

Moving forward: Towards a Literate Australia



An ACAL Position Paper on the 2006 Adult Literacy and Lifeskills survey¹

Introduction

For many years it was assumed that Australia did not have a literacy problem because of its long-standing policy of free, universal and compulsory education. However, since the late 1980s a number of literacy surveys have alerted Australia to the fact that it has quite substantial problems with the literacy levels of its adult population. The most recent finding that almost half of the adult population performed at levels not sufficient to cope in today's modern society suggests that there is indeed a crisis with adult literacy in Australia (ABS, 2007). 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.

Australia has just taken part in the Adult Literacy and Lifeskills survey (ALLS) and the first results were released at the end of 2007. ACAL believes that there needs to be a comprehensive understanding and use of the research possibilities in the ALLS data in order to better understand adults' literacy and numeracy skills and abilities and the different factors that impact on and influence performance. The continuing need for data and research to inform policy is crucial so that it can be used as the basis for improved planning, delivery and evaluation of literacy programs.

The problems with literacy are "a crisis for the individual struggling with reading and writing in an increasingly print dominated world; a crisis for the nation as the potential of many of its citizen's remains untapped and a crisis for the economy" (ACAL, *Surveys and Beyond: The case for adult literacy*, 2001, p.3).

Background

The international Adult Literacy and Lifeskills survey (ALLS) took place across Australia between July 2006 and January 2007. It was co-funded by the Australian Bureau of Statistics (ABS) and the Department of Education, Science and Training (DEST) with support from the Department of Employment and Workplace Relations (DEWR). First results of the Australian ALLS were released in late November 2007. The summary results are available in the publication *Adult Literacy and Life Skills Survey: Summary results, Australia* (cat. no. 4228.0).

The 2006 results showed that between 46% and 70% of adults in Australia had poor or very poor skills across one or more of the five skill domains of prose literacy, document literacy, numeracy, problem-solving and health literacy. Compared to the 1996 results, there has been some upward movement in performance from the lowest skill levels. In regard to prose literacy, there was a significant 1-2% percentage point decrease in the proportion of adults with a skill level of 1 and a corresponding 2 to 3% increase in the proportion of adults with skill levels 2 and 3. In regard to document literacy, there has also been a significant decrease in the proportion of adults with the lowest skill level.

The 1996 International Adult Literacy Survey found that approx. 6.2 million adult Australians didn't have adequate literacy skills to cope with the demands of everyday life and work. The 2006 Adult Literacy and Lifeskills survey (ALLS) found that this had increased to approx. 7 million adults, but that increase can be largely explained by Australia's population increase over that period. There was some improvement at the lowest level.

The first and related International Adult Literacy Survey (IALS) that Australia participated in was back in 1996 – so the 2006 survey provides a 10 year span over which to compare data and performance. However, whilst the 1996 IALS results potentially provided a wealth of data, information and analysis, little follow up research or analysis was undertaken. Beyond the production of several initial publications, data from the 1996 IALS was underutilised. However, many of the other countries that took part in the IALS analysed the data in a multitude of ways and as a basis for a range of policies and strategies. Hagston investigated what other countries have done with their IALS data, and her report identifies follow up research questions that Australia could have attempted to take up and answer (Hagston, 2002). Some of the questions posed in that study have been included below and could be revisited in relation to the ALLS results.

"International research draws a direct line of cause and effect between government policy and a nation's literacy capabilities. Evidence is emerging that the co-ordination of policies over a range of different policy domains can have significant impact, directly and indirectly, over a nation's adult literacy and numeracy levels." [ACAL, *A Literate Australia*, 2001, p. 5]

¹ This is version 4 of this paper – the first one after the results were released. Updated January 2008.

What's in ALLS?

