinge on the efficiency, effectiveness, fitness for purpose and accountability of a project are the mix of four infrastructural facilitators.... and these four sets of resources are the human resources, the physical resources, the system (or systemic) resources of the VET sector and the social resources.” (p. 7)

(b) “local knowledge .... is best afforded by the right kind of regional [government department] officers. The requirement here is for a knowledge of local community organisations, clubs, associations, individuals and dynamics. The analysis of the data provides an unequivocal guidance on this point, in that there must be a locally-based person with excellent community links and networks, and excellent interpersonal skills with the community members” (p. 7)
Implication 12: The meaning of the terms ‘knowledge society’ or ‘knowledge economy’ needs to be expanded to include the vital knowledge required to facilitate outcomes of adult learning programs including literacy and numeracy programs at local levels. On a broader level, the new definition would be much more inclusive of the presently and potentially excluded members of society.

CRLRA (2000, 2001a & 2001b) in a longitudinal study of the role of VET in regional Australia, found that community ownership was an important factor that contributed to the effectiveness of training programs. High levels of social trust underpinned community ownership and enabled sharing of information and resources, which in turn enabled organisations to access funding for targeted programs. Community groups, and in some cases whole communities, were often the drivers behind programs that were designed to facilitate positive changes at a social and economic level. Effectiveness was maximised when training providers and other stakeholders within the community collaborated together and formed partnerships with organisations outside the community. In terms of literacy and numeracy programs the outcomes were typically broader than those that were targeted to meet vocational needs. Apart from economic benefits achieved through better employment prospects, other outcomes included improved integration in families and communities, greater effectiveness within community groups, increased self-confidence and self-esteem. In these scenarios literacy and numeracy training was perceived to be a tool for community development.

Implication 13: Not only is effectiveness of literacy and numeracy programs enhanced with community involvement but the results have a wider social impact than where training focuses on employment or vocational outcomes. For these benefits to accrue to communities, funding allocations need to favour community based partnerships where objectives are not limited to vocational outcomes.

Civil society and citizenship

A strong civil society does not happen by accident. Literacy and numeracy skills acquired formally are a fundamental plank in a cohesive society, for more reasons than simply the educational outcomes. This has been touched on in the previous section that dealt with the kinds of ‘knowledge’ that help produce a strong community base—knowledge of networks, local values and trust.

A number of highly regarded economists also argue that a strong community base and civic structure is a prerequisite for a strong economy. Rifkin (1999) finds that:
Although some neo-liberals and neo-conservatives and most libertarians continue to believe that healthy economies create vibrant communities, in fact, the reverse is more often the case. A strong community is a prerequisite for creating a healthy economy because it alone produces social trust. (Rifkin 1999, p. 5)

Placing a greater value on knowledges in addition to those valued by the corporate sector pays dividends for all. Research by the OECD on endogenous (local) policy strategies showed that inclusive planning processes and partnerships produce successful outcomes while exogenous strategies are less likely to (e.g. Hugonnier 1999, Shucksmith 2000). Longitudinal research on the community and civic dynamics that produce enhanced education and training outcomes (including literacy and numeracy) has established the better success rates of interventions in communities where social capital is resourced in readiness for the intervention (CRLRA 2000; CRLRA 2001a).

Implication 14: The implication for literacy and numeracy of the research on collaboration and partnerships in relation to civil society is that provision and policy need to provide an integrated local response to regional and community needs. The essential by-products of this approach are (a) in the short term, greater cost-effectiveness for government through sharing knowledge and resources, and (b) in the longer term, a stronger civil society with higher levels of social capital.

Crime

International research around crime prevention cite the need for quality education programs in the community as well as within prisons to minimise recidivism and positively effect inmate behaviour (Open Society Institute 1997). They suggest that a large proportion of individuals in the criminal justice system come from low income, urban communities where educational environments are run down. This research notes the high unemployment and low educational performance levels of prisoners before entering correctional institutions.

