

DESIRED OUTCOMES

Everybody has the knowledge and skills needed to participate fully in society. Lifelong learning and education are valued and supported.

Knowledge and Skills

INTRODUCTION

Knowledge and skills enhance people's ability to meet their basic needs, widen the range of options open to them in every sphere of life, and enable them to influence the direction their lives take. The skills people possess can also enhance their sense of self-worth, security and belonging.

We live in a society where access to information and proficiency with technology are becoming more important. An inclusive society will increasingly require everybody to have high levels of knowledge and skills.

Knowledge and skills include education and training, as well as abilities gained through daily life. The experiences of very young children within their families affect their acquisition and use of knowledge and skills, and influence their capacity to learn. Adults acquire skills through their work and non-work activities – for example, parenting skills or skills relevant to recreation or leisure activities.

For many people, the acts of learning and mastering new skills are important in themselves. Possession of knowledge and skills can be integral to a person's sense of belonging and self-worth: many people define themselves by what they can "do", not only in employment but elsewhere in life.

Knowledge and skills relate directly to employment decisions and to career choices. Those with relatively few educational qualifications are more likely to be unemployed and, on average, have lower incomes when in work. This affects people's economic standard of living as well as their security and ability to make choices about their lives. Knowledge and skills are important for gaining access to services and for understanding and exercising civil and political rights.

INDICATORS

Five indicators are used in this chapter. Each provides a snapshot of New Zealanders' acquisition of knowledge and skills at a particular stage in their lives, from early childhood to school-leaving age to adulthood. They are: participation in early childhood education, school leavers with higher qualifications, participation in tertiary education, the educational attainment of the adult population and adult literacy skills in English. The focus of four of the five indicators is on formal education and training. This reflects the importance of formal education and training and also the availability of data – there is little data that captures the contribution of informal, on-the-job training to acquiring knowledge and skills.

The indicators are relevant to current and future social wellbeing. Participation in early childhood education contributes significantly to a child's later development. Going to a kindergarten, kōhanga reo or some other early childhood service prepares children for further learning, helps equip them to cope socially at school and develops their bodies and minds to better prepare them for adult life. Quality early childhood programmes can help narrow the achievement gap between children from low-income families and more advantaged children.³⁷

Students who obtain higher qualifications at school tend to have more options for tertiary education and future employment. Those who leave school early have a greater risk of unemployment or low incomes.³⁸

Participation in tertiary education opens up career opportunities and improves the skills people need to participate in society. This has become particularly important with the increasing dependence on "knowledge" industries that require well-educated, highly skilled workforces. It also captures aspects of lifelong learning through the participation of adults in tertiary education.

Educational attainment of the adult population provides a broad picture of New Zealanders' possession of knowledge and skills. It is influenced by factors not measured in the other indicators, such as adults gaining new qualifications and new migrants arriving with qualifications.

Literacy is a fundamental skill. A good level of literacy in English, including numeracy and the ability to understand documents and tables, is vital in the workplace and in everyday life.

Participation in early childhood education

DEFINITION

The number of enrolments of children aged 3 and 4 years in early childhood centres or home-based education programmes as a proportion of all 3 and 4 year olds.

The measure includes all forms of organised and sustained centre and home-based programmes designed to foster learning and emotional and social development in children. The measure overestimates participation because children enrolled in more than one early childhood centre will be double-counted. Information from an alternative measure which avoids double counting – the proportion of Year One students who participated in early childhood education – is also included.

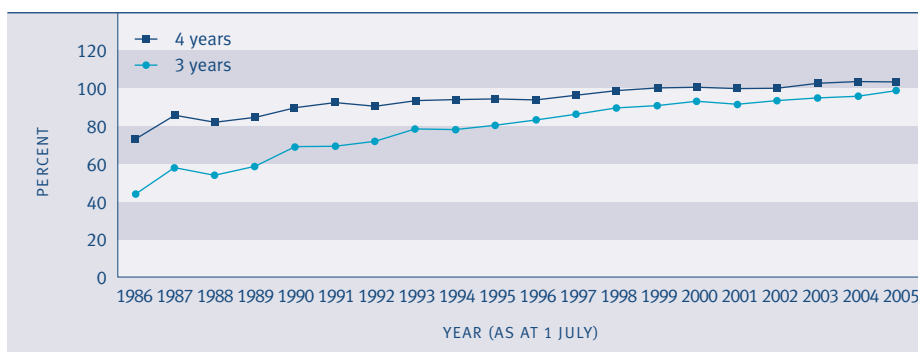
RELEVANCE

Evidence from New Zealand and international research shows that the early childhood years are vital to a child's development and future ability to learn.³⁹ Quality early childhood programmes prepare young children socially, physically and academically for entry into primary education and can help narrow the achievement gap between children from low-income families and those from more advantaged families.

