

Adult literacy and numeracy:
Research and future strategy

Kate Perkins
Kulu Pty Ltd





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The views and opinions expressed in this document are those of the author/project team and do not necessarily reflect the views of the Australian Government, state and territory governments or NCVER

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About the research



Adult literacy and numeracy: Research and future strategy by Kate Perkins, Kulu Pty Ltd

From 2002 to 2006 the Australian Government funded the Adult Literacy Research Program (ALRP), which was managed by the National Centre for Vocational Education Research (NCVER). The NCVER commissioned two projects to reflect on the research undertaken through the program. The first, the Adult Literacy Resource, brings together the key messages in a 'wiki' for practitioners (<http://www.adultliteracyresource.edu.au>). The wiki is designed to get adult language, literacy and numeracy practitioners thinking about how they can apply the key messages from the research in their work.

As a companion piece to the Adult Literacy Resource, this report by Kate Perkins highlights how the research contributed to the adult language, literacy and numeracy sector through its primary focus on the needs of practitioners and individuals. The report draws attention to the gaps in the body of knowledge of literacy and numeracy issues. The place of literacy and numeracy within the current policy focus on social inclusion and skills reform is also highlighted.

Key messages

- A clearly articulated policy framework is needed to provide a vision for adult literacy and numeracy skills development for the future.
- Although there are a number of successful adult literacy and numeracy skills development programs in place, as well as a wealth of information to draw on, a lack of strategic planning has led to a fragmented approach and inconsistencies in the development and delivery of programs.
- Strategies are needed to raise awareness among key decision-makers to ensure that adult literacy and numeracy is seen as a mainstream concern and not merely an issue for a minority of people. This may entail the adoption of simpler concepts and terminology, and a move from talking about literacy and numeracy to discussing core or foundation skills.

Tom Karmel
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Executive summary

Literacy and numeracy are inextricably interwoven through all parts of our lives. They are directly or indirectly linked to the physical, social and economic wellbeing of individuals, to workplace safety and productivity, to community interaction and capacity, and ultimately to a country's economic and social wellbeing. The 2006 Adult Literacy and Life Skills (ALLS) survey conducted by the Australian Bureau of Statistics (ABS) identified that a significant proportion of the adult population in Australia was unable to demonstrate the minimum levels of literacy and/or numeracy required 'to meet the complex demands of everyday life and work in the emerging knowledge-based economy' (ABS 2007, p.8). This constitutes a challenge for Australian federal, state and territory governments that are focusing their attention on two interrelated areas seen to be of critical importance to Australia's future, namely, the requirement for extensive upskilling of the workforce and the need to address social exclusion. In both areas, literacy and numeracy skills play a key role.

Research into adult literacy and numeracy provides evidence to inform decision-making about areas of specific need, critical issues and possible forms of action that could be taken. Much of the research undertaken in Australia over the past five years has been commissioned by the National Centre for Vocational Education Research (NCVER) through the Adult Literacy Research Program (ALRP). This paper reviews the findings of these studies, in conjunction with other Australian and international research, to identify key strategic issues relevant to adult literacy and numeracy development in Australia, and areas where further knowledge could inform decision-making and practice.

Key findings

While some Australians are able to live fulfilling lives without well-developed literacy and numeracy skills, research shows a correlation between low levels of literacy and numeracy and social isolation, unemployment, lack of qualifications, low wages and poor health. Studies also show that effective interventions can have positive outcomes for individuals, communities and organisations and, consequently, for a country's social and economic wellbeing.

Unlike countries that have responded to such research with large-scale programs to address the issues, Australia has had no unifying vision, strategic framework or major investment in adult literacy and numeracy for many years. Existing programs have reflected a perception that adult literacy and numeracy is an issue for a minority of people on the margins of society, not a mainstream issue. There are some indications that this perception is starting to change, as the impact of low literacy and numeracy skills on skills acquisition becomes increasingly apparent. However, discourse amongst those in the literacy and numeracy field about what constitutes literacy and numeracy has in the past acted as a barrier to the engagement of policy-makers, industry and community members. We may need to develop new ways of thinking and talking about 'literacy' and 'numeracy' if we are to bridge the divide.

Although studies show that current approaches to adult literacy and numeracy provision have positive outcomes for many participants who are unemployed, existing programs only reach a small percentage of those in these areas who could benefit from assistance and they are not designed to

cater for the four million members of the Australian workforce who have low literacy and numeracy skills (ABS 2007).

The review of research, including the work of the Adult Literacy Research Program, highlights critical issues which need to be taken into account in designing future action to achieve social inclusion, increased workplace skills and improved productivity. These include:

- ✧ the diminishing availability of people with specialist skills in language, literacy and numeracy, as ageing practitioners reach retirement age; the lack of newcomers to a profession that is highly casualised, lowly paid and lacking in professional development; the lack of formal courses for those who do wish to work in the field; and the likely need for a broader skills set for future adult literacy workers
- ✧ the evidence showing that adult literacy and numeracy should be taught by skilled specialists, and that effective training is likely to involve regular contact and be of more than 100 hours' duration
- ✧ features such as funding mechanisms that work against secure employment, continuity and the potential for innovation in regard to the language, literacy and numeracy workforce
- ✧ the emerging evidence that integrated approaches may produce better outcomes than stand-alone literacy and numeracy training, in terms of vocational and literacy and numeracy skills development, retention rates and learner satisfaction
- ✧ international research on integration approaches that raises questions about the efficacy of one trainer being responsible for both the vocational and literacy-related aspects
- ✧ the preference of many learners from diverse backgrounds for some form of integrated training, as opposed to dedicated literacy and numeracy classes.

Looking to the future

Australia can learn from other countries which have already defined adult literacy skills as an issue requiring concerted attention. There is a need for a unifying vision in Australia, but does it have to be for literacy and numeracy per se? It may be more efficacious to focus on lifelong literacy and numeracy within a broader vision of Australia's future. This approach could also be reflected in the design of structures and systems across a broad base of stakeholders, so that literacy and numeracy development becomes a recognised, and essential, aspect of lifelong learning.

In looking to the future, the review of research points to the need for:

- ✧ a revitalised policy framework which supports adult literacy and numeracy development as part of broader social and economic strategies and incorporates a strategic research program and a systematic approach to ensuring that we learn from, and build on, what we do
- ✧ a closer evaluation of the content and approach of stand-alone literacy and numeracy programs to ensure that they maintain their current strengths and meet participants' needs and expectations
- ✧ an increased understanding of integrated approaches to adult literacy and numeracy learning in vocational institutions, workplace and community settings
- ✧ the development of wide-ranging strategies to facilitate literacy skills development in the workplace, drawing on lessons from the Workplace Language and Literacy (WELL) Program, but not necessarily operating within it.

In the short term, with most members of the current language, literacy and numeracy practitioner workforce approaching retirement, there is a pressing need to find innovative ways of sourcing and training a 'new breed' of literacy and numeracy trainers with the specialised skills to deal with the complexity of contemporary literacy and numeracy teaching. Although it would be unreasonable to expect individual practitioners to develop the range of skills and knowledge required to operate in

any setting, the workforce as a whole will need members with the skill sets to operate in literacy and numeracy ‘classrooms’ within workplaces and in a variety of other integrated settings. If the focus on integrated training increases, this will also challenge current notions about training program efficiency, with funding arrangements necessarily allowing for the employment of teams of trainers.

A clearly articulated policy framework aligned with the shared vision will provide the scaffolding for action and also for the identification of critical questions that need to be further explored through a strategically focused and coordinated research program.

Reflection on the Adult Literacy Research Program research and other work indicates that strategies best placed to leverage change could include:

- ✧ a collaborative effort to ensure a high profile for literacy and numeracy for all age groups in the emerging vision of Australia in 2020 and in key policies and strategies designed to achieve it
- ✧ the development of a new national policy framework to focus and support adult literacy and numeracy strategies as an integral part of broader social and economic strategies, and reflected in government organisational structures
- ✧ the development and implementation of a national literacy and numeracy workforce development strategy
- ✧ the implementation of strategies to raise the awareness of key decision-makers that adult literacy and numeracy is a mainstream issue that should be part of their agenda. This may involve the adoption of somewhat simpler concepts and terminology and perhaps a move from talking about literacy and numeracy to a discussion of core skills or foundation skills
- ✧ a review of the content and approach of dedicated literacy and numeracy programs to ensure that they continue to meet participants’ needs and expectations
- ✧ support for the use of the Australian Core Skills Framework (ACSF)¹ across programs to provide nationally consistent data on learner outcomes, and further exploration of the potential to describe and report on other learning outcomes that may not be captured by the framework
- ✧ national coordinating structures to ensure that we learn from, and continue to improve on, what we do.

¹ The author was part of the project team which developed the Australian Core Skills Framework.

Introduction

Between 2002 and 2006, the National Centre for Vocational Education Research (NCVER) commissioned a number of research projects on topics relating to adult literacy and numeracy through the Adult Literacy Research Program (ALRP), funded by the former Commonwealth Department of Education, Science and Training. The topics in this research program ranged from a focus on teaching and learning approaches and outcomes generally, to specific studies relating to Indigenous and ethnic communities, industry, volunteer and community settings, to the professional development needs of literacy practitioners. Over 30 research reports, research overviews, 'Good Practice Guides' and other documents were produced (see appendix B for the full list). All of these involved extensive literature reviews, with the majority collecting quantitative and qualitative data through interviews, focus groups and surveys and/or case studies. There were also several high-level reviews and field trials, and one statistical modelling exercise. There were no longitudinal studies. The priorities that shaped the research commissioned through the Adult Literacy Research Program are provided in appendix A.

Individually, the research offers interesting and sometimes challenging insights into adult literacy and numeracy in a variety of Australian contexts. The findings support, and on occasion, call into question, findings from broader international studies. Collectively, they form a body of work that provides a snapshot of adult literacy and numeracy in Australia at the beginning of the twenty-first century, reflecting a particular social and political climate that even at the time of writing is beginning to change.

However, as much of the research is of a relatively small scale (often based on a limited number of case studies), it is not always possible to generalise from the conclusions. Therefore, this paper reviews the findings of the Adult Literacy Research Program studies in conjunction with other Australian and international research, to identify, where possible, key strategic issues relevant to adult literacy and numeracy development in Australia, and areas where further knowledge could inform decision-making and practice.

Adult literacy in Australia: The current situation

The impact of adult literacy and numeracy skills

Literacy and numeracy skills have been linked to the development of both human and social capital. Australian research, such as that by Wickert and McGuirk (2005) and Balatti, Black and Falk (2006), reflects international findings showing that participation in adult literacy and numeracy training in community, institutional or workplace settings produces personal and social capital outcomes, such as increased self-esteem, confidence in interacting with others, and extension of personal networks.

There is a correlation between literacy and numeracy skills and the probability of an individual being employed, unemployed or receiving welfare (ABS 2007; Finnie & Meng 2001 cited Gleeson 2005, pp.19–20; Statistics Canada 2005). For those employed, literacy and numeracy skills may impact on earnings. Adults with poor numeracy skills, for example, are more likely to be unemployed or employed in manual occupations and to receive low wages (McIntosh & Vigmoles 2001; Green &

Riddell 2001; Gleeson 2005; Marr & Hagston 2007). International studies (for example, Feinstein et al. 2004) show links between participation in adult learning and positive impacts on smoking, exercise and life satisfaction. More specifically, links have been demonstrated between low literacy levels, poor access to health services, poor health, higher risk of hospitalisation and higher rates of depression and an inability to understand and comply with the use of prescription drugs (Hartley & Horne 2006, p.7).

There is also a connection between literacy levels and an adult's ongoing involvement in formal learning. Those with low literacy and numeracy skills tend to have lower educational qualifications and may not have finished schooling. This appears to set up a vicious cycle, reducing the likelihood that they will voluntarily participate in further training or be selected or encouraged to take up further training in their workplaces. This in turn impacts on wage levels and the potential for advancement (Gleeson 2005, p.14). Cumming and Wilson (2005, pp.5–6) identified equity issues for English speakers with low literacy and numeracy skills involved in alternative dispute resolution, such as mediation. They currently receive little assistance to establish interests and claims and to resolve financial matters.