The four directly assessed skills in ALLS are:

- **Prose Literacy** - the knowledge and skills needed to understand and use information from text including editorials, news stories, poems and fiction (assessed in IALS).
- **Document Literacy** - the knowledge and skills required to locate and use information contained in various formats including job applications, payroll forms, transportation schedules, maps, tables and graphics (in IALS).
- **Numeracy** - the knowledge and skills required to effectively manage and respond to the mathematical demands of diverse situations (new to ALLS).
- **Problem Solving** - the knowledge and skills required to identify a problem, search for relevant information and integrate it into a coherent problem representation, evaluating the problem situation with respect to given goals and criteria, devising a plan and monitoring its execution (new to ALLS).

The scale and methodology

Using household survey methods, a representative sample of almost 9000 respondents were first asked a series of background questions (see below) and then presented with a screening booklet containing a small number of simple (level 1) tasks. If the respondent failed to complete two or more of these tasks correctly, the interview was concluded. This was to identify and take into account respondents who have very low levels of English language and/or literacy ability. If the respondent completed two or more tasks correctly, they were given a separate booklet containing a selection of the assessment tasks. The tasks were, as much as is possible in a large scale testing situation, based on adult contexts and 'real-life' scenarios and texts, and were open ended. The items are based upon simulated texts such as advertisements, newspaper articles, instructions, maps, diagrams and plans, photos, etc. A ruler and calculator are provided to respondents for use in the numeracy items. (For more information about the methodology and descriptions of sample ALLS items see Desjardins, Murray, Clermont & Werquin, 2005.)

There was no time limit and respondents were urged to try each item. To support this, tasks are not ordered in the booklets in terms of increasing difficulty and respondents who cannot answer a particular question may be capable of answering following questions. Respondents were thus encouraged to attempt all items in the booklets.

As in IALS, the literacy, numeracy and problem solving ability will be expressed as a score on a scale ranging from 0-500 points. The score is the point at which a person has an 80%² chance of successfully performing tasks at that level. The scale is grouped into five levels. (Note: they are not equivalent to the five levels of the Australian National Reporting System.) The design ensures that the results can be reported on the full scale for each domain. This methodology is unique in that an individual respondent is NOT given a score or a mark — the items themselves are scored and placed on the continuum of difficulty.

Background Questionnaire

The ALLS not only tests skills directly across the four different domains, it also collects comprehensive demographic and personal information via a Background Questionnaire of almost 300 different items. The Background Questionnaire includes standard income, labour force status, occupation and other socio-demographic information but also asks a range of questions about participation in education and learning; educational attainment; parental education, languages spoken; respondents' literacy and numeracy practices at work and elsewhere; social capital and well-being; and use of information and communications technology. Included in the Appendix are some examples of the types of social, education and training related questions that are asked in the Background Questionnaire. It is this set of background information that is collected alongside the assessment of skills that provides the potential for rich analysis and research.

Potential uses of ALLS and research questions

Both ACAL and the ABS are keen to make sure there is a better understanding and use of the research capabilities of the data collected by ALLS. The potential for linking the comprehensive background data with the performances of respondents allows for a wide-ranging and comprehensive analysis of the abilities of adults and the different factors that impact on and influence performance. This is not only of interest to government and business in terms of human capital, economic and workforce issues but also to educators and social planners in terms of social capital issues and education and training policy and planning.

"Assessing the social and economic costs of poor adult literacy and numeracy is largely uncharted territory in Australia. The benefits of investing in adult literacy and numeracy skills have also been under-researched." [Hartley & Horne, 2006, p. 5]

However, survey results about performance levels alone don't tell us why problems exist or how to overcome them. Based on the ALLS quantitative data and qualitative background information there needs to be a range of issues and questions posed, researched and answered. Below ACAL poses some potential issues and research questions.

² This 80% mastery level is higher than that expected in some similar international school based surveys such as PISA (Programme for International Student Assessment).

General questions about adult literacy and numeracy

There are a number of general issues and factors concerning literacy and numeracy performance that can be researched and analysed and results compared to other countries in order to understand and discover more about how to improve outcomes in Australia.

General

- ❖ Which 'at risk' groups identify with low skill levels?
- ❖ How do adults with poor literacy skills function in our society? What strategies do they use?
- ❖ What are the specific factors and characteristics of initial education that impact on Australia's literacy levels?