CURRENT LEVEL AND TRENDS

As at 1 July 2005, the "apparent" early childhood education participation rate was 98 percent for 3 year olds and 103 percent for 4 year olds, confirming that some children attend more than one service. These figures represent a substantial increase from 43 percent and 73 percent respectively in 1986. Much of the growth in participation in early childhood education occurred in the five years between 1986 and 1991, with slower growth in subsequent years.

Figure K1.1 Early childhood education "apparent" participation rate, 3 and 4 year olds, 1986–2005



Sources: Ministry of Education; Ministry of Social Development

Note: These figures overestimate the true participation rate. Rates in excess of 100 percent are possible because children can be enrolled in more than one service

In July 2005, 94 percent of all Year One students had attended some form of early childhood education service before starting school, the same proportion as in the previous two years. This compares with 91 percent of Year One students in 2000.

ETHNIC DIFFERENCES

There are marked ethnic differences in the proportion of Year One students who have attended an early childhood education service, with European students being the most likely to have attended: 98 percent compared with 90 percent of Māori and 85 percent of Pacific Year One students in 2005. However the gap in ethnic participation rates has narrowed in recent years as a result of a faster growth in attendance by Pacific and Māori children.

Table K1.1 **Early childhood education attendance by Year One students, by ethnic group, as at 1 July 2000–2005**

	European	Māori	Pacific	Asian	Other	Total
2000	95.4	84.8	76.1	89.2	83.0	91.0
2001	96.0	85.3	76.3	89.8	84.1	91.3
2002	96.6	86.5	79.4	92.1	86.6	92.3
2003	97.4	88.4	83.4	92.4	88.9	93.6
2004	97.6	89.3	84.7	94.1	89.4	94.1
2005	97.7	89.9	84.5	95.1	89.9	94.3

Source: Ministry of Education

Note: These figures exclude cases for which attendance was unknown. Total figures for 2003 and 2004 have been revised by the Ministry of Education

PARTICIPATION BY TYPE OF EARLY CHILDHOOD EDUCATION SERVICE

In 2005, childcare centres (41 percent) and kindergartens (39 percent) had the largest number of enrolments of 3 and 4 year olds in early childhood education. Much smaller numbers of children were enrolled in playcentres (6 percent) and kōhanga reo (5 percent).

School leavers with higher qualifications

DEFINITION

The proportion of secondary school leavers who leave school with qualifications higher than National Certificate of Educational Attainment (NCEA) Level 1.

RELEVANCE

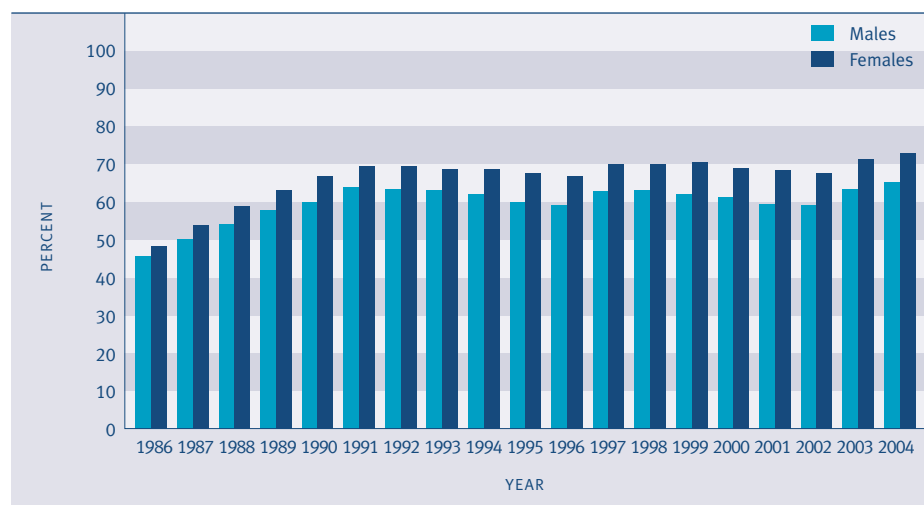
Upper secondary education serves as the foundation for higher (post-secondary) learning and training opportunities as well as the preparation for direct entry into the labour market. Those who leave school early with few qualifications are at a much greater risk of unemployment or vulnerability in the labour force and of having low incomes.⁴⁰

CURRENT LEVEL AND TRENDS

In 2004, 69 percent of school leavers (38,000) left school with qualifications higher than NCEA Level 1, an increase from 67 percent in 2003. This proportion has increased considerably from 47 percent in 1986. However, most of the increase occurred in the late-1980s. Since 1990, the proportion has fluctuated between 63 percent and 69 percent.