International research also provides evidence of the financial costs to business of poor literacy and numeracy skills. For example, it has been estimated that literacy problems cost British industry 4.8 billion pounds per year, and Canadian employers \$4 billion per year (Innovation and Business Skills Australia 2008). Studies also demonstrate that adult literacy interventions can make a measurable difference at a national level. Organisation for Economic Co-operation and development (OECD) research shows that raising a country's adult literacy scores by 1% relative to the international average leads to a relative rise in productivity of 2.5% and a 1.5% increase in Gross Domestic Product (Coulombe, Tremblay & Marchand 2004). Workplace studies provide insights into why this might be so. Pearson's 1996 study (cited in NCVET 2006a, p.27) of 30 Australian workplaces and Long's (1997) study of 53 Canadian enterprises identified measurable organisational impacts of literacy and numeracy training, including reduced error rates, improved health and safety and increased retention rates. They also identified impacts with direct benefits for participants, such as increased confidence levels and morale, an ability to work independently and in teams, increased participation in further training and enhanced promotion prospects. While there have been no major Australian studies in this area since Pearson's in 1996, more recently, industry contributors to the evaluation of the Australian Workplace English Language and Literacy (WELL) Program perceived that involvement in that program had a diverse range of positive individual and organisational impacts similar to those outlined by Long (Department of Education, Science and Training 2006).

What do we know about Australians' literacy and numeracy skills?

While an Australian case study found that there are individuals with limited literacy and numeracy skills who are able to perform well on a range of measures generally associated with success in life (Waterhouse & Virgona 2005), other research illustrates the negative impact that low literacy and numeracy skills can have for many individual Australians. The Adult Literacy and Life Skills (ALLS) survey is the only large-scale, quantified data currently available on Australian adult literacy and numeracy skills. It demonstrates a clear statistical correlation, similar to that found in other participating countries, between low literacy levels and a lack of social and workplace engagement, limited education and training involvement and a lack of qualifications, low income, poor health and a poor sense of wellbeing (ABS 2007, 2008).

The Adult Literacy and Life Skills survey identified that a significant proportion of the adult population was unable to demonstrate the minimum levels of literacy and/or numeracy required 'to meet the complex demands of everyday life and work in the emerging knowledge-based economy' (that is, skill level 3; ABS 2007, p.8). Approximately seven million people scored below the minimum in one or more of the domains surveyed. Of these, over four million people were in the workforce, some 300 000 were unemployed, and 2.5 million were not in the labour market.

The proportion of the population with low literacy and numeracy skills constitutes a challenge for Australian federal, state and territory governments, which are focusing their attention on two interrelated areas seen to be of critical importance to Australia's future, namely, the requirement for extensive upskilling of the workforce and the need to address social exclusion. In both areas, literacy and numeracy skills play a key role.

As Gleeson (2005, p.13) observes, there is a 'growing mismatch between the skills required by the labour market and the skill levels of workers with low numeracy or literacy skills'. The Australian work environment is placing an increasing emphasis on interactive and cognitive skills, with a corresponding shift away from manual skills. Almost 90% of all jobs now require some form of post-school qualification; yet at least half of those in the workforce do not have these qualifications, or have not even completed secondary schooling (Richardson & Tan 2007).

By 2020, the Council of Australian Governments (COAG) aims to halve the proportion of Australians aged 20–64 years without vocational qualifications at certificate III level or above and to double the number of diploma and advanced diploma completions. Programs are targeting current workers who need to upgrade skills, as well as those outside the workforce who need intensive training to be job-ready (Department of Education, Employment and Workplace Relations 2008a). However, the Adult Literacy and Life Skills survey findings raise questions about the potential of many of those in the workforce, or seeking work, to attain vocational qualifications—unless they also have assistance in managing the literacy and numeracy associated with the formal qualifications and with more demanding job roles.

With the emerging appreciation that literacy and numeracy are not fixed sets of transferable skills, it is becoming clear that literacy and numeracy requirements change as a person moves from one context to another, and that literacy and numeracy skills development is a lifelong process. This may have implications for the 5.6 million people who scored at level 3 on the Adult Literacy and Life Skills survey: the minimum skills required to meet the needs of daily life (ABS 2007, p.2). Will they have the literacy and numeracy skills they need to take on the diplomas and advanced diplomas that have been identified as the most necessary requirement of the skills reform agenda?

Do Australians think there is an issue that needs attention?

Blumer (cited in Cowan 2006) suggests that we can identify where a community or its sub-groups are positioned on the literacy 'issue' by asking:

- ✧ Is literacy recognised as a 'problem'? *If it is ...*
- ✧ Is it seen to be worthy of public discussion? *If it is ...*
- ✧ Are people mobilising to address it? *If they are ...*
- ✧ Is there an official plan of action supported by social policy? *If there is ...*
- ✧ Is the plan being implemented?

In Australia, children's literacy skills are considered of enormous importance. There are ongoing expressions of public concern and public discussion, with federal, state and territory governments collecting data, developing policies and funding programs to address the literacy needs of children. However, poor adult literacy and numeracy performance has not been generally perceived as a mainstream issue requiring concerted action, but rather an issue for a minority on the margins of society. In the general community, there is still evidence of what Lankshear (cited in Lonsdale & McCurry 2004) calls 'the lingering basics'—the belief that literacy is the mastery of basic skills necessary for understanding school work. A further complication is that many adults who perform poorly on literacy and numeracy tests do not perceive themselves as having low skills, so are unlikely to take action themselves (Hayes, Golding & Harvey 2004, p.7; Marr & Hagston 2007, p.9).

For the adult literacy and numeracy practitioner, the problems associated with low levels of literacy and numeracy are well recognised, and the need for greater mobilisation to action is a foregone conclusion. It can be difficult for members of this group to understand why past governments have not made adult literacy a major priority. While acknowledging the limitations of the Adult Literacy and Life Skills survey, the Australian Council for Adult Literacy (2008, p.1), for example, sees the survey's findings as an indication of 'a crisis with adult literacy in Australia', and argues that 'the costs of adult literacy deficiencies in terms of human, social and financial capital terms are too high for a country like Australia to bear'.

This situation is not confined to Australia. Writing from a United States perspective, Cowan (2006, p.251) observes:

For those working in the adult literacy field, low levels of literacy are already perceived as real and are therefore real in their consequences. For many others in our communities, however, literacy issues are perceived dimly or not at all, and therefore make no serious and sustained claim on community attention, energy and resources. This perception gap appears to be one of the great frustrations of those committed to the work of adult literacy.

At a global level, responses to the International Adult Literacy Survey (IALS) of the mid-1990s provide an indicator of perceptions of the importance of adult literacy and numeracy in other comparable countries. McKenna and Fitzpatrick's (2004) Adult Literacy Research Program study found that, in Ireland, the United States, the United Kingdom, Canada and New Zealand, the International Adult Literacy Survey results drew attention to the magnitude of 'the problem' and precipitated public discussion. This led to the establishment of high-level policy directions, centralised coordination mechanisms and the implementation of large-scale strategies supported by significantly increased funding and informed by strategically focused research. The significant improvement in New Zealand's performance in the 2006 Adult Literacy and Life Skills survey (New Zealand Government 2008) by comparison with the 1996 survey suggests that this country's focused approach over the last ten years is starting to bear fruit.²

By contrast, McKenna and Fitzpatrick (2004, p. 13) argue that the impact of the International Adult Literacy Survey on Australian policy strategy and investment was minimal. There was no revitalised adult literacy and numeracy policy driven by high-level decision-makers, no central coordinating national body, and funding between 1996 and 2001 remained static or even declined. However, there were some developments in Australia, although not necessarily precipitated by the survey. Perhaps the most significant was the focus on integrating literacy and numeracy skills development into training packages and other accredited training courses, the introduction of a quality assurance system in relation to literacy programs within the vocational education and training (VET) sector, and the application of the National Reporting System³ in some government programs (McKenna & Fitzpatrick 2004, p.19).

More recently, however, there are signs of change. For example, the South Australian Government has recently identified the need to 'make literacy everybody's business' (Government of South Australia 2008), and has committed funding to raise community awareness, while also substantially increasing investment in literacy and numeracy training programs aligned with the state's general skills reform agenda. The Queensland Department of Education, Training and the Arts (2007, p.8) notes:

² In New Zealand, the numbers of those in the lowest ALLS level was reduced by 7%. In Australia, there was a decrease of 2% (New Zealand Government 2008; ABS 2007).

³ This is a mechanism for reporting outcomes of adult English language, literacy and numeracy (LLN) provision. The National Reporting System was used by Australian LLN specialists from 1995 until late 2008, when it was replaced with the Australian Core Skills Framework.

It is true that some learners will have more trouble developing LLN [language literacy and numeracy] skills than others and may require specific assistance, but LLN is an issue across the board for all learners because [these] skills underpin the way we communicate and learn. Because of this, language, literacy and numeracy are now seen as both an issue of equity and of quality, and therefore relevant to all AQTF [Australian Quality Training Framework] standards. (Queensland Department of Education, Training and the Arts 2007, p.8)

Shifts are also occurring at the national level. Council of Australian Governments Ministers have endorsed the Participation and Productivity Statement⁴ which acknowledges the role of literacy and numeracy from early childhood onwards and recognises that skills levels are unlikely to improve without intervention. While addressing literacy in the workplace was barely mentioned in the Australian Government's *Skilling Australia discussion paper* (Department of Education, Employment and Workplace Relations 2008a), more recent releases (Australian Industry Group 2008) suggest that the significance of adult literacy and numeracy to the skills agenda is being recognised. However, at the time of writing, Australia's federal response to low adult literacy and numeracy skills is still aimed at about 4% of the population, most of whom are not in the workforce (Australian Council for Adult Literacy 2008, p.5). By comparison, the New Zealand Skills Strategy (New Zealand Government 2008) sees adult literacy as the linchpin on which all other priorities will succeed or fail. Significant funding is being invested in a range of adult literacy programs, which are informed by a strategic research program.

The lack of emphasis on adult literacy and numeracy in the original *Skilling Australia discussion paper* (Department of Education, Employment and Workplace Relations 2008a) may at least partly reflect a lack of awareness by many employers that adult literacy could be a major issue for their enterprises. Representatives of industry training councils involved in the Workplace Language and Literacy Program reported that they still had great difficulty in raising employer awareness of adult literacy as a workplace issue, and that there were tangible benefits to addressing it (personal communication). This is not a uniquely Australian perspective. Despite awareness and commitment at a political level, recent research in New Zealand found that:

Many employers are unaware of the links between low literacy and productivity or workplace performance. Companies may be aware of, and talk about health and safety concerns, accidents, poor workplace documentation and error rates but they do not necessarily make the connection to 'literacy' as a key factors underpinning these issues.

(Benseman & Sutton 2007, p.4)

However, again there are signs of change. Several Adult Literacy Research Program studies focus on Australian organisations that do recognise the importance of literacy and numeracy and are taking steps to raise these skills in the workplace (Waterhouse & Virgona 2004; Wickert & McGuirk 2005; McKenna & Fitzpatrick 2005; Townsend & Waterhouse 2008; Marr & Hagston 2007). While these active organisations dominate the research, they are still in the minority overall. Nevertheless, they provide examples and models which could be promoted as part of a broader campaign linked to skills reform.

⁴ <<http://www.deewr.gov.au/deewr/About/QualityEducation-ThecaseforanEducationRevolutioninourSchools.htm>>

Perspectives on literacy and numeracy

The way ‘literacy’ and ‘numeracy’ are perceived has a profound effect on policy and practice. This section explores what the research can tell us about what people mean when they talk about literacy and numeracy in order to identify key commonalities and differences that might influence the development of strategy.

Are we all talking about the same thing?

Despite the fact that everyone may think they know what they mean when they use the term *literacy*, there is no common understanding. As Lonsdale and McCurry (2004, p.36) found:

How literacy is understood by theorists engaged in academic discourse may be quite different from how employers, information communication technology experts, teachers, government policy-makers, Indigenous leaders, adult learners in a small rural setting or students in a suburban high school understand literacy.