Canadian researchers indicate that literacy and educational levels generally are a continuing concern across the entire criminal and juvenile justice systems, jurors, witnesses, victims, accused and convicted (Nova Scotia Provincial Literacy Coalition, nd) with less than 25% of Canadians able to read legal documents. The Rand Corporation in California recently identified that crime prevention is more cost effective than building prisons and that of all the crime prevention methods, education is the most cost-effective.
While Canadian research indicates that on average, offenders have significantly lower literacy skills than the general population, Black et al (1990 cited in Kerka, 1995) in Australia indicates that the inmates he interviewed did better on some literacy items than their counterparts in the general population. In the UK, crime prevention and improving recidivism rates have been addressed through a strategic approach indicating that the government has included prisons in its drive for widening participation and improving the levels of basic skills. The goal for the policy was to have learning schemes included in the sentencing plans of 90% of prisoners by 2001 (The National Literacy Trust 2000). Kerka (p 4) in supporting the importance of literacy programs in prisons suggests that programs based on current thinking about literacy and sound adult education practices can be effective. They are learner centred, recognising different learning styles, cultural backgrounds and multiple literacies. They are participatory instead of deficit in perspective using learner strengths to help them shape their own learning. Literacy should be put into meaningful contexts that address learner needs. She suggests that family literacy programs enable inmates to view themselves in and be seen in roles other than that of prisoners.

On the other hand, a number of participants in research of prisons take a critical perspective and seek to interrogate and interrupt the current discourses around literacy in prisons and crime prevention. They suggest that many discourses are involved in constructing prison cultures including inmates, guards, extended families, social workers, educators, custodial and janitorial workers and so on. The research here suggests that literacy in the form of journal, essay, fiction, performance pieces, graphic / comic strip, graffiti and song is a more productive form of ‘literacy’ than ‘basic skills’. The research suggests that literacy is mediated through many discourses; roles of the state, nation, metropolis, zone, culture work (including pan-national culture work e.g. pan-African, pan-Asian, Indigenous peoples) the roles of gender, race, class, sex preference, body, disability, identity, identification, institutional support, institutional debilitation, literacy narratives in the contexts of individual, local, regional, national, international, translational, global struggles, affiliations, antagonisms, lines of force, resemblances and reciprocities (Waldrep, 2001).

While this research indicates the relationship between crime and education, with the exception of Waldrep, the researchers have not linked these features in any explicit way to their rapidly globalising economies. It is recognised that the ‘knowledge economy’ makes even higher literacy demands of people than the industrial economy but there is no research which relates growing
prison populations with the unequal distribution of benefits of globalisation in particular regions and among groups in society. Globalisation also has the capacity to further erode the educational provision for those populations from which the criminal justice system derives its population; inmates and workers in the system alike.

Implication 15: The implication for literacy and numeracy of the research on crime prevention is that the provision and policy needs to make learning schemes explicit to all agreements between the criminal justice system and offenders. The schemes should integrate the 'new basics' through learner centred activity so that on release prisoners can engage in the rapidly emerging knowledge and globalised economy.

Two outstanding sections remain largely unaddressed by this book—the question of English as a Second Language (ESL), and the question of Indigenous Australians and the kinds of literacies and numeracies (and policies about them) that serve the needs of these groups.

In the case of ESL, this area is a full research field in its own right and no attempt is made to pay lip-services to it by including a section.

In the case of Indigenous Australian literacy and numeracy, there is a set of research in bilingualism and cross-cultural education and learning, as well as research of a critical social theoretical nature that is useful. What is lacking, however, is research on this subject by and for Indigenous peoples and this book recommends this research be conducted urgently.
In recapitulating the discussion in this book that make connection between literacy and numeracy, and the broad socio-economy, the words of Rifkin (1999) are relevant. Rifkin talks about the future of work. He claims that:

With near workerless factories and virtual companies already looming on the horizon, every nation will have to grapple with the question of what to do with the millions of people whose labor is needed less, or not at all, in an ever more automated global economy. (p. 2)

The signs for the future of work are already on the wall: the decline in consumer purchasing power, the rise of the ‘portfolio worker’ (the out-sourced self-employed contractor) and the dramatic increase in numbers of the working poor—those who must hold down more than one job but still only manage to keep on the poverty line. For the latter group, in terms of income, unemployment is blurred with under-employment and multiple employment, in the sense that many people must work more than one job just to earn the same as the unemployment benefit. For what is anticipated to be the majority of people in our society who now (and will increasingly in the future) fall into this group of unemployed, underemployed or working poor, what are the consequences for literacy and numeracy? And where does this leave the present notion of ‘workplace literacy and numeracy’?