The lack of sustained growth in the proportion of school leavers with higher qualifications since the early-1990s may be explained, in part, by an increase in employment and training opportunities for those without higher qualifications.

Figure K2.1 **Proportion of school leavers with qualifications higher than NCEA Level 1, by sex, 1986–2004**



Source: Ministry of Education

Note: Before 2004, these included Sixth Form Certificate, Higher School Certificate, Entrance Qualification and University Bursary. From 2004, the equivalent qualifications are: 30 or more credits at NCEA Level 2, NCEA Level 2, 30 or more credits at NCEA Level 3, and NCEA Level 3 or higher

SEX DIFFERENCES

In 2004, 73 percent of female school leavers had qualifications higher than NCEA Level 1, compared to 65 percent of males. Between 1986 and 2004 the proportion of school leavers with higher qualifications improved at a faster rate for females than for males.

Table K2.1 **Proportion (%) of school leavers with qualifications higher than NCEA Level 1, by sex, selected years, 1986–2004**

	Males	Females
1986	45.2	48.1
1991	63.5	69.2
1996	59.0	66.5
2001	59.4	68.1
2002	59.0	67.6
2003	63.2	71.2
2004	65.0	72.8

Source: Ministry of Education

Note: Before 2004, these included Sixth Form Certificate, Higher School Certificate, Entrance Qualification and University Bursary. From 2004, the equivalent qualifications are: 30 or more credits at NCEA Level 2, NCEA Level 2, 30 or more credits at NCEA Level 3, and NCEA Level 3 or higher

ETHNIC DIFFERENCES

The proportion of Māori school leavers with qualifications higher than NCEA Level 1 increased from 45 percent in 2003 to 47 percent in 2004. Among Pacific school leavers, the proportion with higher qualifications increased from 59 percent in 2003 to 61 percent in 2004. However, these improved outcomes for Māori and Pacific students had little effect on ethnic differences in school attainment because there were also increases in the proportion of European and Asian school leavers with higher qualifications between 2003 and 2004 (from 72 to 74 percent for European students and from 86 to 87 percent for Asian students).

Table K2.2 **Proportion (%) of school leavers with qualifications higher than NCEA Level 1, by ethnic group, selected years, 1996–2004**

	European	Māori	Pacific	Asian	Other	Total
1996	68.9	37.4	53.7	81.5	60.0	62.7
2001	68.5	40.6	54.7	84.7	63.7	63.6
2002	68.4	38.9	53.5	84.4	67.7	63.3
2003	71.6	45.0	58.9	86.4	70.7	67.1
2004	73.6	47.4	61.5	86.9	73.2	68.8

Source: Ministry of Education

Note: Before 2004, these included Sixth Form Certificate, Higher School Certificate, Entrance Qualification and University Bursary. From 2004, the equivalent qualifications are: 30 or more credits at NCEA Level 2, NCEA Level 2, 30 or more credits at NCEA Level 3, and NCEA Level 3 or higher

SOCIO-ECONOMIC DIFFERENCES

Young people from schools that draw their students from low socio-economic communities are less likely than other young people to attain higher school qualifications. In 2004, only 54 percent of school leavers from deciles 1–3 schools (in the most disadvantaged communities) attained qualifications higher than NCEA Level 1, compared with 67 percent of those leaving deciles 4–7 schools and 81 percent of those leaving deciles 8–10 schools.

REGIONAL DIFFERENCES

The Marlborough region had the highest proportion (78 percent) of 2004 school leavers with qualifications higher than NCEA Level 1, followed by Nelson and Otago (each 75 percent), Southland (74 percent), Auckland and Wellington (each 73 percent). Tasman and Northland had the lowest proportions (each 58 percent), followed by the West Coast (59 percent) and the Bay of Plenty (61 percent).

Participation in tertiary education

DEFINITION

The proportion of the population aged 15 years and over enrolled on 31 July in formal tertiary education leading to a recognised New Zealand qualification.

Tertiary education providers include public institutions (universities, polytechnics, colleges of education, wānanga), and private tertiary education providers receiving government funding or approval, or registered with the New Zealand Qualifications Authority. Qualifications range from certificates and diplomas to bachelor and post-graduate degrees.

