



The
**Information
Access**
Group

Literacy in Australia

Understanding
the literacy
levels in our
community



Information for everyone!





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Literacy levels in Australia

In October 2013, the Australian Bureau of Statistics (ABS) – in conjunction with the Organisation for Economic Co-operation and Development (OECD) – published the results of the latest international study on literacy in the developed world.

The Programme for the International Assessment of Adult Competencies, or PIAAC for short, was conducted between November 2011 and March 2012. It measured the literacy, numeracy and computer skills of people in 24 different countries.

Overall, Australia did well in the study, coming in fourth out of all surveyed countries for literacy. However, we didn't perform so well for numeracy – we came 13th out of all surveyed countries, which was just below the OECD average for numeracy skills. As a nation, we scored well in relation to computer skills, with about 38 per cent of our adult population achieving higher levels of proficiency in problem solving in technology-rich environments.

About the PIAAC study

One of the key goals of the PIAAC study was to understand the literacy skills of adults of working age. In particular, the study was designed to analyse literacy levels as they relate to the workforce, including information about age, gender, education levels and workforce participation rates. This information is of importance to governments, policy makers, organisations, businesses and educators as it helps provide a snapshot of the way literacy levels impact on productivity. While PIAAC offers a global picture, it also provides vital and specific information about Australians.

The intention is for PIAAC to be repeated after ten years, so a new study will be undertaken in 2021.

Who took part in the study?

The Australian part of the study is based on the results of interviews with just under 8,500 people around the country. These people were in the age range of 15 to 74 years and were from a range of backgrounds, including a diversity of ethnicity and levels of participation in the workforce. The results of the 8,500 interviews were used as the basis for assumptions about the general population. This means that, when the ABS refers to a percentage of the population, they are talking about the whole Australian population, not just those who took part in the study.