Non-native language speaker proficiency

- ❖ How do the literacy skills in English change for migrants during their first five years in Australia?
- ❖ What differences are there between Australia and other countries in non-English speaking migrants acquiring English literacy skills and what factors may be influencing these?

Educational attainment

- ❖ What factors contribute to youth from some countries having higher literacy skills than those from Australia, Canada and the US, at the same education level?
- ❖ What factors contribute to some countries enabling significant numbers of those who have not completed secondary education to acquire mid to high levels of literacy?

Age

- ❖ In what ways does age influence performance in literacy and numeracy?
- ❖ What are the personal and social implications and consequences of poor literacy skills for older adults? How can the literacy skills of older adults best be maintained and developed?

Gender

- ❖ In what ways does gender influence performance in literacy and numeracy? What are the differences in performance across the different domains of literacy, numeracy and problem solving?
- ❖ What are the economic, personal and social implications and consequences of these differences?

Rural and urban

- ❖ What factors contribute to the difference in literacy skill levels in rural and urban areas? Can the differences be accounted for by background characteristics?

Self-perception

- ❖ Why do many adults with poor literacy skills believe they have adequate literacy skills? What are the reasons why adults with poor literacy skills believe they have adequate literacy skills?

Social capital issues

There are a number of issues and factors related to different societal and well-being factors and characteristics of the Australian population that can be researched and analysed.

- ❖ How do literacy and numeracy levels relate to respondents' income levels, dependency on social security benefits, their involvement in community activities, etc?
- ❖ What are the personal, financial and social implications and consequences of poor literacy skills for different groups of adults within our society? What are the implications for government and non-government services?
- ❖ How do literacy and numeracy levels relate to different household and personal factors, parental work and parental education levels?

Health literacy proficiency

As some of the literacy tasks undertaken by respondents in the survey relate to people's ability to undertake everyday health-related activities (e.g. deciding appropriate dosage levels based on cough medicine instructions), a Health Literacy Scale can be created as a by-product of ALLS. Australia will undertake the scaling of the health literacy results.

- ❖ What is the relationship between (self-assessed) health status and health-related literacy?
- ❖ Comparing health literacy across a range of demographic and socio-economic dimensions, how does Australia's level of health literacy compare internationally?
- ❖ In Australia, what, if any, relationship exists between literacy levels and health and welfare?
- ❖ What implications of this are there for Australia's ageing population?

"The international research on 'health literacy' is considerable. Studies have found links between lower literacy and a higher risk of hospitalisation, higher rates of depression and an inability to understand and comply with the use of prescription drugs." [Hartley & Horne, 2006, p. 7]

Economic issues

Literacy and numeracy skills are known to be integral to economic growth and prosperity.

- ❖ What is the relationship between productivity, educational attainment and literacy in Australia?
- ❖ What is the potential impact gained by investing in improving the skills at the lower levels of ALLS for the Australian economy?

IALS data was used to demonstrate that investment in increasing the literacy skills of adults has a direct and positive impact on labour productivity and in GDP per capita. It highlighted that the greatest impact was gained by investing in improving the skills at the lower levels. [Coulombe, Trambly & Marchand, 2004]

- ❖ What environmental factors are associated with the highest levels of literacy and numeracy skill in individuals and what does this tell us about designing social policy?

The workplace and the labour market

Industry requires information about the nature of skills required for knowledge-intensive jobs and developing high-performance work practices and how to offer meaningful training opportunities and practices.

- ❖ Are the literacy skills of some groups of workers under-utilised? Why? What are the consequences?
- ❖ Is there a 'fit' between Australian pre-vocational, vocational and employment programs and the literacy and numeracy skills of participants? How is literacy and numeracy skill development incorporated into delivery and training? How do Australian performances and programs compare with other countries?
- ❖ How do ICT skills and experiences relate to literacy and numeracy skill levels?
- ❖ What factors contribute to a literacy rich workplace? How can employers be encouraged to develop literacy rich workplaces? What role does government policy have to play?
- ❖ Given the current work and interest in employability skills, could the ALLS items be analysed against the employability skills and used to develop an employability scale for the Australian population?