While it is recognised that IALS and SAL go only part of the way to understanding the literacy and numeracy issues that our society faces, the surveys do provided potent evidence of the perceived literacy and numeracy ‘short-comings’ of our society. The pace of change experienced by all people in this country since the 1996 Survey only adds to the probability that literacy and numeracy performance does not match the socio-economic needs for literacy and numeracy in contemporary society. At the very least, indicators of these changed requirements for the whole population now include (a) a range of Information Technology skills, (b) skills for processing multiple media, (c) skills for enabling engagement in new civic and governance patterns, and (d) skills for evaluating and manipulating multiple sources and types of information and knowledge. These ‘new’ literacies and numeracies are not discrete groups of skills but are integrated during the execution of a particular social practice. ‘New’ literacies and numeracies impact not only those in a wide range of industries and occupations, but also those engaged in activities.
related to non— and un-employment, voluntary work and those who engage in a range of leisure activities—the latter a crucial emerging area of concern for our ageing society, where health, welfare costs and civic engagement issues will tax government and social resources in the near future.

The rise of the ‘knowledge economy’ is widely accepted but it is evident that under current policy settings not all can participate in its benefits. One of the reasons for this is that people working in the ‘old economy’ do not have sufficient—or the right kinds of—literacy and numeracy skills to enable them to take advantage of opportunities for them that may arise in the so-called ‘highly’ skilled jobs that are growing in the ‘knowledge economy’.

Several barriers exist to prevent people in the latter category from making the transition. People working in the ‘old economy’ are characterised by their low incomes and low literacy and numeracy levels. Because there are insufficient publicly funded literacy and numeracy programs of the right qualities to assist people who want to make the transition, it is highly likely that these people will continue to be excluded from opportunities that are becoming increasingly available in the ‘knowledge economy’. In particular Australians over the age of 24 without higher educational qualifications and those employed in manufacturing, agriculture and construction industries will miss out.

In addition, the whole idea of the current popularly accepted meaning of the ‘knowledge economy’ is problematic if the whole of society, and not just a minority, is to be considered. There is an extraordinary amount of hype in the media and elsewhere regarding the word ‘knowledge’. In the present climate of ever more exciting and gigantic leaps in the speed of technological developments, it is easy to lose sight of some basic questions: Whose ‘knowledge’ is it that is the subject of the hype? Whose knowledge is valued? The answer, of course, is that this is the knowledge of the very, very few. It is the knowledge that is perceived to create greater and greater levels of corporate productivity. This kind of knowledge has been co-opted almost solely by big business.

The 53% of businesses in Australia that are small businesses rarely are touched by this kind of ‘knowledge’. Neither does this knowledge hold much meaning for those who do not hold it.

So the meaning of the terms ‘knowledge society’ or ‘knowledge economy’ needs to be expanded to include the vital knowledge required for people who engage in and operate effectively in society whatever their employment status. This in turn will facilitate desired outcomes of literacy and numeracy programs at local levels. On a broader level, the new and inclusive definition of ‘knowledge’ would encourage the civic and social participation
of the presently and potentially excluded members of society. Participation produces cost-effective outcomes in all eight of the OECD impact areas, especially health, education, training and community-based work.

This book has set forth the facts as gathered from a cross-disciplinary range of research, and has drawn the major implications available from that data. The purpose is to establish practical and cost-effective suggestions for future directions in strategies and policy. It is in the spirit of positiveness and future socio-economic sustainability that the issue of funding is raised. Funding is always contentious and always an issue. Nowhere is this more evident than in the poorly resourced area of adult literacy and numeracy provision. The combined funding for existing adult literacy programs such as WELL and LLANT provided by DEST (previously DETYA) have been cut significantly over recent years and forward projections provided in budget estimates suggest that there is no intention by the current federal government to restore funding to previous levels.

Exacerbating the funding dilemma is the lack of transparency and comparability available at state levels to show exactly where money is being spent by public and private providers. It is clear that higher standards of financial reporting are required to ensure that funds intended for adult literacy and numeracy programs are spent as they should be.

Where funding is available through traineeships and apprenticeships, the assumptions of a built-in approach to adult literacy and numeracy are perhaps sound in terms of the principles of literacy and numeracy learning involved. However, in terms of those who are able to access these forms of knowledge, they are questionable at best and potentially fundamentally flawed. Neither are they a sound provision for those whose literacy and numeracy 'levels' are most at risk. Research shows that the demands of literacy and numeracy extend well beyond the workplace into all avenues of daily life.