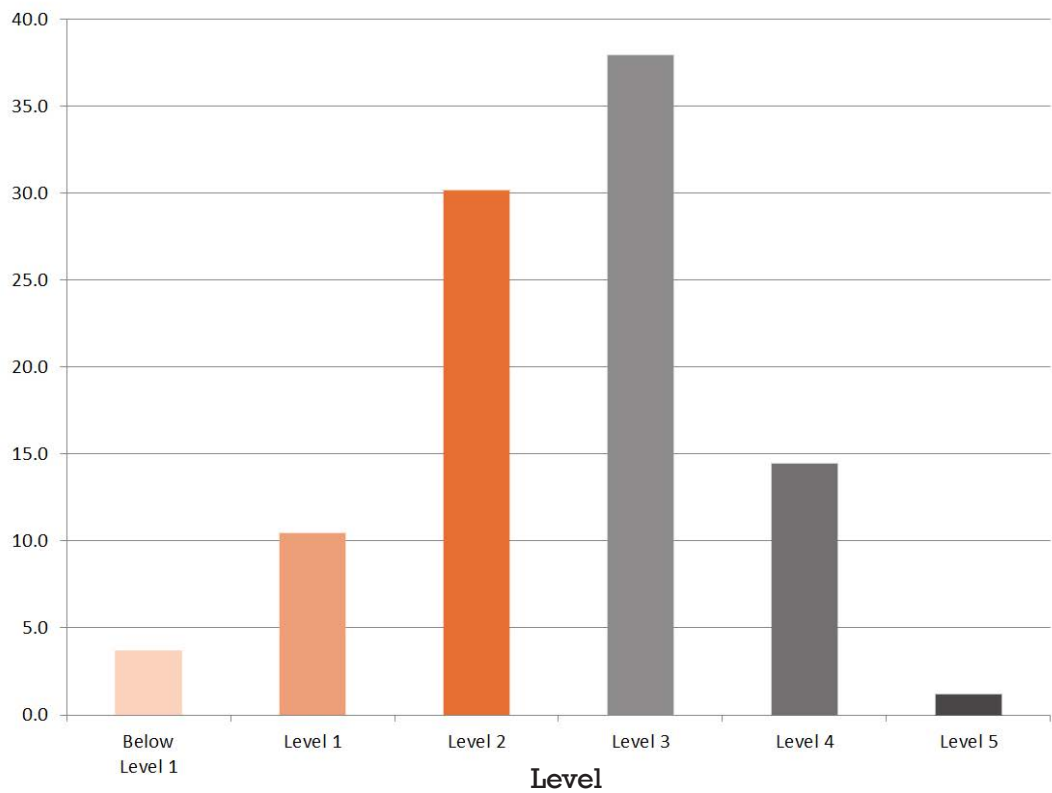


Literacy levels

Overall, literacy levels in Australia are above the international average. The following results summarise what is shown in the graph, explaining the number of people who achieved each level of literacy:

- 3.7 per cent (620,000) are below Level 1 – a very low level of literacy
- 10 per cent (1.7 million) are at Level 1
- 30 per cent (5.0 million) are at Level 2
- 38 per cent (6.3 million) are at Level 3
- 14 per cent (2.4 million) are at Level 4
- 1.2 per cent (200,000) are at Level 5 – the highest level of literacy.

Per cent of population

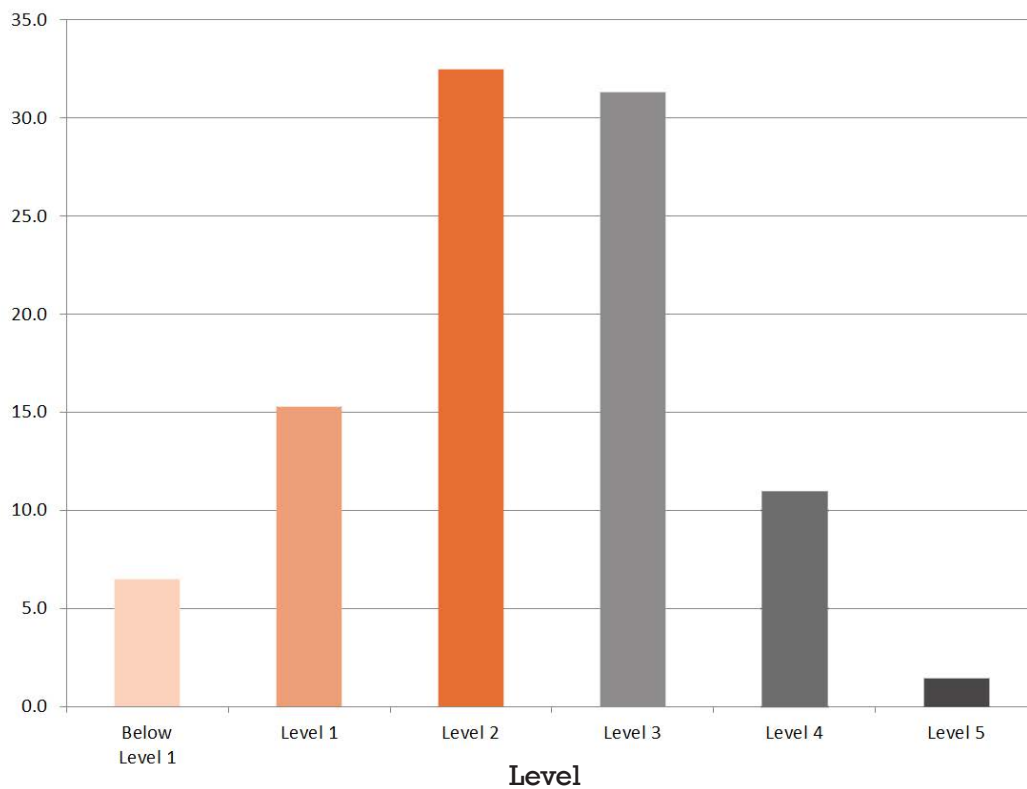


Numeracy levels

The numeracy levels in Australia are slightly lower than the international average. The following results summarise what is shown in the graph, explaining the number of people who achieved each level of numeracy:

- 6.5 per cent (1.1 million) are below Level 1
- 15 per cent (2.5 million) are at Level 1
- 32 per cent (5.4 million) are at Level 2
- 31 per cent (5.2 million) are at Level 3
- 11 per cent (1.8 million) are at Level 4
- 1.4 per cent (230,000) are at Level 5.