Lonsdale and McCurry (2004, p.35) reveal the complexity associated with different concepts of literacy and learning. The authors identify the existence of three different conceptions of literacy in Australia that have been widely cited in subsequent research:

- ✧ a cognitive, individual-based model associated with a psychometric tradition, quantifiable levels of ability, and a deficit approach to ‘illiteracy’
- ✧ an economics-driven model generally associated with workforce training, multi-skilling, productivity, ‘functional’ literacy and notions of human capital
- ✧ a socio-linguistic model most commonly associated with contextualised and multiple literacy practices, a valuing of the other, and a strong critical impulse.

These diametrically opposed beliefs have made this field quite controversial. The authors argue that, despite the research that shows literacy to be a situated social practice, government policy has been ‘more closely aligned with a concept of literacy as a set of foundational and, by implication, transferable skills’ (Lonsdale & McCurry 2004, p.38). Members of the general community tend to associate literacy with ‘the fundamental ability to read and write’ (Cross 2003, p.15). By contrast, Lonsdale and McCurry argue that the majority of those in the literacy and numeracy field in Australia operate within the socio-linguistic model, but, even within this group, there are different ideas about the concept of literacy. Perhaps the closest there is to general agreement is in regard to the concept specificity of literacy and numeracy, which positions literacy and numeracy skills development as a lifelong process (Mikulecky 1988; Lonsdale & McCurry 2004; McKenna & Fitzpatrick 2005). While the importance of critical literacy has been the subject of much debate, it is generally accepted within the field that meaning-making is central to literacy and numeracy. However, the nature of the ‘texts’ from which meaning is made has expanded to incorporate non-print based texts, and the importance of skills in accessing and managing information using information communication technologies has led some to argue that literacy should now be seen as *digital* literacy (Synder, Jones & Lo Bianco 2005).

Numeracy was coined as the mathematical equivalent of *literacy* and has its own share of perceptual problems.⁵ Marr and Hagston (2007, pp.11–12) observe that, in the broader community, ‘the notion that numeracy is merely basic number skills is an ongoing, and unfortunately common, misinterpretation’. They argue that numeracy also suffers from the ‘phenomenon of invisibility’, which may stem from the fact that workplace numeracy demands are often embedded and unrecognised in routine workplace tasks, and that numeracy’s inclusion in the ‘umbrella term’ of *language, literacy and numeracy* can lead to invisibility at policy level (p.32).

A complicating factor in any discussion of literacy and numeracy is that the arena has become ‘highly politicised and contested’ (Waterhouse & Virgona 2004, p.12). For example, some members of the field have been critical of government policy and strategy that aims to increase individuals’ literacy skills in order to improve their ability to win and hold employment, and of programs that might offer benefits for businesses as well as employees. Work-based programs have been criticised by some researchers for putting employer needs ahead of those of the learner (May et al. 2004 cited in Benseman, Sutton & Lander 2005, p.91), and for adopting what is seen as a narrow ‘functional’ approach to literacy development that is ‘shaped by the identity, purpose and expectations’ of the enterprise (Waterhouse & Virgona 2004, p.6). On reviewing relevant literature, Mackay et al. (2006, p.15) observe:

The move towards a business and service orientation has resulted in something of an identity crisis for many practitioners, and, in a sense, of ideological dissonance for the significant number of language, literacy and numeracy educators motivated by social justice agendas.

Balatti, Black and Falk (2006, p.11) question whether literacy and numeracy training must either focus on social capital or on human capital outcomes. They argue that it is desirable to focus on both, but point to a need to make the social capital outcomes more explicit because, ‘the evidence suggests that technical skills such as literacy and numeracy (human capital) are necessary, but usually insufficient to ensure that course participation impacts on the socio-economic well being of the students’.

While complex debates are an accepted and important aspect of academic discourse, they can be intimidating to non-specialists, and the intricacies of the arguments can make literacy and numeracy seem inaccessible and incomprehensible to those who consider it related only to reading, writing and counting. As a way of bridging the divide between ‘the field’ and everyone else, Wickert and McGuirk (2004, p.41) suggest adopting a ‘more limited construct’ of literacy. To this end, Lonsdale and McCurry (2004, p.39) propose that we see literacy as ‘a set of tools facilitating an individual’s participation in society’. They suggest that ‘such a conception is simple, yet accurate, in terms of its recognition of literacy as a means rather than an end, an enabling practice, and the notion of social inclusiveness’.

⁵ Coben (2000, cited in Marr & Hagston 2007, p.11) defines ‘numerate behaviour’ as ‘being competent, confident and comfortable with one’s judgements on *whether* to use mathematics in a particular situation and if so, *what* mathematics to use, *how* to do it, what *degree of accuracy* is appropriate and what the answer means in relation to the context.’

Developing adult literacy and numeracy skills: What do we know?

Research can offer evidence of, and insights into, factors affecting the progress of participants with low literacy and numeracy skills. This information is critical in the design and evaluation of intervention programs. McKenna and Fitzpatrick (2004, p.31) suggest that, to 2004, in Australia and comparable countries, ‘the research base for adult literacy is inadequate: the field of adult literacy is relatively unresearched’. The United Kingdom, and more recently, New Zealand, is beginning to change this situation, having adopted strategic and systematic approaches to research with appropriate levels of funding to support large-scale studies. However, in Australia, much of the research to date has been limited to small-scale studies that cannot be used as incontrovertible evidence that one approach is more likely to produce outcomes than another. This may be a problem, especially given the growing emphasis on evidence-based policy in Australia.

This section therefore attempts to identify as far as possible what we can say we ‘know’ about adult literacy and numeracy learning and provision right now and to consider the potential implications for policy and, ultimately, for action. It has not been the intention to try to cover all aspects of all areas pertinent to adult literacy and numeracy. The scope has been determined partly by questions posed by decision-makers interviewed for this project and partly by the scope of research funded through the Adult Literacy Research Program.

Who are the learners and what do they want?

The International Adult Literacy Survey provides the only comprehensive overview of identifiable groups of Australians with low literacy and numeracy skills. There is also some research on the relatively small proportion of these people who have in fact sought assistance through a formal program, but limited research on those who have not.

A review of the Language, Literacy and Numeracy Program (Department of Education, Science and Training 2005) provides useful data on this program’s client demographic, although it warns that there were a number of problems with the original data provided by Centrelink. (For background on the Language, Literacy and Numeracy Program, see appendix C.)

The review found that, in 2002–03, 65% of those referred by Centrelink attended an initial assessment and took up Language, Literacy and Numeracy Program training. The majority of these people were assessed as level 1 or ‘not yet achieved’ on the National Reporting System. Of those who accessed training, 75% were born in Australia, 4% in another English speaking country and 19% born overseas and of non-English speaking backgrounds. They were mostly from urban areas, between the ages of 20 and 59 years and predominantly female. The majority of those who did not attend an assessment were likely to be younger male clients born in Australia or New Zealand, between the ages of 15 and 29 years, and living outside a capital city or other major urban centre. The reviewers suggest that ‘this may reflect in particular the disaffection of this client group with formal schooling and assessment procedures’.

A review of the Adult Migrant English Program (Department of Immigration and Citizenship 2008) found that the numbers of clients enrolling in this program had increased steadily since 2003, with most being from the ‘family migration’ stream. Just over 80% of all program clients were between

19 to 44 years of age, and the majority were female. Approximately 75% had eight to 12 years of formal schooling, although those in the 'humanitarian' stream generally had less formal schooling (42% had between 0 and 7 years).

It also identified a number of trends including:

- ✧ an increasing number of clients with lower levels of formal schooling and lower literacy levels in their native language
- ✧ an increasing number of young people with needs and backgrounds different from older migrants (the number of young people between the ages of 18 and 24 years rose by nearly 15% between 2000 and 2005)
- ✧ an increase in the numbers of clients from the humanitarian immigration scheme with psychological and physical health needs
- ✧ the changing circumstances of cohorts of students from new ethnic backgrounds.

The Adult Migrant Education Program review provided a comprehensive insight into the perceived needs and expectations of program learners. The program's clients called for:

- ✧ an end to mixed classes where participants have different levels of English language and literacy skills, as they hampered progress being made by either the more advanced or the less literate clients
- ✧ more relevant class material with an increased focus on English to gain employment
- ✧ more classes to be held in informal community settings
- ✧ more English language options for young people aged 15 to 18 years, who drop out of school or who finish school without adequate English skills to move into vocational training or employment
- ✧ more tuition hours to be available to achieve English proficiency levels commensurate with employment requirements and/or to transition into further study
- ✧ better learning options for mothers who are unable to access childcare for their children
- ✧ bilingual support in class, particularly for new clients in the initial weeks and for lower-level learners in the longer term.

Other studies of the needs and preferences of adult literacy and numeracy learners include work funded through the Adult Literacy Research Program (Miralles 2004; Marr & Hagston 2007; Dymock 2007). Although learner groups are diverse, this research offers remarkably consistent messages. In the main, learners want training that is time-efficient, personally relevant, non-threatening, and easily accessible. No matter what their background, they see the quality of the trainer as critical. Most prefer to work with a trainer with the relevant vocational skills and knowledge rather than with a literacy and numeracy specialist without the relevant vocational background. They also prefer someone from their own context (a peer or supervisor, or member of their own ethnic community) to an external specialist. The research also found that learners welcome regular feedback, including formal assessment.

A key message is that many adult literacy and numeracy learners place a higher emphasis on vocational knowledge and skills than on literacy and numeracy skills. Those in the workplace prefer literacy and numeracy that is integrated into vocationally relevant training, and is informal, immediate and on the job (Marr & Hagston 2007). Those from non-English speaking backgrounds who are not in the labour market are likely to perceive training as a means to employment and feel they can learn literacy and numeracy skills as they go along. For example, Miralles (2004) found that members of a number of diverse cultural groups wanted training that recognised their pre-existing vocational skills and offered work experience and clear pathways to a job. However, Dymock (2007, p.9) found that learners in non-accredited community-based programs were likely to be an

exception. While the teachers in this study perceived that one-quarter of learners participated primarily for employment-related reasons, the majority were seeking assistance with English for everyday purposes, looking for social contact and motivated by a desire to ‘take more control over their lives’. They liked the lack of pressure in a learning environment they found supportive and encouraging, and offered a high degree of individual attention (Dymock 2007, p.33).

Those from non-English speaking backgrounds who are not in the labour market also place a high value on integrated literacy and numeracy training that is ‘culturally appropriate’. This is also the case for Indigenous learners who value respect, the degree to which the environment is culturally supportive and the quality of teaching (McRae et al. 2000; Kral & Falk 2004; Miralles 2004; Hayes, Golding & Harvey 2004; McGlusky & Thaker 2006; Burgoyne & Hull 2007; Miralles-Lombardo, Miralles & Golding 2008).

Literacy and numeracy pedagogy: What works?

Benseman, Sutton and Lander (2005) conducted a comprehensive review of international research using rigorous criteria to identify factors ‘likely to contribute to learner gain’. While placing caveats on some findings, they found what they considered to be reasonable evidence from well-conducted research to suggest that the following factors do make a difference to learner outcomes:

- ✧ programs that are clearly structured, with a curriculum linked to authentic literacy events that learners experience in their lives
- ✧ deliberate and sustained acts of teaching, clearly focused on learners’ diagnosed needs, with high levels of participation (more than 100 hours)
- ✧ skilled teachers who can identify learners’ strength and weaknesses in speaking, reading, writing and numeracy
- ✧ explicit, structured teaching of reading by teachers well trained in the reading process, who are skilled at identifying reading difficulties and well versed in the use of appropriate teaching strategies to address them
- ✧ writing programs that use texts based on expressing learners’ experiences and opinions
- ✧ English as second language programs structured to maximise oral communication, discussion and group work
- ✧ ongoing assessment that takes into account the variation in learners’ skills across the dimensions of reading and writing
- ✧ family literacy programs that have a clear focus on literacy/numeracy development.