"With a declining proportion of the population being of working age, and with the premium for skilled workers increasing, Australia needs to increase the proportion of adults who have the skills and qualifications needed to enjoy active and productive working lives." [COAG, 2006, p. 4]

Literacy and numeracy education and training practices

In literacy, the ALLS uses a theoretical construct of task and text complexity in order to provide statistically valid estimates of the general population's abilities to handle a range of texts and related tasks at particular levels. Similarly in numeracy there is a theoretical construct of the complexity of numeracy tasks.

- ❖ Can the IALS constructs of literacy and numeracy complexity be used to identify the level of difficulty of a broad range of tasks used in different contexts? If so, how can this be applied? E.g. in written workplace communications, training materials, curriculum development and in the classroom.
- ❖ What factors lead to high adult education participation rates in other countries? Are these factors relevant to the Australian context?
- ❖ How can adult education participation in Australia be increased?

Numeracy

It seems to be accepted that the new ALLS numeracy scale is quite unique and different from the document and prose literacy scales, and the previous quantitative literacy scale and can therefore be used to distinguish and identify a range of other characteristics and influences on adults' performance.

- ❖ How do individual economic returns to increases in numeracy skill compare with that for the prose and document literacy measures?
- ❖ Does the Australian data support the indications that numeracy skills are more important than literacy at work, and skills deficit is greater for numeracy?
- ❖ Given the current interest in and support for financial literacy education, could a financial literacy scale be created from the literacy and numeracy items and subsequent analysis done?

"Numeracy tends to be the poor relation in the 'literacy and numeracy' partnership, yet its importance is undoubted; considerably more research is needed in this area." [Hartley & Horne, 2006, p. 8]

What ALLS doesn't do?

Despite the enormous amount of information gathered through the ALLS survey, it does only provide a statistical 'snapshot' of the performance and abilities of the adult population in relation to a test of literacy, numeracy and problem solving. The ALLS survey therefore has some limitations, as do all such large scale, international surveys. Survey assessment items can only imitate real life literacy and numeracy tasks. Authenticity and validity are limited by the requirement for written responses with no allowance for oral interaction. There is no assessment of writing skills per se and no writing scale has been developed. The emphasis is on information processing via reading rather than writing. Survey instruments cannot take into account any associated behaviours, attitudes and feelings towards literacy, numeracy or test taking that may impact on an individual's response at the time of taking the survey. As such, ALLS is a survey about 'aspects' of literacy and numeracy, not the whole spectrum of literacies that are part of today's society.

As well, the survey only deals with English and an international view of English at that. All the tasks need to be able to be adapted internationally across both English-speaking and non-English speaking countries and as such items need to have universal application and some items may not be consistent with the kinds of ways that these things are understood in Australia.

We should also remember that programs for delivering adult English language, literacy and numeracy training and support only get to a very small percentage of the estimated figure of 7 million adult Australians with inadequate literacy and numeracy skills. The ALLS survey with its sample of 9000 respondents will therefore not be sufficient to allow an adequate comparison or evaluation of this performance over the last 10 years. ACAL's estimate is that current provision supports less than 4% of those estimated to need assistance.

Do Australia's adult language, literacy and numeracy policies, programmes and activities target and support enough of the adult population who need assistance?

How do Australia's programmes compare with overseas activities and policies?

Longitudinal studies are needed to support the ALLS data in order to provide a stronger basis for long-term predictions about future requirements and challenges as well as for evaluations of program performance. More needs to be understood about literacy acquisition and changing literacy practices than a snapshot survey can tell us.

Conclusion

Australia's investment in ALLS will result in valuable data and outcomes for all interested in improving the literacy and numeracy skills of the Australian population – including Government, policy and program makers, educational organisations, researchers, teachers and trainers. The data set will be made available to researchers.