Per cent of population



Key definitions

The following definitions of literacy, numeracy and problem solving in technology-rich environments were used in the PIACC study.

What is literacy?

Literacy is the ability to understand, evaluate, use and engage with written texts to participate in society, achieve one's goals, and develop one's knowledge and potential.

Literacy encompasses a range of skills from the decoding of written words and sentences to the comprehension, interpretation, and evaluation of complex texts. It does not, however, involve the production of text (writing).

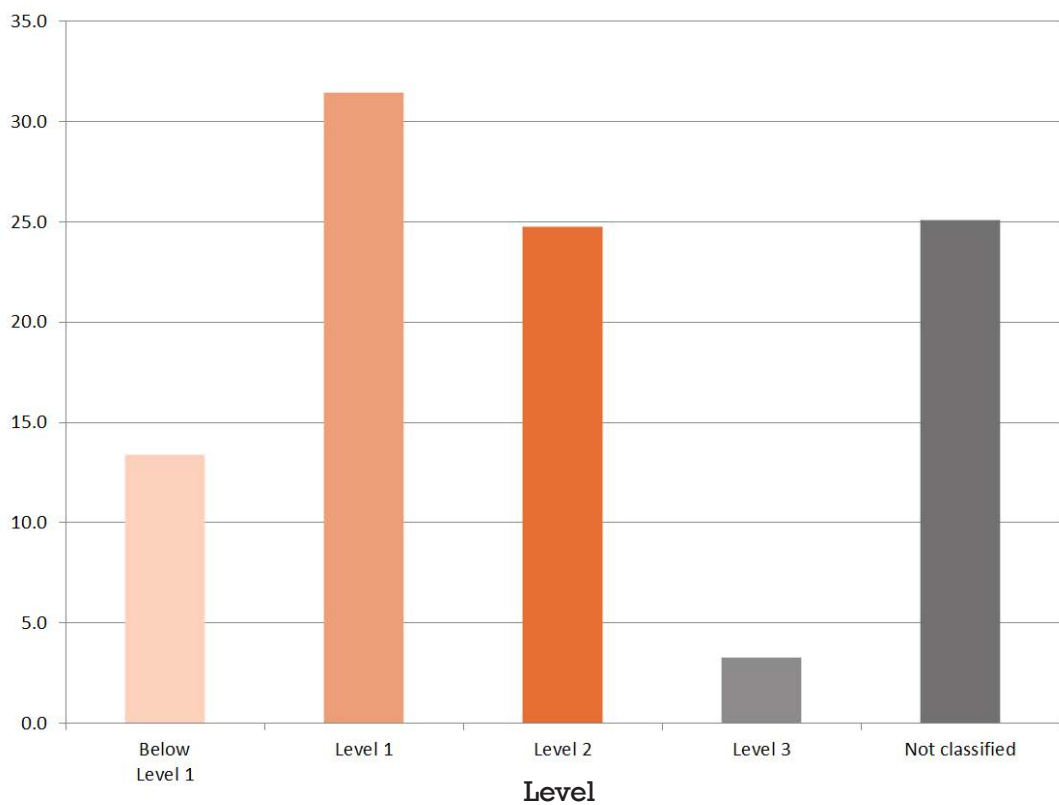
Information on the skills of adults with low levels of proficiency is provided by an assessment of reading components that covers text vocabulary, sentence comprehension and passage fluency.