A review by Looney (2008, p.160) for the Organisation for Economic Co-operation and Development (OECD) identifies similar factors and highlights cumulative research findings about the gains associated with assessment using feedback, questioning and scaffolding techniques. Studies funded through the Adult Literacy Research Program also support and illustrate a number of these findings in Australian contexts (see Marr & Hagston, 2007; de Silva Joyce, Hood & Rose 2007; FitzSimons et al. 2007; Burgoyne & Hull 2007; McGlusky & Thaker 2006).

Do delivery methods make a difference to outcomes?

Literacy and numeracy skills training is available to adult learners in Australia through: dedicated, stand-alone language, literacy and numeracy programs; integrated approaches, where the literacy and numeracy focus is paramount, but where literacy and numeracy skills learning is part of learning about something else; and accredited vocational courses, designed with literacy and numeracy

expectations taken into account, and delivered by a vocational trainer who is expected to assist learners to address literacy and numeracy issues as they arise.

Learning may occur in one-to-one arrangements, in class settings within a training institution or community context (for example, a 'Neighbourhood House', local council, ethnic association), or within small groups in a workplace. It may be part of an accredited pre-vocational or vocational program, or a non-accredited community-based program. Learning may be funded through government programs, namely:

- ✧ the Language, Literacy and Numeracy Program, which offers up to 160 hours of tuition to individuals who are not in employment
- ✧ the Adult Migrant English Program, which offers up to 510 hours of training to recently arrived migrants, 85% of which is class-based
- ✧ the Workplace English Language and Literacy Program, which funds diverse programs of varying lengths.

However, there is little comprehensive information available about the nature and extent of literacy and numeracy provision outside government-funded programs. The review of the Language, Literacy and Numeracy Program (Department of Education, Science and Training 2005, pp.55–8) contains a useful overview of these programs, but observes that there is little systematic data available on other programs, recommending a need for an 'overarching study of the provision of literacy and numeracy training in Australia to establish gaps and duplication of provision and inform future strategic decision making'.

Are these various approaches effective in improving learners' literacy and numeracy skills? Does one combination work better than others for some target groups and if so why? Is there a *best* way? We simply do not know. While the Language, Literacy and Numeracy Program and the Workplace English Language and Literacy Program use the National Reporting System for Adult Language, Literacy and Numeracy to track progress, until recently, data from these programs were not collected in a way that made it possible to identify training impact. While individual institutions and trainers in other programs employ a range of methods to demonstrate progress over time, there has been no national take-up of the National Reporting System or of another agreed approach to measurement that would shed light on learner outcomes.

Most of the research in this area has focused on gathering the perceptions of learners, trainers, and employers on learner gain (often very positive), but there is little data available that provide robust evidence of the impact of various programs or allow a comparison to be made between different approaches.

The following section summarises what we do know about different combinations of delivery methods at this point in time.

Dedicated literacy and numeracy programs

Most specific provision for adult literacy and numeracy in Australia is currently through dedicated language, literacy and numeracy programs. An NCVER (2006b) study found that there were nearly 190 000 students enrolled in literacy and numeracy courses in the VET sector in 2004; 61% of these were 'stand-alone' courses whose major focus was on literacy and numeracy skills development. The remainder incorporated identifiable literacy and numeracy subjects within a course such as employment skills or parental education. A further 36 800 clients per year were enrolled in the Adult Migrant English Program (Department of Immigration and Citizenship 2008, p.12). Some 24 000 clients per year were enrolled in the Language, Literacy and Numeracy Program. (See appendix C for background information on these programs.) There is evidence that a significant number of Adult Migrant English Program clients move onto the Language, Literacy and Numeracy Program (Department of Education, Science and Training 2005, p.55).

These dedicated courses meet many of the criteria for effectiveness identified by Benseman, Sutton and Lander (2005), in that they offer sustained teaching over time by qualified practitioners. Accredited programs are clearly structured, and efforts are made to link the curriculum to learners' own life experiences. There is some evidence that they deliver positive outcomes for many of their participants. For example, a longitudinal study of participants across a range of Australian stand-alone programs in the 1990s (Griffin et al. 1997, p.1) confirmed the effectiveness of the approach at that time, finding that 'participants demonstrated a noticeable shift in reading and cognitive problem solving strategies, clearly moving away from dependence on tools and personal support'.

One of the few programs able to provide specific data on skills gains is the Language, Literacy and Numeracy Program, which utilises a standardised assessment and reporting instrument, the National Reporting System on Adult Literacy and Numeracy. A review of the Language, Literacy and Numeracy Program (Department of Education, Science and Training 2005, pp.8–13) found that the program had measurably improved the skill levels of participants and therefore the likelihood of their finding employment, entering further education and coming off income support. However, results across participant groups were not uniform, with those from non-English speaking backgrounds enrolled in the Basic and Advanced English streams recording higher employment and further education outcomes than those in the Literacy and Numeracy stream (who were predominantly of English-speaking background).

As only the National Reporting System levels of those who complete are recorded, it is possible that improvements in literacy and numeracy skills are also experienced by those who did not complete training funded through the Language, Literacy and Numeracy Program. However, for those who did complete, those in the Advanced English stream were most likely to demonstrate National Reporting System gains (65%), followed by those in Basic English (47%) and Literacy and Numeracy (31%). The report identified a clear association between age and gain, with younger clients having much lower success rates. Australian-born clients were likely to do less well than those from overseas, while females across all course streams were more likely to achieve gains than males. Only 14% of Indigenous clients achieved skills gains. This group also had high non-attendance and withdrawal rates earlier in the program. Participants' entry level also affected the National Reporting System outcomes, with those entering at the lowest level on the scale being slightly more likely to register skills gains (Department of Education, Science and Training 2005, p.45).

The review of the Language, Literacy and Numeracy Program (Department of Education, Science and Training 2005) also found that half of the clients who exited the Basic English stream reported an employment or further education outcome (18% employment). This compared with 61% of those exiting Advanced English (32% employment) and 46% of those in the Literacy and Numeracy stream (29% employment). The review also found that half of those who commenced training during 2002 and 2003 withdrew, often before reaching the mid-point of training, 'when they were likely to have gained very little from their training placement' (p. 44).

Even where there are data to show learner gain, when looking at future directions it may be important to consider the changing nature of the student cohort in stand-alone programs. Language, literacy and numeracy practitioners report an influx of learners with multiple disadvantages, such as youth at risk, refugees and students with undisclosed psychiatric disorders (Mackay et al. 2006). There are also indications that learners who might once have enrolled in dedicated courses are enrolling directly into vocational courses, and that this is leading to a reduction in the number of adult literacy and numeracy courses being offered by some government providers (Were 2008).

Integrated vocational approaches

Australia's major approach to workplace literacy and numeracy has been through a drive to integrate such training into accredited vocational training programs. The aptly named 'built in not bolted on' approach (ANTA 1998) has made an appreciable difference in the design of training packages and

in the stated expectation that vocational teachers will also become teachers of literacy. However, there is limited research information on how far integration is occurring and how effective it has been in the Australian context. There is also a lack of data on how many vocational trainers have received any form of literacy and numeracy training. However, there is some evidence that Australian vocational trainers may not see the development of literacy and numeracy expertise as a priority (Mackay et al. 2006).

A recent United Kingdom study by Casey et al. (2006) compared integrated and non-integrated approaches within vocational training institutions. This large-scale study found that integration could deliver significantly better outcomes than dedicated courses. However, it also showed that achieving effective integration is a complex, and potentially costly, undertaking that requires new ways of operating and a new range of skills. While providing evidence to suggest that there is value in focusing on integrated approaches, some findings raise questions about key elements of Australia's current vocational integration strategy. A critical finding was that the probability of learners achieving qualifications actually dropped when a single teacher took dual responsibility for both vocational and literacy and numeracy skills training, even if that teacher had specialist knowledge in both fields. Learners in integrated courses benefited most when taught by teams incorporating both vocational and literacy practitioners.

Although there is no equivalent large-scale Australian research to test these findings in Australian contexts, there is some research funded by the Adult Literacy Research Program which supports aspects of the United Kingdom findings. McKenna and Fitzpatrick (2005, p.7) considered integration in the community services sector. Although they found that vocational trainers could deliver an integrated approach, this required 'an in-depth knowledge of the culture and practices in the industry, expertise in education, and some knowledge of applied linguistics'. McKenna and Fitzpatrick observed that, 'It would be rare, although not impossible, to find these skills sets in one facilitator; they are more likely to be found in a team ... delivering a mix of on-the-job and off-the-job training' (p.51).

In their study of five partnerships between community groups and education providers in Australia, Wickert and McQuirk (2005, pp.7–8) found that the integrated approach was a complex undertaking and that 'all of the community sites experienced difficulties in working with mainstream education providers'. The authors identified a need for 'skilled and flexible facilitators with broad life experiences who are able to apply up to date understandings of literacy theory', and suggested that, 'significant resources would be required to train non-specialists in literacy and numeracy identification and to train specialists in the culture and context of the community setting'.

Work-based literacy and numeracy training

While vocational qualifications will continue to be offered by training providers in institutional settings, as the Australian Industry Group (2007, p.27) observes, workplaces 'are becoming increasingly important sites of learning'. The trend towards work-based learning or 'learning that takes place within the work environment using tasks/jobs for instruction and practical purposes' (VOCED thesaurus)⁶ will become even more pronounced with the implementation of strategies associated with the Australian Government's agenda for productivity reform.⁷

Work-based training can be either integrated or stand-alone. Benseman, Sutton and Lander (2005, p.93) warn that workplace provision of literacy and numeracy training, 'does not have a large research base on its distinctive features in relation to effectiveness', but there are some studies which provide insights into what works and why. The most consistently identified factor influencing the impact of work-based programs appears to be the degree of company commitment,

⁶ <<http://www.voced.edu.au/thesaurus/index.php>>.

⁷ <<http://mediacentre.dewr.gov.au/mediacentre/allreleases/2008/april/joint+ministerial+communiqué.htm>>.

demonstrated through the provision of a supportive environment, training in work time and adequate funding.

Also essential for effective outcomes are:

- ✧ qualified trainers working with experienced literacy teachers able to embed literacy learning into other skills acquisition
- ✧ an authentic curriculum tailored to the context
- ✧ mechanisms for genuine employee involvement.

(Benseman, Sutton & Lander 2005; Department of Education, Science & Training 2006; Townsend & Waterhouse 2008)

Smith (cited Australian Industry Group 2007, p.21) highlights the importance of strong links between business and training strategies, and this is reflected in the operations of Australian enterprises providing literacy and numeracy training (often through the Workplace English Language and Literacy Program) as part of a much broader agenda to become learning organisations. However, Townsend and Waterhouse (2008, p.9) caution that, even in companies with a high commitment, there are major pedagogical challenges, and it should not be assumed that training providers and individual trainers know how to operate effectively in the workplace.

In Australia, the major strategy to promote work-based literacy and numeracy other than within the vocational education and training arena has been through the Workplace English Language and Literacy Program,⁸ which has been operating since 1991, and currently involves some 20 000 workers per year. These programs are highly regarded by participating employers and workers (Department of Education, Science and Training 2006). However, Benseman, Sutton and Lander's (2005) criteria and Casey et al.'s (2006) findings suggest there may be aspects of the program that could be revisited. For example, Workplace English Language and Literacy practitioners are experienced literacy and numeracy specialists who also bring the broad range of skills and understandings necessary to make these complex projects work. However, they usually operate individually, often managing all aspects of the project as well as being involved in face-to-face delivery. Questions to be considered include:

- ✧ Do the UK findings regarding the negative impact of a single trainer in a vocational training context also apply in a workplace setting?
- ✧ Do they apply in an Australian context?
- ✧ Are Workplace English Language and Literacy programs more effective when they are run by multi-skilled teams?

Individual Workplace English Language and Literacy projects are designed to balance, as far as possible, the needs of the participants with those of the enterprise. This may result in projects of short duration. This means they cannot provide the regular literacy and numeracy instruction and practice (over 100 hours) that Benseman, Sutton and Lander's (2005) research review suggests is essential for progress. Those involved in Workplace English Language and Literacy projects perceive that they have a positive impact on literacy and numeracy progress, but the current approach to measurement of group outcomes means that it is not possible to map, recognise and report on individual progression.