RELEVANCE

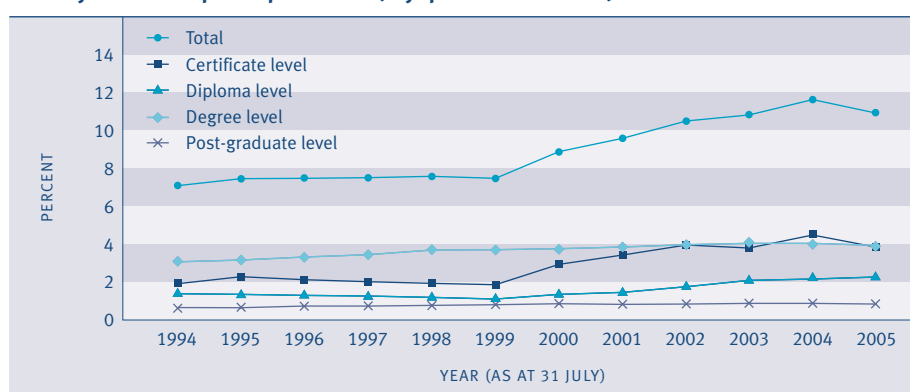
The acquisition of a tertiary qualification provides individuals with skills and knowledge to participate in society and in the economy.

CURRENT LEVEL AND TRENDS

In July 2005, 11 percent of the population aged 15 years and over (350,853 people) was enrolled in formal tertiary education, a decline from 12 percent (368,000 people) in July 2004. Most of this decline was due to a fall in the number of people taking certificate level courses. Long-term trend data is only available for public tertiary education institutions. In 1986, 4 percent of the population aged 15 years and over was enrolled in public tertiary education institutions, compared to 10 percent in July 2004 and 9 percent in July 2005.

Figure K3.1

Tertiary education participation rate, by qualification level, 1994–2005



Sources: Ministry of Education; Ministry of Social Development

Note: Includes students enrolled in private training establishments from 1999

Enrolments for courses that lead to qualifications below the level of a bachelor's degree have risen faster than enrolments at degree level or above in recent years. In July 2005, 6 percent of the population aged 15 years and over was enrolled in sub-degree tertiary education courses, compared with 5 percent enrolled in degree and post-graduate courses.

AGE AND SEX DIFFERENCES

Tertiary education participation is highest among 18–24 year olds (37 percent in 2005). This age group had the largest rise in participation rates between 1999 and 2004 (6 percentage points), but also the largest fall in participation between 2004 and 2005 (almost 2 percentage points).

Since the mid-1990s, women have been more likely than men to participate in tertiary study at ages 18 years and over. In July 2005, the tertiary participation rate for females aged 18–24 years was 7 percentage points higher than for males.

There is little difference between males and females in their level of tertiary study. Of all tertiary students enrolled in mid-2005, 37 percent of females and 36 percent of males were enrolled in degree courses, while 8 percent of females and 7 percent of males were enrolled in post-graduate courses.

Table K3.1 **Tertiary participation rates (%), by age and sex, selected years, 1996–2005**

Sex, year	15–17 years	18–24 years	25–39 years	40+ years	Total
Males					
1996	4.7	26.3	7.0	1.7	7.0
2001	9.0	32.7	9.1	2.4	8.5
2004	9.0	34.5	11.0	3.5	9.9
2005	9.8	33.1	10.1	3.3	9.5
Females					
1996	4.6	28.4	8.3	2.7	7.9
2001	8.5	37.3	12.4	4.0	10.6
2004	8.3	42.4	16.0	5.9	13.1
2005	9.0	40.2	14.3	5.6	12.2

Sources: Ministry of Education; Ministry of Social Development

Note: From 1999 includes participation in both public and private tertiary education institutions

ETHNIC DIFFERENCES

In July 2005, the age-standardised tertiary education participation rate for Māori was 15 percent, almost double the rate in 1999 (9 percent). In comparison, non-Māori participation increased from 9 percent in 1999 to 11 percent in 2005. The age-standardised rate has been higher for Māori than for non-Māori since 2001.⁴¹

Māori participation in tertiary education is higher than non-Māori participation among those aged under 18 years and over 25 years, but considerably lower than non-Māori participation at the core tertiary education ages of 18–24 years. However, Māori participation in this age group has grown since 1999. In 2005, 24 percent of Māori aged 18–24 years were enrolled in tertiary education, compared with 20 percent in 1999. The non-Māori participation rate for 18–24 year olds was 35 percent in 1999 and 39 percent in 2005. The fall in participation rates between 2004 and 2005 was greater for Māori than for non-Māori.