Computer skills

The PIACC study looked at competency in problem solving in technology-rich environments, or PSTRE:

- 25 per cent (4.2 million) were not able to be classified for competency in PSTRE. This was because they opted for completing their assessments on paper rather than using a computer.
- 13 per cent (2.2 million) are below Level 1
- 31 per cent (5.3 million) are at Level 1
- 25 per cent (4.1 million) are at Level 2

Per cent of population



What is numeracy?

Numeracy is defined as the ability to access, use, interpret and communicate mathematical information and ideas in order to engage in and manage the mathematical demands of a range of situations in adult life.

Numeracy involves managing a situation or solving a problem in a real context, by responding to mathematical content and concepts represented in multiple ways.

What is problem solving in technology-rich environments?

Problem solving in technology-rich environments (PSTRE) is defined as the ability to use digital technology, communication tools and networks to acquire and evaluate information, communicate with others and perform practical tasks.

The assessment focuses on the abilities to solve problems for personal, work and civic purposes by setting up appropriate goals and plans, and accessing and making use of information through computers and computer networks.

Skill levels

The levels of difficulty that were used in the study are complex. Compared to previous literacy studies, there is no benchmark level – so we can't make simple assumptions about a functional level of literacy or numeracy from these results. However, the levels increase in complexity and difficulty, so a Level 1 is very low, while a Level 5 is very high. The following is a summary of the skill levels.

Skill levels for literacy

Level 1

Most of the tasks at this level require the respondent to read relatively short digital or print continuous, non-continuous, or mixed texts to locate a single piece of information which is identical to or synonymous with the information given in the question or directive.

Level 2

At this level the complexity of text increases. The medium of texts may be digital or printed, and texts may be comprised of continuous, non-continuous, or mixed types. Tasks in this level require respondents to make matches between the text and information, and may require paraphrasing or low-level inferences.

Level 3

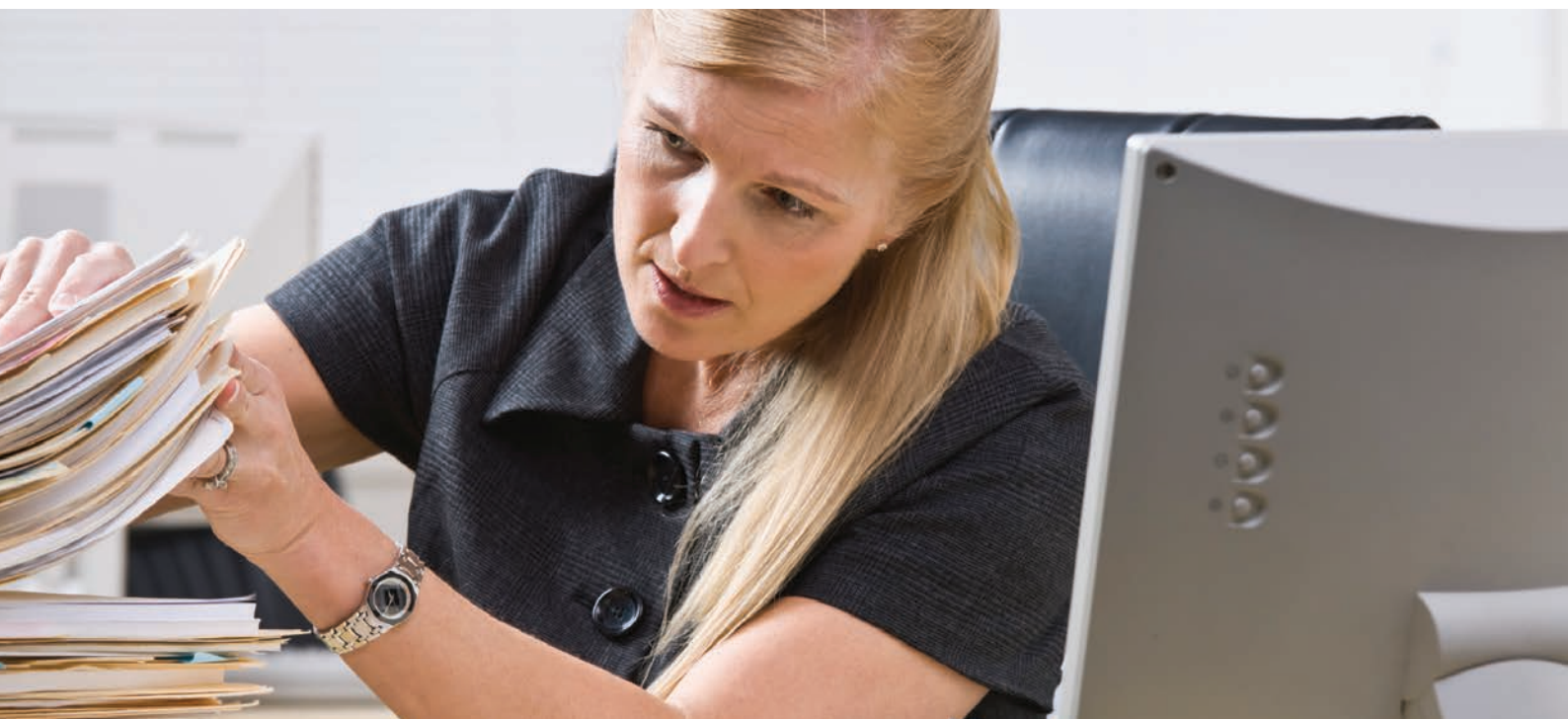
Texts at this level are often dense or lengthy, including continuous, non-continuous, mixed, or multiple pages. Understanding text and rhetorical structures become more central to successfully completing tasks, especially in navigation of complex digital texts.