In some states and territories (notably Northern Territory) funding for ACE, through which much of literacy and numeracy funding is channelled, is largely limited to workplace or employment outcomes. A large group of people outside of the VET system is therefore going to miss out on literacy and numeracy training. By restricting literacies and numeracies to a narrow range of enterprise specific workplace skills, it is likely that trainees and apprentices are unable to take full advantage of emerging opportunities as they arise in the 'knowledge economy'. There is considerable doubt about the educational quality of traineeships and new apprenticeships (Schofield & Associates 1999a, 1999b, 2000; CRLRA 2001; Smith 2000), which raises further questions.
about the validity of the assumptions of the built-in approach to literacy and numeracy. This is not to say that the efforts of literacy and numeracy trainers are not worthwhile, but it does suggest that the current policy focus with regard to literacy and numeracy in VET is perhaps too narrow.

While the initial results of the ‘Literacy for all’ strategy appear to be positive, even if these results do have the potential to translate into better jobs and educational outcomes it will be several years before the impact will be felt in the workplace. Literacy demands of the ‘knowledge economy’ extend well beyond the so-called three R’s. They are situated and continually learned over a period of time. In addition, the results of PISA suggest that literacy outcomes of senior secondary students are influenced more by socio-economic and family backgrounds than by the intervention of schools.

From these research-based contextual factors, we conclude the book with the two most significant and unaddressed questions that remain for policy, practice and research to consider. The first is:

For what is anticipated to be the increasing number of people in our society who will fall into the group of unemployed, underemployed or working poor, what practical strategies can be implemented to enhance literacy and numeracy for the required range of socio-economic activities?

One answer poses more questions, and it is that literacy and numeracy and literacy and numeracy education will become more important, not less. So will the nature of their educational provision. There are clear resourcing and program implications here. The lines between literacies and numeracies for life, community, civic, work and public purposes will become more blurred, and multiple literacies and numeracies for different purposes in different situations will become a more meaningful concept as people confront the necessity to use different literacies and numeracies in different cross-cutting situations. The chief consequence is, however, for a view of literacy and numeracy as being inclusive of—mutually embedded in—the so-called ‘soft skills’. Developing self-confidence, communication skills, trust and social capital will be essential—not optional—skills in the ‘work’ of the future. This consequence presents considerable challenges for professional development and challenges for practitioners and policy-makers alike. It also challenges researchers who have tended until recently to focus primarily on valuing one kind of knowledge over another in their research, or assuming the whole of societal well-being can be
analysed and evaluated in terms of only one of its functioning strands—economic targets.

It could be argued that the current strategic direction of literacy and numeracy policy cannot be sustained as a model for an holistic approach. Nor can it be sustained in terms of the requirements for evidentiary policy and accountability in the social setting of Australia in the 21st Century. It is apparent that there is growing recognition of the need for wider accountability to encompass a range of community needs and social and well as economic well-being issues.

The underlying principle to inform the considerable and collaborative re-planning and re-strategising of national and state literacy and numeracy policy and practice, is this:

'Learning literacy and numeracy' is as much about 'learning changed and new identities' as it is about 'learning skills'.

The learning of new aspects of personal and social identities so that the entrenched culture of, for example, the persistent poor and the long-term unemployed can be addressed through re-learning, requires self-esteem and self-efficacy. These attributes occur as literacy and numeracy skills are learned. Without both human capital (skills) and social capital (self-efficacy through identity change), new learning is neither sustainable nor transferable. The 'work' of the future must become one where social as well as human capital is valued as contributing to society, whether nominally 'paid' or 'unpaid', working 'for the dole' or doing volunteer community work. Our notion of the term 'work' must shift to remove the blame attached to the compulsorily un- and underemployed.

The second question to answer is this:

Where does this leave the existing notion of 'workplace literacy and numeracy'?

With work becoming the mandate of the 'portfolio worker', workplace literacy and numeracy as we presently know it will remain the same in some (fewer) cases, but will assume new meanings. It will be 'literacy and numeracy for multiple workplaces' rather than 'literacy and numeracy within one workplace'. There will be paid workers who will spend most of their working lives on one workplace being satisfied with their lot, but they will slip into the minority, while those working across many workplaces will multiply.