Community learning

In 2000, over one million people were involved in some form of learning within the adult and community education (ACE) sector (NCVER 2001). The extent of literacy and numeracy provision

⁸ See appendix C.

within this sector is unknown, but it may be that the Australian situation is similar to that in the United Kingdom where Hannon et al. (cited in Mackay et al. 2006, p.15) commented that community provision of literacy and numeracy remains somewhat ‘under-conceptualised, under-researched and under-theorised and possibly insufficiently appreciated’.

In Australia, most information has come from small, qualitative case studies that demonstrate the potential of adult literacy and numeracy programs in specific contexts and provide insights into the sorts of approaches that may make a difference. (For examples, see Adult Literacy Research Program-funded studies by Kral & Falk 2004; Hayes, Golding & Harvey 2004; Cumming & Wilson 2005; Wickert & McGuirk 2005.)

In the first attempt to map the sector, an Adult Literacy Research Program study by Dymock (2007) found that community learning organisations fell into four main groups—community providers, accredited training providers, English as a second language providers and disability service providers. Within each ‘category’, there was significant diversity in terms of course focus, structure, teachers, learners and methodologies. However, most programs had a dedicated literacy and/or numeracy focus and were run in small groups or one to one. Course lengths ranged from six to 400 hours, with support being provided by both paid and volunteer tutors (with volunteers being involved in about one-third of programs).

All of the organisations surveyed believed their programs resulted in ‘strong development of learners’ language, literacy and numeracy skills and self-confidence, with levels of self-confidence slightly higher than skills levels’ (Dymock 2007, p.9). It was not possible to quantify this perception, partly due to a lack of sector information generally, but also because, as Dymock reports, literacy practitioners in community programs were split on the issue of whether they should formally monitor and report on learner progress.

Dymock (2007) also found evidence of integrated programs that situate literacy and numeracy in real-life, non-vocational contexts—such as family, health literacy and financial literacy. In an earlier case study of integrated programs involving partnerships, Wickert and McGuirk (2005, p.34) found that where literacy development was embedded in, or acknowledged as, a potential outcome of a community program, it was not always clear how literacy and numeracy skills development was addressed, nor how the perceived skills acquisition was assessed. The authors suggested there was a need for community organisations to better understand ways of reporting literacy outcomes for learners who might not want VET accreditation, but who still wanted recognition of learning gains. A recent study by Dymock and Billett (2008, p.7) considered assessment instruments that might capture wider learning outcomes in non-accredited programs and found that ‘both learners and tutors derived personal and educational outcomes through being involved in the process of using the tools and acknowledging a range of learning outcomes’.

In looking to the future, Wickert and McGuirk (2005, p.7) suggest that ‘an important implication of the concept of situated learning is that opportunities for learning are everywhere, not just in colleges or designated learning centres’. They argue that literacy and numeracy skills development can be integrated, not only within vocational education and training programs, but as part of a focus on one of the life skills areas that some identify as literacies in their own right (such as health or financial literacy). There has been some work in this area in the community sector, often in the form of pilot programs in family literacy (for example, the Steps program [Commonwealth of Australia 2005]). However, despite the fact that Australia first set goals to improve health literacy in 1993 (Nutbeam & Kickbusch 2000, p.1), Hartley and Horne (2006, p.25) found that health literacy programs have not received the same level of attention as in some other countries.

There is also potential to use alternative settings as a means of providing literacy and numeracy support for those with low skills. Hayes, Golding and Harvey (2004, p.7) found that local fire brigades and state emergency units were, ‘important sources and sites of adult learning in rural and remote communities’, facilitating networks and building trust and encouraging formal and informal learning through regular training. They reported that these units had the potential to provide

training in a range of literacies to an ‘otherwise difficult to reach cohort of (mainly) adult males’, which would also have broader benefits for their communities (Hayes, Golding & Harvey 2004, p.9).

A study by Cumming and Wilson (2005, p.7) explores the impact of high literacy and numeracy demands on those involved in the fast-growing area of alternative dispute resolution. While not proposing that this setting is appropriate for literacy and numeracy training for those with low skills, the authors suggest that training could be provided to the alternative dispute resolution practitioners to help them identify and support clients with literacy issues.

Who is teaching language, literacy and numeracy?

There are several different groups who could be said to make up the current language, literacy and numeracy workforce:

- ✧ language, literacy and numeracy practitioners whose major focus is adult literacy and numeracy
- ✧ language, literacy and numeracy practitioners with TESOL (teachers of English to speakers of other languages) qualifications who work primarily, or exclusively, with those from non-English speaking backgrounds
- ✧ Workplace English Language and Literacy Program practitioners who run workplace literacy and numeracy classes funded by this program
- ✧ vocational trainers, who are expected to incorporate literacy and numeracy into their delivery of training packages
- ✧ volunteer literacy and numeracy tutors.

There are some issues associated with defining these groups. For the purposes of this paper, the term *language, literacy and numeracy practitioner* refers to a paid practitioner whose major role is to provide adult literacy and/or numeracy training (as opposed to a *vocational trainer* whose focus is on training in a vocational areas such as welding, but who is expected to address literacy and numeracy issues as they arise).

Berghella, Molenaar and Wyse (2006) found that, while Workplace English Language and Literacy practitioners, like other language, literacy and numeracy practitioners, focused on literacy and numeracy, their role was likely to involve not only face-to-face delivery and the design of learning and assessment resources, but also project design and management, negotiation with a wide range of stakeholders, the writing of reports and submissions, the provision of advice to industry personnel, and the capacity to represent a registered training provider.

There is no national information available on the demographics of the language, literacy and numeracy practitioner workforce. A New South Wales study (McGuirk 2001 cited Mackay et al. 2006, pp.14–15) found that most practitioners in this state were female and ageing. Half of the total group were aged between 40 and 50 years, and only 2% were under 30 years. Around 70% were employed as casual or sessional staff. The study estimated that nearly 80% of those surveyed would leave the profession before 2011. Anecdotal reports suggest that the New South Wales profile describes the current situation in other parts of Australia also (except that the cohort had aged further) and a more recent national study of Workplace English Language and Literacy practitioners by Berghella, Molenaar and Wyse (2006, p.8) painted a similar picture of a workforce reaching retirement age with few new recruits.

The majority of the current cohort of language, literacy and numeracy practitioners has some form of university qualification (usually a teaching degree, plus postgraduate qualifications in TESOL or adult basic education). However, Mackay et al. (2006) found that many practitioners were critical of the postgraduate training they had received, believing that these courses had been too theoretical

and had not provided the practical skills required. This may cease to be an issue. The numbers enrolling for university-based adult literacy and numeracy courses has decreased to such an extent that most universities have stopped offering a full postgraduate qualifications, although some still offer an elective within a broader course. In the Mackay et al. (2006) study there was little agreement on an appropriate alternative. Practitioners interviewed believed that the Certificate IV in Assessment and Workplace Training could not do justice to the complex theory and practice underpinning adult language, literacy and numeracy and feared for the 'dumbing down' of training.

The Australian research on the effectiveness of available training for members of the literacy and numeracy workforce is limited. Nor is there a great deal on how practitioners actually work with adult literacy learners. While the Bensman, Sutton and Lander (2005) review of international research found that the explicit, structured teaching of reading was an essential requirement for effectiveness, a report by de Silva Joyce, Hood and Rose (2008) does raise some questions. It found that the significance of reading was frequently overlooked in the programming of the Australian adult literacy classes studied, and that there was little explicit teaching of reading strategies. However, this study found that the introduction of an explicit, tightly programmed methodology made it possible for students to make measurable progress, even within limited time frames. The teachers involved reported that the process also helped them develop a greater understanding of the organisational structure and grammatical characteristics of texts and influenced their practice in other ways, by making them more aware of the importance of systematic and principled planning and teaching (de Silva Joyce, Hood & Rose 2008, pp.5–11).

In the last ten years, the major focus on workplace literacy and numeracy has been through their integration into accredited vocational training programs. This approach has been reflected in the establishment of literacy and numeracy requirements in the development of training packages, the stated expectation that vocational teachers will also be teachers of literacy and numeracy, and the introduction of a literacy/numeracy focused elective in the Certificate IV in Training and Assessment. In practice, states and territories have responsibility for the extent to which registered training organisations focus on the literacy and numeracy requirements of their vocational areas. Although it is generally assumed that all vocational teachers will develop some expertise in the literacy and numeracy requirements of their subject area, there is little research available on how far integration is occurring, on how effective it has been to date, or on how many new trainers have selected the Certificate IV in Training and Assessment elective. In their study of the professional development needs for the language, literacy and numeracy workforce Mackay et al. (2006) found vocational trainers had received little, if any, training in how to address literacy and numeracy issues. Nor did they see such training as a priority. They reported that they would prefer to work in teams with a specialist language, literacy and numeracy practitioner who also understood the relevant vocational area.

While a number of language, literacy and numeracy practitioners in the community sector are paid specialist practitioners, Dymock (2007, p.9) estimates that over one-third of literacy and numeracy teachers in this sector are volunteers with a variety of backgrounds and qualifications. Mackay et al. (2006, p.23) found that volunteers tended to have the empathy and commitment needed to assist those with low self-confidence to build their self-esteem, but that they were 'generally less experienced' in terms of qualifications than either paid literacy practitioners or vocational trainers. Less than half of the organisations in Dymock's study provided volunteer training in literacy and numeracy. Those who did offered short (for example, one day) induction and literacy training courses. Participants in this study reported being satisfied that these had 'equipped them with the skills they needed', and did not necessarily want any further professional development.

Several researchers have identified initial training and ongoing professional development for members of the literacy and numeracy workforce as critical issues. Mackay et al. (2006, pp.27–9) found that, while innovative, effective professional development was available for the specialist practitioner workforce, demand far outstripped supply and access was not equitable, with part-time, sessional and casual staff (that is, most of this cohort) less likely to participate. Berghella, Molenaar

and Wyse (2006) highlighted that, while Workplace English Language and Literacy Program practitioners require a complex set of skills to do their job effectively, few professional development opportunities were available to help them hone these skills. Dymock (2007, p.37) found that only 40% of community providers made provision for professional development for their staff, paid or volunteer, and some that did were not comfortable to mandate the attendance of volunteers.

Mackay et al.'s (2006, pp.5–7) study found that the different cohorts within the current literacy and numeracy workforce had discrete needs and priorities for professional development that could not be met by 'one size fits all' approaches. That said, there was some common ground. All groups favoured professional development that was of short duration, face-to-face, hands-on and interactive. They wanted professional development to be provided by experts, but felt it should involve opportunities for the sharing of good teaching practice with peers, as a simple and effective way to address gaps in skills and knowledge.

Specialist practitioners' priority areas for professional development included dealing with the needs of learners with multiple disadvantages, developing skills in the use of information communication technology and teaching numeracy (Mackay et al. 2006, p.27–9). Other Adult Literacy Research Program-funded studies provide a useful body of research on the skills and knowledge needs of practitioners working in specific contexts with diverse learner groups. Of particular importance is cross-cultural competency (McGlusky & Thaker 2006, p.25; Kral & Falk 2004, p.62) and specific understanding of the backgrounds and needs of particular groups of learners (Kral & Falk 2004; Miralles 2004; Burgoyne & Hull 2006).

Program management and structures

The way adult literacy and numeracy programs are structured, funded, managed and accounted for have a range of consequences, many of them unintended, and not all of them positive. Almost all of the research from the Adult Literacy Research Program drew attention to these issues and provided a number of supporting illustrations of the impacts of structures that were not conducive to achieving the intended outcomes.

Dymock (2007, pp.20–2) identified funding as the major issue for providers of non-accredited courses, where most funding was 'recurrent' (that is, available from year to year but not necessarily guaranteed). McGlusky and Thaker (2006, p.18) found a similar situation in Indigenous programs, with lack of long-term funding creating a 'constant source of anxiety' for teachers and students who were involved in short-term programs with no security of tenure. The authors observed that: 'This instability has a flow-on effect, with part-time or temporary teachers unable to devote time to developing resources or attending to student needs'.