Level 4

Tasks at this level often require respondents to perform multiple-step operations to integrate, interpret, or synthesize information from complex or lengthy continuous, non-continuous, mixed, or multiple type texts. Complex inferences and application of background knowledge may be needed to perform successfully.

Level 5

At this level, tasks may require the respondent to search for and integrate information across multiple, dense texts; construct syntheses of similar and contrasting ideas or points of view; or evaluate evidenced based arguments. Application and evaluation of logical and conceptual models of ideas may be required to accomplish tasks.



Skill levels for numeracy

Level 1

Tasks at this level usually require one-step or simple processes involving, for example, counting; sorting; performing basic arithmetic operations; understanding simple percents such as 50 per cent; locating and identifying elements of simple or common graphical or spatial representations.

Level 2

Tasks at this level tend to require the application of two or more steps or processes involving, for example, calculation with whole numbers and common decimals, percents and fractions; simple measurement and spatial representation; estimation; interpretation of relatively simple data and statistics in texts, tables and graphs.

Level 3

Tasks at this level require the respondent to understand mathematical information which may be less explicit, embedded in contexts that are not always familiar and represented in more complex ways. Tasks require several steps and may involve the choice of problem-solving strategies and relevant processes.

Level 4

Tasks at this level require the respondent to understand a broad range of mathematical information that may be complex, abstract or embedded in unfamiliar contexts. These tasks involve undertaking multiple steps and choosing relevant problem-solving strategies and processes.

Level 5

Tasks in this level require the respondent to understand complex representations and abstract and formal mathematical and statistical ideas, possibly embedded in complex texts.

Skill levels for problem solving in technology-rich environments (PSTRE)

Level 1

At this level, tasks typically require the use of widely available and familiar technology applications, such as email software or web browser. There is little or no navigation required to access the information or commands required to solve the problem.

Level 2

At this level, tasks typically require the use of both generic and more specific technology applications. For instance, the person may have to make use of a novel online form. Some navigation across pages and applications is required to solve the problem. The use of tools (e.g. a sort function) can facilitate the resolution of the problem.

Level 3

At this level, tasks typically require the use of both generic and more specific technology applications. Some navigation across pages and applications is required to solve the problem. The use of tools (e.g., a sort function) is required to make progress toward the solution. The task may involve multiple steps and operators.