Workplace literacy and numeracy will also become literacy and numeracy for the newly re-defined 'work'. It will include literacy
and numeracy for those engaged in civic, volunteer, family, health, legal, environmental and leisure work. It is, after all, inevitable that the principles of socio-political ecology (Bates 1997) will prevail. The research described in this book indicates that deliberate, integrated and collaborative policy, practice and research will serve all the stakeholders' best interests in the pursuit of a broad range of socio-economic activities.

Cross-cutting consequences for literacy and numeracy and literacy and numeracy education and training lie therefore in expanding our awareness of the complexity of education and training for multiple literacies and numeracies in multiple workplaces. The consequences in this case lie no less in recognising, and educating for, social as well as human capital.

It is for these reasons that the expanded OECD framework of eight indicator bands provides a ready-reckoner for gauging more accurately the impacts that literacy and numeracy have on socio-economic well-being of Australia and Australians. Table 4 gives some indication of the policy portfolio that correlates with the relevant OECD indicator band, and to which portfolio the related provision of literacy and numeracy programs for that area belongs.
Appropriate (not only basic, not only adequate, not only functional) literacy and numeracy skills are fundamental to human well-being in all these policy areas of government shown above. However, policy jurisdiction for adult literacy and numeracy is held by only two government departments (Department of Education, Science and Training and Department of Immigration and Multicultural and Indigenous Affairs).

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Table 4 – OECD indicator bands and policy area correlates

<table>
<thead>
<tr>
<th>OECD Indicator Band</th>
<th>Policy area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>Department of Health and Ageing</td>
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<tr>
<td></td>
<td>Department of Veterans’ Affairs</td>
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<tr>
<td>Education and learning</td>
<td>Department of Education, Science and Training</td>
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<tr>
<td></td>
<td>Department of Immigration and Multicultural and Indigenous Affairs</td>
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<tr>
<td>Employment &amp; quality of working life</td>
<td>Department of Employment and Workplace Relations</td>
</tr>
<tr>
<td></td>
<td>Department of Education, Science and Training</td>
</tr>
<tr>
<td></td>
<td>Department of Industry, Tourism and Resources</td>
</tr>
<tr>
<td></td>
<td>Department of Employment Services</td>
</tr>
<tr>
<td>Time and Leisure</td>
<td>Department of Health and Ageing</td>
</tr>
<tr>
<td></td>
<td>Department for Communications and Information Technology (including Department for Arts and Sport)</td>
</tr>
<tr>
<td>Command over goods and services</td>
<td>Attorney-General</td>
</tr>
<tr>
<td></td>
<td>Department of Finance and Administration</td>
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<tr>
<td></td>
<td>Department of Trade</td>
</tr>
<tr>
<td></td>
<td>Department for Transport and Regional Services</td>
</tr>
<tr>
<td>Physical environment</td>
<td>Department of Environment and heritage</td>
</tr>
<tr>
<td></td>
<td>Department of Agriculture, Fisheries and Forestry</td>
</tr>
<tr>
<td></td>
<td>Department of Industry, Tourism and Resources</td>
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<tr>
<td></td>
<td>Department for Transport and Regional Services</td>
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<tr>
<td>Social Environment</td>
<td>Department of Health and Ageing</td>
</tr>
<tr>
<td></td>
<td>Department of Veterans’ Affairs</td>
</tr>
<tr>
<td></td>
<td>Department of Family and Community Services (including Department of Children and Youth Affairs)</td>
</tr>
<tr>
<td></td>
<td>Department of Employment Services</td>
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<tr>
<td></td>
<td>Department of Foreign Affairs</td>
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<tr>
<td></td>
<td>Department for Immigration and Multicultural Affairs and Indigenous Affairs</td>
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<td></td>
<td>Department for Citizenship and Multicultural Affairs</td>
</tr>
<tr>
<td></td>
<td>Minister Assisting the Prime Minister for Reconciliation</td>
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<tr>
<td>Personal Safety</td>
<td>Department of Employment and Workplace Relations</td>
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<tr>
<td></td>
<td>Department for Defence</td>
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<tr>
<td></td>
<td>Attorney-General</td>
</tr>
</tbody>
</table>