At the time of their study, McKenna and Fitzpatrick (2005) noted that, in some states there was no additional funding available over and above 'nominal hours' to support learners in VET courses who required additional literacy and numeracy support, meaning that 'registered training organisations must make a "commercial" decision about how much support a learner will require, and whether this can be provided within the resources available' (p.53). While some training providers found ways to do this, the authors observed that most were likely to adopt a 'basic skills model' and exclude learners who did not already have the basic skills to succeed (p.53).

A review of research by Wickert and McGuirk (2006, p.42) found that funding approaches could also discourage innovation. Short-term, ad hoc project-based funding provided no real incentives and limited change possibilities. Reporting mechanisms were also identified as a problem in a number of the Adult Literacy Research Program studies, involving practitioners in what they saw as time-consuming busywork when they wanted to be working with learners and asking for information that did not seem to reflect the learning that was actually occurring. There were also questions about how the information was used to inform decisions by government agencies

(Perkins 2005; Balatti, Black & Falk 2006; Mackay et al. 2006; Dymock 2007; Dymock & Billett 2008).

There are also structural issues that may affect an individual's ability to participate in literacy training. For example, the Adult Migrant English Program review (Department of Immigration & Citizenship 2008) reported that these clients found Centrelink Activity Test requirements difficult to manage, particularly when attending classes full-time, and that many clients had left the program because 'the pressure from their employment services provider to get a job at any cost was too great' (p.14). These clients had chosen to start work 'without the English language skills they needed to sustain them in employment'.

In looking to the future of adult literacy and numeracy training, the increasing emphasis on situated learning (workplace or community, accredited or non-accredited), and therefore on integration, suggests the need for a focus on how programs and projects are managed, as well as on the methodologies employed within a program. For example, an important issue for community organisations embarking on some types of integrated program is that they need to be able to build and maintain cross-sectoral partnerships. This in itself is challenging and Wickert and McGuirk (2005, p.34) found that a lack of skills and facilitating structures in this area was likely to have adverse implications for program outcomes.

Current issues and possible future directions

Although hard evidence is scant, there are indications that present approaches to literacy and numeracy provision do have a positive impact—for those individuals, families, communities and organisations involved. While there is potential to fine-tune and extend current programs, they have not been designed, or resourced, to reach the majority of those who have been identified as having low literacy and numeracy skills. Kim (2001, p.83) argues that, if we are interested in creating enduring change:

What we need is a very different theory about building shared commitment and vision to produce lasting results. We need to take a systemic view of the larger change process, and cultivate both a wide and a deep understanding of where we want to go (desired future reality) and be able to talk honestly about where we are (current reality).

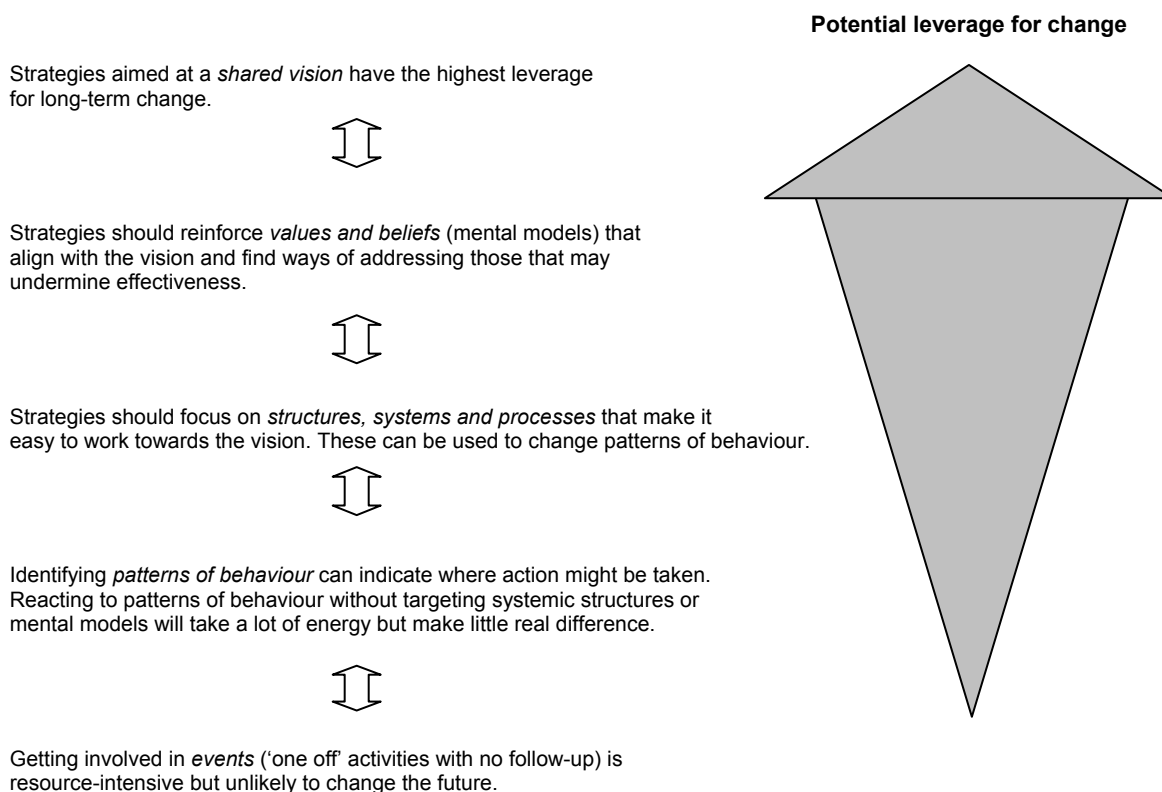
In order to better understand the current reality and identify strategies that will move a complex system towards a desired future reality, Kim (2001, 1995) suggests viewing the aspects of the system from each of five different levels of perspective:

- ✧ vision (a picture of where you want to go)
- ✧ mental models (values, beliefs, assumptions that drive behaviour)
- ✧ systemic structures (policies, processes, programs, organisational structures)
- ✧ patterns of behaviour (such as those identified by research)
- ✧ events ('one off' actions and activities that provide examples of desired or undesired behaviour).

Kim (1995, p.3) argues that the key to successful large-scale change is to be able to view the system from, and act at, all levels simultaneously. However, the ability to bring about lasting change and influence the future increases as we move away from the levels of *events* and *patterns of behaviour*. While this does not always mean that high-leverage actions can only be found at the higher levels, actions here have more impact on future outcomes than on present events, so, over time, their leverage will in fact be far greater.

The *levels of perspective* model provides a useful way of discussing key aspects of the research reviewed in this paper, and of considering their relevance to the design of future strategy. It is not the intention of this paper to design such a strategy, but to identify areas where action could make a difference, and offer some examples of what that action might involve.

Figure 1 The levels of perspective



Source: Kim (1995).

Adult literacy and numeracy in Australia: Where is there leverage for effective change?

Developing a shared vision

Kotter's (1998, p.9) research identifies lack of vision as one of the eight major reasons why change efforts fail. He cautions that: 'Without a sensible vision, a transformation effort can easily dissolve into a lot of confusing and incompatible projects', because the focus is on developing systems and structures without clear agreement about what they are collectively supposed to achieve. Kim (1995, p.2) also argues that: 'Vision can be a powerful force for action when it is clearly articulated and there is a genuine desire to bring it into reality.' He suggests that articulating a vision as a picture of a desired future allows those involved to expand their thinking and frames effort in terms of creating 'what we want' rather than eliminating 'what we don't want' (Kim 2001, p.85).

Despite calls for the development of a clear vision and supporting policy framework (McKenna & Fitzpatrick 2004), Australia, unlike other OECD countries, has had no clearly articulated vision to focus and motivate national effort on adult literacy and numeracy since 1991. This has had serious implications for the design, resourcing and evaluation of policy, strategies and programs, and also for the focusing of research agendas. From a national perspective, we have not been able to ask: 'What do we want to achieve? Who will be making decisions about what? What do they need to know and why? What are the strategies most likely to get us where we've decided to go?' It is not surprising that there has been little fundamental change in federally funded programs for a number of years, or that government-funded research has gone in many directions.

It could be considered that a lack of national goals and centralised programs has had some benefits such as the fostering of state-based action, a multitude of pilot programs tailored to local contexts, and the sometimes unexpected outcomes that arise from diverse research initiatives. However, although this provides a wealth of experience to draw on and to learn from, it is difficult to see how a continuation of this fragmented approach could make a significant and sustainable difference. More of the same will produce more of the same. Is that enough, or is it time to formulate a collective picture of where we want to head in terms of adult literacy and numeracy, supported by a collective commitment to making it happen?

If it is, then we will need a picture of a future that Australians will find compelling. The Council of Australian Governments (COAG) Participation and Productivity Statement⁹ released in 2008 contains aspiration and outcomes statements that begin to paint a picture of where our nation wants to head. Importantly, literacy and numeracy are incorporated, with an attempt to establish a sense of a continuum from early childhood to adulthood and on throughout adult life. It could be argued that the statement is not yet in a form that could be considered a compelling 'vision' but it is significant in that the country's political leaders have made a commitment to it. It could provide a powerful starting point for discussion, a broader context within which to design appropriate structures and systems to support literacy development generally, and adult literacy development specifically.

Aligning mental models

Even with a compelling vision incorporating literacy and numeracy, little will actually happen if people's core values and beliefs are not in alignment. These mental models underpin everything we do. They influence how we see the world, where we focus our attention, what we perceive to be a 'problem', the nature of decisions we make, how we design systems and structures to put those decisions into action and what we look for to tell us whether we made the right decision. Yet, despite the fact that values, beliefs and assumptions are enormously powerful forces in our lives, we seldom talk about them openly (Kim 1995, 2001).

A key barrier to change in the past has been the lack of widespread appreciation that adult literacy and numeracy is a mainstream issue. Even though most Australians undoubtedly value the ability to read, write and count, post-school literacy and numeracy have been largely taken for granted, or assumed to be a relatively minor problem, so there has been no concerted community or business pressure to make adult literacy and numeracy a priority. Over the period of time in which this paper has been written, there have been interesting developments at the national level which suggest that things may be starting to change at a political level, and within major business groups.

However, it could be difficult to fan this small flame without some agreement on how to talk about literacy and numeracy outside the field itself. Is there a need to adopt a more limited construct of literacy and numeracy, as Wickert and McGuirk (2005) suggest? Lonsdale and McCurry's (2004, p.39) proposal that we see literacy as 'a set of tools facilitating an individual's participation in society' could provide a starting point for establishing common ground, but it is still very broad. To avoid some of the negative associations with the terms 'literacy' and 'numeracy', it could be useful to focus on 'core' skills. The Australian Core Skills Framework (Department of Education, Employment and Workplace Relations 2008b) provides a means of talking about and detailing performance in the five core skills areas of learning, reading, writing, oral communication and numeracy. Drawing on the National Reporting System, the new framework has been designed primarily for use by language, literacy and numeracy practitioners and training package developers. However, it has been designed to make the concepts about the performance and development of

⁹ <<http://www.deewr.gov.au/Schooling/QualityEducation/Pages/QualityEducation-ThecaseforanEducationRevolutioninourSchools.aspx>>

core skills more accessible to non-practitioners, and, although only recently released, it is already generating a deal of interest amongst practitioners and non-practitioners alike.

Even with a change of terminology, ideological tensions within the field have the potential to undermine the development of a common vision and agreement on strategy. Given that the majority of Australians who could benefit from literacy and numeracy assistance are in the workforce, that literacy and numeracy are best learned in context, and that the majority of participants in current adult literacy and numeracy programs want a more vocational orientation, it would seem logical that work-based and work-focused programs should feature strongly in future strategies. Yet, this may not sit well with some members of the field. Is it time to ask whether adult literacy and numeracy must be framed as either a human capital or as a social inclusion issue? We need to explore a range of values, beliefs and assumptions to avoid obfuscating the situation. Without this it would be difficult to recognise the nature and extent of the issues, or to agree on the actions that need to be taken to address them. Alternatively, if members of the field cannot agree, they may find themselves side-lined as others take action without their support.