Comparison to previous studies

In 2006, the ABS took part in an international study called the Adult Literacy and Life Skills Survey (ALLS). The results from the more recent PIACC study are quite different to the ALLS.

For example, PIACC does not include a benchmark for functional literacy. In ALLS, the developers of the survey regarded a literacy Level of 3 as the “minimum required for individuals to meet the complex demands of everyday life and work in the emerging knowledge-based economy.” This was then used as a basis for assumptions about functional literacy across the different domains that were analysed.

PIACC doesn't do this. Instead, the levels of each domain – literacy, numeracy and PSTRE – are measured differently and separately. There is no direct correlation across the domains, although the results show that, if a respondent performed poorly in literacy they were likely to perform poorly in other domains as well.

The ABS is currently working on analysing the results of PIACC against the ALLS results. Some of the statistics need to be modified to make this comparison work. These results are yet to be published, we will have more information on this once the new results become available.

Social inclusion and participation

Overall, the PIACC study indicates that low levels of literacy have a direct relationship to social disadvantage. The OECD has made some interesting conclusions on a global scale about social inclusion relating to literacy levels, noting:

“If there is one central message emerging from this new survey, it is that what people know and what they do with what they know has a major impact on their life chances.

The median hourly wage of workers who can make complex inferences and evaluate subtle truth claims or arguments in written texts is more than 60 per cent higher than for workers who can, at best, read relatively short texts to locate a single piece of information.

Those with low literacy skills are also more than twice as likely to be unemployed...

...In all countries, individuals with lower proficiency in literacy are more likely than those with better literacy skills to report poor health, to believe that they have little impact on political processes, and not to participate in associative or volunteer activities. In most countries, they are also less likely to trust others.”





In Australia, the results offer an opportunity to understand the relationship between literacy levels, participation in the workforce and other aspects of inclusion, such as age and languages spoken. The following is a brief snapshot of the overall results:

- People who worked in areas such as 'Professional, Scientific and Technical Services' had very high levels of literacy, with 78 per cent of respondents who worked in these areas achieving a Level 3 or above for literacy. Other highly skilled areas included 'Education and Training', 'Public Administration and Safety' and 'Information Media and Telecommunications'.
- People who had attained a higher level of education, such as a Bachelor degree and above, were more likely than others to have achieved Level 3 or above for literacy and numeracy, and a Level 2 or above in PSTRE.
- In general, older people have lower levels of literacy. The scores tended to increase in the younger age brackets, plateau in the 20s and 30s, then decline from the late 40s. The OECD noted this across the board and made some assumptions about workforce participation and lifelong learning. They suggested that continuous learning has advantages for maintaining literacy levels into one's later years.
- A high proportion of people who reported excellent or very good health had scores of Level 3 or above for literacy and numeracy, and Level 2 or above for PSTRE.
- People whose first language was not English were more likely to be assessed at lower skill levels. Among these people, 25 per cent had literacy levels of Level 1 or below, compared to 12 per cent of people whose first language was English.
- The OECD note that, in most participating countries, a significant minority have very low levels of literacy and numeracy. This is also true for Australia, where 12.6 per cent of people have the lowest levels in literacy and 20 per cent in numeracy.

Where can you find out more?

You can visit the OECD website for the full global results and analysis.

<http://skills.oecd.org/skillsoutlook.html>

The OECD summary titled *Skilled for Life? Key Findings from the Survey of Adult Skills* offers a good, succinct read to understand the global picture. It is particularly relevant for policy makers.

http://skills.oecd.org/documents/SkillsOutlook_2013_KeyFindings.pdf

The ABS website has a full analysis of the Australian results.

<http://www.abs.gov.au/ausstats/abs@.nsf/mf/4228.0>

Acronyms used

ABS Australian Bureau of Statistics

ALLS Adult Literacy and Life Skills Survey

OECD Organisation for Economic Co-operation and Development

PIACC Programme for the International Assessment of Adult Competencies

PSTRE Problem solving in technology-rich environments



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