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The eight indicator bands can be used to show the significant impacts of literacy and numeracy acquisition in the full range of policy areas, as well as provide an evaluation mechanism for the success of program outputs and outcomes. The preliminary evaluative scan shown in Table 4 indicates the present restricted platform from which Australia's literacy and numeracy effort is conducted. Table 4 does however remind us that literacy and numeracy are vital for effective socio-economic impacts across all eight OECD areas, and that policy is not presently as holistic as it might be. The mismatch between contexts of use and policy portfolio indicates the likelihood that a whole-of-government approach to the problem would produce more significant socio-economic outcomes for individuals and the state. Without a coordinated cross-government approach such as is occurring in the UK for lifelong learning, literacy and numeracy, the issue will remain unaddressed, and the literacy and numeracy 'problem' will remain.

It is essential for Australia's future well-being that there is a healthy, enlightened and civically engaged population. Lifelong learning is not only about providing a range of formal educational opportunities. It is also about the nonformal and informal learning that comprises 80% of adults' learning (Tough 1999). These informal learnings must be deliberate, not left to chance. They include learning to be healthy and sustain healthy lifestyles, learning to wear many hats (identities), learning how to engage in productive leisure activities that contribute to society, learning how to sustain our personal, family and physical environments so as to be (as far as possible) self-sufficient in terms of government assistance, and learning to engage with and trust our civic, social and political processes and institutions.
REFERENCES


ABS 1999c, Special Article - The information society and the information economy in Australia (Year Book Australia, 1999) Cat: 1301.01, ABS, Canberra.


ACAL 2001, Draft document provided to researchers.


ANTA (Australian National Training Authority) 1998, *Bridge to the future,* ANTA, Brisbane.


ANTA 2000, *Built in not bolted on.*


REFERENCES

CRLRA 2000, Managing change through VET: The role of vocational education and training in regional Australia, Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

CRLRA 2001a, Building Dynamic Learning Communities: Ten Regional Case Studies. Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

CRLRA, 2001b, Building Dynamic Communities - Volume 1. ANTA. Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.


Doyle, L., Kerr E. & Kurth, B. 2000, Knowledge work - the rise of the office economy. ANTA, Brisbane.


Freire, P. 1985, The politics of education: Culture, power, and liberation. Bergin and Garvey, South Hadley, MA.


Hugonnier, B. 1999, ‘Regional development tendencies in OECD countries,’ Keynote presentation to *Regional Australia Summit,* 27-29 October, Parliament House, Canberra, Department of Transport and Regional Services, Canberra.


http://www.nald.ca/nls/ials/ialsreps/ialsrpt2/ials2/Hig hE.pdf


Kelly, A. & Searle, J. 2000, Literacy and numeracy on the motorway: A case study of the effects of the inclusion of literacy and numeracy competencies within the civil construction industry training package, Language Australia, Melbourne.

Kenyon, P. 1999, Don’t wait for the cavalry: It’s ‘do it yourself’ time, Keynote address to Regional Australia Summit, Parliament House, Canberra, 27-29 October.

Kerka, S. 1995, Prison Literacy Programs. Educational Resources Information Center Digest No. 159


REFERENCES


REFERENCES


http://www.oecd.org/pdf/M00002000/M00002091.pdf

The National Literacy Trust 2000, *Literacy and prisoners*. 
http://www.literacytrust.org.uk/campaign/prisons.html


Does adult literacy and numeracy have an impact on the social and economic well-being of our society? If so, how? What are the implications for our future?

In times when the policy agenda of Western nations seems determined to account for outcomes (in this case of literacy and numeracy policy initiatives) via rhetoric about their ‘impact’ on society, it seems important to clarify what might be meant by ‘impact’—and indeed what it might mean to describe literacy and numeracy’s many possible impacts—on socio-economic well-being.

*Literacy and numeracy for the new world of unemployment* grew from the need for a synthesised body of research about the impact of the literacy and numeracy of adults on contemporary society. There is no single source of research that collates the multi-disciplinary and multi-sectoral research about adult literacy and numeracy in a way that shows how it might relate to the well-being of nations.

The book represents a beginning attempt to bring together research that might help throw light on these concepts and relationships. What remains for future work is to fill in some of the gaps in our knowledge that this book exposes.