Systemic structures

The term ‘systemic structures’ refers to the scaffolding we put in place to make things happen, such as policies, rules, programs, processes, organisational structures, communication, decision-making and/or funding mechanisms. Systemic structures translate vision and mental models into action. Systemic structures have a strong influence on behaviour and are responsible, at least in part, for the *patterns of behaviour* and *events* that characterise day-to-day life (Kim 1995, 2001).

A shared vision of the desired future held by a broad base of stakeholders would make it possible to identify agreed goals and tailor structures and systems to support the action needed to achieve them.

The review of research presented in this paper, including the work of the Adult Literacy Research Program, suggests a need for:

- ✧ a policy framework to focus and support adult literacy and numeracy strategies as an integral part of broader social and economic strategies and reflected in government organisational structures
- ✧ a review of the content and approach of stand-alone literacy and numeracy programs to ensure that they continue to meet participants’ needs and expectations
- ✧ systemic structures to facilitate effective program delivery—including integrated approaches—in a range of community and workplace contexts
- ✧ strategies to develop a literacy and numeracy workforce made up of groups with the necessary skills and knowledge to provide appropriate assistance to diverse learners in diverse contexts
- ✧ structures to ensure that we learn from, and continue to improve on, what we do.

Development of a new policy framework

The last national policy framework for literacy was developed 16 years ago in a different political era and focused on literacy and numeracy in its own right. New policies may have more chance of influencing mainstream decision-making if they align with the emerging vision for Australia in 2020, and treat literacy and numeracy as a means to various ends.

This integrated approach will be easier to implement if it is also reflected in government support structures and systems. For example:

- ✧ a consideration of the most appropriate places to position adult literacy units, which in turn depends on the prevailing perception of literacy and numeracy. Is adult literacy and numeracy development an equity and access issue, a vocational training issue or a workforce development

issue? If it has implications for all three areas, where can a government department best influence, coordinate, facilitate and monitor action?

- ✧ the design of new funding models that actively support partnerships between those in education and training and those in other industry and community sectors.

A review of dedicated literacy and numeracy programs

Most dedicated literacy and numeracy programs are aimed at those who are not in the workforce. These programs incorporate many of the factors identified in international research as being effective in the teaching of adult literacy and numeracy. There is some evidence that programs such as the Language, Literacy and Numeracy Program do have a positive impact on those participants who stay the course. Further data on learner outcomes from courses other than the Language, Literacy and Numeracy Program would be extremely useful in determining the most appropriate methodologies for different client groups within diverse Australian contexts. The Australian Core Skills Framework may make it easier to obtain such data.

At the same time, there are questions about whether dedicated programs in their current forms will be able to meet the needs and expectations of intended participants. Adult Migrant English Program clients have questioned the literacy and numeracy focus of that program. There is emerging evidence that the client cohort in general education courses is changing, and that some who might once have joined a dedicated literacy and numeracy course are now moving straight into vocational courses, but are struggling.

It would be an appropriate time to find out more about current client expectations and needs in those contexts where the data are dated or non-existent, and to revisit the provision of dedicated adult literacy and numeracy training. While the Adult Migrant English and Language, Literacy and Numeracy Programs have both been recently reviewed, a comprehensive review of general education programs and of dedicated programs in the community setting would identify learner needs and expectations and provide insights into current strengths and challenges. This would assist proactive decision-making and, where required, re-design to ensure that these programs do continue to meet learners' perceived and actual needs. In the absence of this type of information and forward planning, it is possible that such programs will experience difficulties in attracting and retaining learners. The Adult Migrant English Program review found evidence that this was already occurring in that program, and anecdotal reports from general education programs suggest a similar trend.

This review could also be informed by further research into why many adults with low literacy skills do not seek assistance, or when they are offered assistance (for example, through Centrelink) they do not take up the offer. Could changes to current program design make it easier to overcome barriers to participation, are new approaches needed, or are there groups of people who do not want to develop their literacy or numeracy skills and who are never likely to change their stance?

If a review of stand-alone programs finds an increasing client expectation for vocational training and a call for some form of integrated approach, this in turn will raise critical issues about the appropriateness of one trainer managing both vocational and literacy and numeracy aspects and current funding mechanisms which do not generally support a team approach.

Systemic structures to facilitate effective integration in a variety of settings

The United Kingdom findings on effective integration of literacy and numeracy training (Casey et al. 2006) raise important questions for adult literacy and numeracy training. But are they applicable to the Australian context? We simply do not know. There has been no equivalent large-scale study conducted in Australia, and although there are some case studies that support aspects of the United Kingdom study, others do not.

In the vocational setting, is it also time to revisit the whole ‘built in not bolted on’ approach to better understand just how far literacy and numeracy have indeed been integrated, and to identify what structures may need to be put in place to better facilitate an effective integrated approach? Should the focus be on raising awareness and skills of vocational trainers or do the findings of the United Kingdom institutional study (Casey et al. 2006) also apply in Australian work settings?

Given the VET system’s promotion of the ‘built in not bolted on’ approach, and a growing client expectation of a vocational focus with embedded literacy and numeracy training rather than a dedicated literacy and numeracy focus, we need a better understanding of integrated approaches. If we decide to increase the emphasis on integration, the United Kingdom (Casey et al. 2006) and Australian (Wickert & McGuirk 2005) research both agree that it isn’t easy. A greater emphasis on integration may involve challenging some long-held mental models and changing some well-established structures and systems, particularly in relation to funding. Effective outcomes will also be reliant on the availability of vocational and literacy and numeracy practitioners with the skills and knowledge to make integrated approaches work.

There is further research required to assess the implications of integration in different Australian contexts. While such research should consider a range of factors related to pedagogy and team teaching, it will be equally important to develop a clear understanding of how existing structures and systems drive behaviour in certain directions, and to develop new models that will facilitate the adoption of integrated approaches.

Strategies and structures to support effective program delivery in community contexts

Community contexts are extremely diverse, but it is because of this that they appear to provide appropriate contexts for reaching adult learners who might not otherwise seek assistance. Despite the diversity it should be possible to design flexible systemic structures to ensure continuity of programs and personnel for those working in a particular context and to facilitate the sharing of ideas and learning across contexts. Action might include challenging government funding mechanisms to ensure security of funding for an extended period. Longitudinal studies of learner progress would provide important information for program designers and funders, as well as providing feedback of progress to learners. The community sector also offers potential in regard to learning how to build effective partnerships across sectors, for example, through ‘dual purpose’ health literacy programs.

Strategies and structures to facilitate an extension of work-based programs

As stated earlier, of those Australians with low to very low literacy and numeracy skills, 60% are in the workforce. Research suggests that the majority of this group are unlikely to volunteer for, or to be offered, work-based training without some form of intervention, but that, in the past, such intervention has not been a priority for many organisations.

The Workplace English Language and Literacy (WELL) Program is the major federally funded intervention program supporting literacy and numeracy skills development within the workplace and supports contextualised learning, tailored to the needs of individuals and their workplaces. Programs are offered by a new breed of hybrid trainers who are flexible and knowledgeable enough to cross traditional boundaries between the specialist literacy class and the vocational work-based setting. However, while program participants recognise its value, it involves only 20 000 learners per year, most of whom are in medium-to-large businesses. Nor is it often possible to offer participants the breadth and depth of literacy and numeracy training or the sustained number of hours that the review of international research suggests is required for significant progress to be made (Benseman, Sutton & Lander 2005). While the research suggests that a number of learners participating in Workplace English Language and Literacy programs recognise their value and might wish to

continue, it is less clear that there are structures in place to facilitate the transition to appropriate support.

While it is unlikely that this program could significantly increase its penetration in its present form, it does provide useful insights into what works—and what does not—in certain types of enterprise context. In designing for the future, it could be helpful to work with Workplace English Language and Literacy Program managers and practitioners to explore questions such as:

- ✧ What existing structures and systems could be utilised to draw on Workplace English Language and Literacy Program experience for the development of other forms of work-based integrated training?
- ✧ What new structures might be needed to facilitate this?
- ✧ What could be put in place to enable trainers from the Workplace English Language and Literacy Program to hand on their skills to a new generation of workplace trainers?

Structures to build and maintain an effective, sustainable literacy and numeracy workforce

Adults with low literacy skills need to be taught by people with the appropriate skills. Australian research into the knowledge and skills needs of literacy and numeracy practitioners has focused on the perceived needs and preferences of the current workforce. However, given the overriding importance of a skilled and knowledgeable teacher, would some members of the profession benefit from greater attention to explicit pedagogical issues? If so, research could help identify specific areas of need and the best ways to address them in a highly casualised and relatively poorly paid workforce.

On a broader scale, however, the most pressing issue is to ensure that a literacy and numeracy workforce is sustained. There is a need for a systematic approach to workforce development, involving strategies to:

- ✧ promote the adult literacy and numeracy field as a career (as in the case of the English as a Second Language teacher)
- ✧ identify and target groups whose members might see the benefit of literacy and numeracy training (for example, youth workers, Country Fire Service trainers and brigade leaders)
- ✧ facilitate access to initial training programs and ongoing professional development incorporating the appropriate theoretical and practical knowledge and skills

In addressing ongoing professional development requirements, innovative methods are needed, as the majority of practitioners are employed on a casual or part-time basis, and unlikely to access professional development. For example, changes to some tendering models might make it easier for registered training organisations to schedule regular, paid professional development (including sharing amongst peers) for part-time and casual staff—and also for their full-time staff.

While current practitioners like short ‘one off’ events, there is a deal of research to suggest that these are unlikely to have much real impact on learning and behaviour change (for example, Butler 1996; Daley 2001; Maldonado 2002; Cranton & King 2003; Smith et al. 2003; Poell 2004). For those still in the field and for any who might join, new programs could support skills development and the reflective practice that is critical to the development of expertise. Again, there are many case studies of pilot programs in the VET sector, particularly those based around action research that could provide guidance on ways forward. Other alternatives include the idea of work shadowing (Mackay et al. 2006)

On another level, the whole issue of casualisation also needs to be explored further. While a number of the current specialist cohort may find it useful to be employed under these terms, the lack of stability, status and/or remuneration may act as a serious deterrent to potential new recruits.

Changing this is likely to involve challenging some existing mental models *vis-a-vis* the nature of ‘appropriate’ qualifications, but should be informed by the research findings on the importance of literacy and numeracy trainers who can diagnose problems and provide a range of strategies to support learners in areas of need.

This goes well beyond having a person who is interested to help and can read and write themselves. But at the same time, given the broad range of people with low literacy and numeracy skills, can we afford to focus only on the highly trained? Are there ways to increase the awareness and skills of non-literacy ‘specialists’ so that they can provide a measure of assistance, while also making it easier for them to refer a learner to a literacy practitioner, or to work as part of a team? This is a challenging area with no easy answers, but it is one in which some answers are desperately needed, because one of the things we can be sure of is that the current literacy and numeracy workforce is dwindling and there are few incentives to attract new recruits.

Six out of ten adult Australians with low to very low literacy and numeracy skills are employed (ABS 2007) and this, along with the increasing trend towards workplace training, generally suggests a need for a ‘new breed’ of literacy and numeracy practitioners to provide the specialised skills that will be required in workplace contexts. This must be taken into account in any consideration of future qualifications and skill sets. The present Workplace English Language and Literacy Program workforce provides a pool of experienced practitioners from whom to learn. Members of this group could be involved in designing training programs and mentoring new practitioners. This could also lead to the establishment of a centrally coordinated approach to career pathways in the Workplace English Language and Literacy Program, with program experts appointed to induct new practitioners, facilitate the training of others and support the sharing of information and ideas across the program network. This would build on, but move significantly beyond the recently established, unfunded WELL Practitioners’ Network.

Structures to ensure that we learn from what we do

There are structures in place to share outcomes via publications and websites, but is there also a need for a centralised mechanism for reviewing findings and considering their policy implications as part of a broader national agenda?