The ALLS survey offers Australia up-to-date, essential information and a potential research base from which to provide both an update of adult literacy and numeracy performance as well as more fine-grained analyses of particular issues, factors and influences in both human and social capital terms. We cannot afford to ignore the policy and planning possibilities that this information provides for governments, both Federal and State/Territory, and for the industry and education sectors. Literacy and numeracy are crucial, lifelong issues and a new national strategy is required for lifelong literacy and numeracy improvement.

Appendix: Background Questionnaire examples

Below are examples of the almost 300 social, education and training related questions that are asked.

Literacy and numeracy practices generally and at work

- How often reads, writes or uses letters, memos or emails, reports, articles, magazines or journals, manuals or reference books including catalogues
- Has reading and writing skills in English to do main job well
- How often uses a library, visits a bookstore
- Usual hours per day spent watching television, videos or DVDs
- How often reads or uses information from newspapers, magazines or articles
- How often reads or uses information from books, including fiction and non-fiction
- How often reads or uses information from letters, emails or notes
- What type of reading they do, e.g. national or international news, regional or local news, the sports section, the home, fashion, food or health section, etc.
- Whether needs help to read information in English from government agencies, businesses or other institutions, or on medicine bottle or on packaged goods in shops
- Whether reads only when has to
- Whether reading is a favourite activity
- How often reads, writes or uses bills, invoices, spreadsheets or budget tables
- How often measures or estimates the size or weight of objects
- How often calculates prices, costs or budgets
- How often counts or reads numbers to keep track of things
- How often manages time or prepares timetables
- How often gives or follows directions or uses maps or street directories
- How often uses statistical data to reach conclusions
- Good with numbers and calculations
- Feels anxious when working out amounts for discounts, the GST or percentages
- Enjoyment of learning maths at school
- Received good grades in maths
- Usually understood maths at school
- Has maths skills to do main job well.

Participation in education and learning

In this category there are many questions about participation in education and training such as:

- Whether undertook educational or training courses in the last 12 months
- Type of educational institution or organisation enrolled in for most recent qualification in the last 12 months
- Number of hours per week spent on most recent educational qualification
- Main reason for studying most recent educational qualification
- Main reason for undertaking any courses

- Types of informal training activities in the last 12 months
- Reasons for not undertaking education or training

Social capital and well-being

- Participation in type of group or organisation in the last 12 months
- Type of activities participated in as unpaid volunteer of a group or organisation in the last 12 months
- Whether satisfied or dissatisfied with life over the last 12 months
- Self-assessed health status
- Whether health limits different activities
- Whether accomplished less in work or other daily activities because of physical health or emotional problems in the last 4 weeks
- How often felt calm and peaceful in the last 4 weeks
- How often had a lot of energy in the last 4 weeks
- How often felt down in the last 4 weeks

Use of technologies

This category is comprehensive as one of the aims is to use the information to be able to make an assessment of the population's use of ICT. There are almost 50 questions about use of technologies such as:

- Whether ever used a computer
- Whether ever used the Internet
- Whether has personal access to a computer at home
- Whether home computer is connected to the Internet
- Number of hours used a computer at home in a typical month*
- How often used a mobile phone, a calculator, a fax machine, an ATM or Eftpos etc. in a typical month
- How often used a computer to write or edit text, to do accounts, spreadsheets or statistical analysis, to create graphics, designs, pictures or presentations, to play games, etc. in a typical month
- How often used the Internet for email, to participate in chat groups or on-line discussions, for shopping, for banking, etc. in a typical month
- Whether has level of computer skills to meet present needs
- Whether feels comfortable installing or upgrading computer software
- Whether computers have helped respondent to learn new skills other than computer skills
- Whether computers have helped respondent to communicate with people.

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The Australian Council for Adult Literacy (ACAL)

Contact details

PO Box 2283, Canberra ACT 2601

Telephone: (03) 9546 6892

Facsimile: (03) 9546 0421

Email: info@acal.edu.au

WWW: <http://www.acal.edu.au/>