Patterns of behaviour

As outlined in earlier sections of this paper, international and Australian research, particularly that funded through the Adult Literacy Research Program, has identified patterns of behaviour in a myriad of areas relevant to adult literacy and numeracy. Those most critical in designing future action include:

- ✧ the widespread lack of perception of adult literacy and numeracy as a problem needing attention (although there are recent indicators of change at least in the political arena)
- ✧ the lack of common concepts and a common language to talk about literacy and numeracy
- ✧ the evidence showing that adult literacy and numeracy should be taught by skilled specialists, and that effective training is likely to involve regular contact and be of more than 100 hours’ duration
- ✧ the preference of many learners from diverse backgrounds for vocational skills’ training with literacy and numeracy embedded, rather than dedicated literacy and numeracy training, and emerging evidence that the integrated approach can produce better outcomes in terms of literacy and numeracy skills development, retention rates and learner satisfaction under the right circumstances
- ✧ the assumption that the integrated approach to literacy and numeracy in vocational education and training has in fact influenced the approach of registered training organisations and

vocational trainers, despite a lack of evidence to support this, along with research findings that raise questions about the efficacy of having one trainer responsible for both vocational and literacy aspects

- ✧ the ageing specialist workforce, the lack of newcomers to a profession that is highly casualised, relatively lowly paid and the dearth of professional development opportunities
- ✧ the likely need for adult literacy workers with the broader skills sets required to work in integrated community or workplace settings
- ✧ the features of funding mechanisms that work against secure employment, continuity and the potential for innovation.

In looking ahead, Wickert and McGuirk (2005, p.42) suggest that:

Convincing evidence is more likely to build political will, attract the support of community leaders and help strengthen the local commitment to draw on and build social capital and community capacity ... However, providing visible evidence of success is not easy.

A research program focusing on the following areas may be a means of obtaining evidence to influence policy:

- ✧ a comparison of approaches to integrated programs in Australian workplaces and community settings, focusing on pedagogy, teamwork, and ways of managing the inherent logistical and financial challenges
- ✧ studies of specific groups with low literacy skills to better understand why many do not access formal literacy training programs, and to inform the design of approaches that might overcome some of these barriers. A particular focus might be on regional and remote Indigenous communities
- ✧ longitudinal studies of the costs and benefits of investing in literacy and numeracy skills training in different Australian contexts
- ✧ research to inform the design of a workforce development strategy for literacy and numeracy workforce development, including identification of potential groups who might train in literacy and numeracy and ways to assist them to do so.

The new Australian Core Skills Framework may offer another means of providing qualitative and quantitative data that would allow us to build a nationally consistent and detailed picture of Australians' performance in the five core skills of learning, reading, writing, oral communication and numeracy. The framework is far more user-friendly than its predecessor, the National Reporting System. It is being introduced just as adult literacy and numeracy is emerging as an issue for skills reform and as the system is considering future directions for VET training products—including the role of foundation skills in the definition of competency, and within training packages generally (NQC/COAG Joint Steering Committee 2009).

Conclusions and recommendations

While it is important to acknowledge that many Australians are able to live fulfilling lives without well-developed literacy and numeracy skills, it is hard to ignore the correlation between low levels of literacy and numeracy and social isolation, unemployment, lack of qualifications, low wages and poor health. It is also hard to ignore the evidence that low literacy and numeracy skills have measurable impacts on local communities, organisations, industry sectors and at a national level, or that effective interventions can have diverse positive outcomes.

Existing adult literacy and numeracy programs appear to be effective in assisting people with low skills who are unemployed or not in the labour market, but these programs only target a small percentage of these cohorts. There are also indications that the needs and expectations of some members of these groups no longer align with aspects of the programs' design. A further consideration is that current approaches are unlikely to reach the majority of adult Australians with low literacy and numeracy skills because they are in the workforce.

As Australia seeks to better define its desired future, a perfect opportunity exists for literacy and numeracy to be seen as an integral part of the drive towards social inclusion, increased workplace skills and improved productivity. There are indications that this is beginning to occur—but there is some way to go. The time may be right for a concerted effort to raise the profile of adult literacy and numeracy within the emerging broader vision of Australia. This would provide a context for the development of a national policy framework as a means of focusing fragmented effort and influencing the design of systemic structures to facilitate literacy and numeracy development as a recognised, and essential, aspect of lifelong learning.

Recommendations

While there are some limitations in applying the results from the international research to the Australian adult literacy and numeracy context and a lack of large-scale Australian studies in those areas that have been identified as important by overseas research, strategies that appear to offer the greatest potential for change include:

- ✧ a collaborative effort to ensure a high profile for literacy and numeracy for all age groups in the emerging vision of Australia in 2020, and in key policies and strategies designed to achieve it
- ✧ the development of a new national policy framework to focus and support adult literacy and numeracy strategies as an integral part of broader social and economic strategies, and reflected in government organisational structures
- ✧ the creation and implementation of a national literacy and numeracy workforce development strategy
- ✧ the implementation of strategies to raise the awareness of key decision-makers that adult literacy and numeracy is a mainstream issue that should be part of their agenda. This may involve the adoption of somewhat simpler concepts and terminology and perhaps a move from talking about literacy and numeracy to a discussion of core skills or foundation skills

- ✧ a review of the content and approach of dedicated literacy and numeracy programs to ensure that they continue to meet participants' needs and expectations
- ✧ support for the use of the Australian Core Skills Framework across programs to provide nationally consistent data on learner outcomes, and further exploration of its potential to describe and report on other learning outcomes that may not be captured by the framework
- ✧ national coordinating structures to ensure that we learn from, and continue to improve on, what we do.

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Appendix A: The Adult Literacy Research Program

The priorities that shaped the commissioned research over the duration of the Adult Literacy Research Program were:

2003

- ✧ impact of poor literacy on society, the economy, health and welfare
- ✧ teaching and learning practices focusing on teaching styles to improve adult literacy
- ✧ models of provision for ongoing learning
- ✧ ICT: impact on literacy
- ✧ improving numeracy in the workplace.

2004

- ✧ a comprehensive study into the full range and nature of adult language, literacy and numeracy provision in Australia
- ✧ the professional development needs of adult literacy and numeracy teachers and trainers.

2005

- ✧ examining the relevance and responsiveness of current literacy and numeracy training to industry's workplace needs
- ✧ identifying the perceptions and experiences of learners and potential learners in literacy and numeracy programs
- ✧ mapping literacy and numeracy provision in community settings.

2006

- ✧ teaching and learning approaches to language, literacy and numeracy skills development
- ✧ language, literacy and numeracy clients: what are their needs and how do we measure success?

All funding rounds also included an 'open' category in which forward-looking and innovative research proposals were invited.

The full list of publications funded by the Adult Literacy Research Program is listed in appendix B and can be accessed at <<http://www.ncver.edu.au/teaching/31035.html>>.

Appendix B: Adult Literacy Research Program publications

- Balatti, J, Black, S & Falk, I 2006, *Reframing adult literacy and numeracy course outcomes: A social capital perspective*, NCVER, Adelaide.
- Berghella, T, Molenaar, J & Wyse, L 2006, *The professional development requirements of Workplace English Language and Literacy Programme practitioners*, NCVER, Adelaide.
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Appendix C: Literacy and numeracy provision in Australia

This section provides background information on delivery approaches and government programs referred to in the paper.

Stand-alone literacy and numeracy courses

An NCVET study found that there were nearly 190 000 students enrolled in literacy and numeracy courses in the VET sector in 2004, representing nearly 12% of total VET students: 61% of the courses were dedicated literacy and numeracy courses (NCVERb 2006). The remainder incorporated identifiable literacy and numeracy modules within a course such as employment skills or parental education.

Almost 90% of students were enrolled in TAFE and other government providers, 7.3% in community providers and 4.2% in private providers. A further 36 800 clients per year were enrolled in the Adult Migrant English Program (Department of Immigration & Citizenship 2008, p.12), and 24 000 per year in the Language, Literacy and Numeracy Program.

For those in the VET sector, nearly 60% were from English speaking backgrounds and nearly 40% were aged between 30 and 49 years. There were slightly more females than males. About 55% had no post-school qualifications, with about one-third of this group having achieved Year 9 or lower. Just under two-thirds of annual hours for dedicated literacy and numeracy course programs had successful outcomes compared with 72.3% for subject programs (NCVERb 2006).

The Adult Migrant English Program (AMEP) and the Language, Literacy and Numeracy Program (LLNP) are the two major federally funded programs for adult literacy and numeracy.

AMEP has been operating for nearly 60 years and provides language, literacy and numeracy assistance to new migrant and refugees from non-English speaking backgrounds in three streams—humanitarian, family and skilled (Department of Immigration and Citizenship 2007). In 2004, the majority of participants were female; 78% of participants were aged between 20 and 44 years. A further 20% were aged under 20 years, and this group in particular had many people from highly oral cultures.

The LLNP began in 2002 with the aim of improving clients' language, literacy and numeracy skills to enable them to participate more effectively in training or in the labour force. Clients must be of working age, be registered as job seekers with Centrelink and have no potential barrier to successful participation in the program. Demand for the program has been increasing since its inception, particularly in Basic English, with many clients moving into LLNP once they have completed their AMEP entitlements (Department of Education, Science and Training 2005). In 2004, about 12 000 students were enrolled in Basic English. Just over half were females with a median age in the early 40s. Another 2000 students were enrolled in Advanced English. Of these, 70% were female and the median age was in the late 30s. Approximately 10 000 students were enrolled in the Literacy and Numeracy stream: approximately 80% were from English speaking backgrounds, 40% were female and the median age was 30 years.

Literacy and numeracy in the workplace

While some organisations (for example, Queensland Rail) organise their own literacy and numeracy support programs, the major workplace focus is likely to be through the Federal Government's Workplace English Language and Literacy (WELL) Program. Operating since 1991, WELL provides funding to enterprises, representative bodies, local governments and registered training organisations to undertake workplace-based language, literacy and numeracy training and support, integrated with vocational training and to develop resources that can be used to support such training and undertake strategic projects across one or more industry sectors (Department of Education, Science and Training 2006, p.5) The program involves some 20 000 people per year, in programs of varying duration, designed to meet both the needs of the business and those of participants.

A formal evaluation (Department of Education, Science and Training 2006, p.9) found that WELL attracted medium-to-large businesses, and was more likely to be successful in industry sectors where there was a clear business need for upskilling staff as part of their work requirements. It also found that participating employers were far less likely to become involved in literacy and numeracy training if it had not been for WELL, particularly in industries less subject to regulation. Although it was intended that WELL money would be used to seed long-term programs supported by the business itself, anecdotal evidence suggests this has not often been the outcome.

Table A1 Major language, literacy and numeracy provision in Australia: Comparative table

Program	Participants per year (2004)	Hours	Qualification	Language background	Learner characteristics	Teacher qualifications
VET Adult literacy and numeracy	188 300	Total 43.8 million	Mostly state-specific, non-AQF quals e.g. CGEA	58.9% ESB 41.2% NESB	39% 30–49 years of age 54% female	Teaching qualification plus post-graduate qualifications in adult LN or TESOL
AMEP	38 000	Up to 510/person	Cert. in Spoken & Written English (CSWE) I, II, III	100% NESB (arrived in Australia within last 18 months)	78% 20–44 years of age 65% female 20% under 25 in 2004 Increase in young people from highly oral cultures	TESOL May not be certified to teach outside language-specific areas
LLNP Basic English	12 000	160 hours/person		94% NESB born overseas	56% female Median age early 40s Jobseekers with LN issues	Teaching qualification plus post graduate qualifications in adult LN or TESOL
LLNP Advanced English	2000	160 hours/person		95% NESB born overseas	69% female Median age late 30s	As above
LLNP L&N stream	10 000	160 hours/person		81% ESB 19% NESB	40% female median age 30	As above
Non-accredited community provision	Unknown	6–400 hours/person			Majority 30–49 years of age	30% of providers do not require quals (but may require participation in volunteer training program). Others range from tertiary qual in TESOL, LLN Cert. IV in Training and Assessment
WELL	20 000 (2006–07)	varies widely			Workplace-based	79% teaching qual. Most also have post-grad quals



This report is part of the Adult Literacy National Project, funded by the Australian Government through the Department of Education, Employment and Workplace Relations. This body of research aims to assist Australian workers, citizens and learners to improve their literacy and numeracy skills.

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