Table K3.2 **Tertiary participation rates (%), by age and sex, Māori and non-Māori, 2005**

Age group	Māori %			Non-Māori %		
	Males	Females	Total	Males	Females	Total
15–17	11.9	13.1	12.5	9.3	7.8	8.6
18–24	18.9	30.0	24.5	36.2	42.5	39.3
25–39	11.5	22.3	17.1	9.9	12.8	11.4
40+	7.3	15.0	11.3	2.9	4.6	3.8
Total	11.3	19.8	15.7	9.2	11.1	10.2

Sources: Ministry of Education; Ministry of Social Development

Māori and Pacific students are less likely to be enrolled in degree-level courses than students from the European, Asian or Other ethnic groups.

INTERNATIONAL COMPARISON

There are no robust measures of tertiary participation across OECD countries. Some indication of New Zealand's relative standing can be gained from the proportion of the population enrolled in education at various ages. In 2003, 29 percent of 20–29 year olds (the age group more likely to be enrolled in tertiary than secondary education) were enrolled in education, placing New Zealand eighth out of 28 countries. This was above the OECD median of 24 percent. The New Zealand rate was higher than those of the United Kingdom (26 percent) and the United States (22 percent) but below the rate for Australia (33 percent).⁴²

Educational attainment of the adult population

DEFINITION

The proportion of adults aged 25–64 years with an educational attainment of at least upper secondary school level.

RELEVANCE

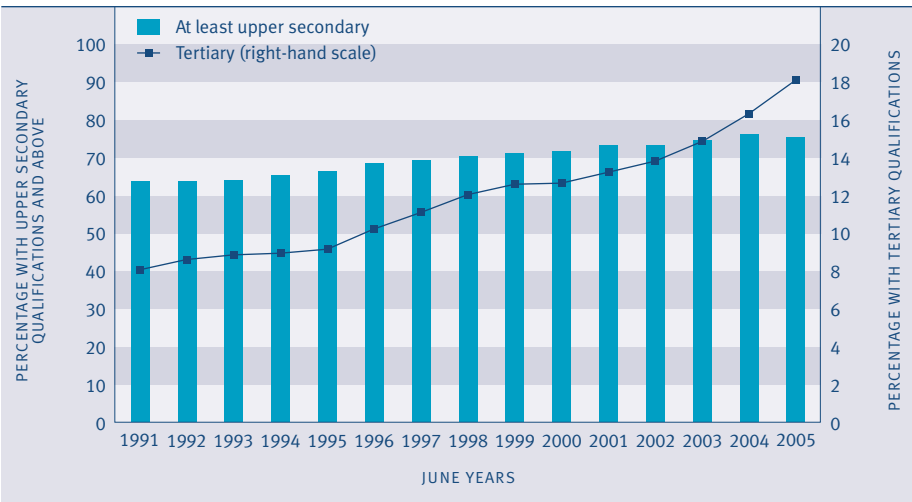
The educational attainment of the adult population is an indicator of the skills available in the economy. The level of formal educational qualifications in the population is a commonly used proxy for the stock of “human capital”, ie the skills available in the population and labour force.

CURRENT LEVEL AND TRENDS

In the year ended June 2005, 76 percent of the population aged 25–64 years (1.6 million people) had attained an educational qualification at upper secondary level or above, the same proportion as in 2004 and an increase from 64 percent in 1991. Over the same period the proportion of adults with a bachelor’s degree or higher qualification had risen from 8 percent to 18 percent (382,000).

Figure K4.1

Proportion of adults aged 25–64 years with an educational attainment of at least upper secondary level and tertiary level, 1991–2005



Source: Statistics New Zealand, Household Labour Force Survey
Notes: (1) Tertiary equals bachelor's degree or higher (2) Figures prior to 2005 have been revised

AGE AND SEX DIFFERENCES

Younger adults aged 25–34 years are much more likely to have at least upper secondary school qualifications than adults aged 55–64 years (82 percent, compared to 63 percent). Similarly, young adults are more likely than older people to have a bachelor’s degree or higher (24 percent, compared to 10 percent).

Sex differences in educational attainment have narrowed over time. In 2005, women were more likely than men to have higher educational qualifications at ages 25–34. In contrast, at older ages men are much more likely than women to have higher educational qualifications.

Table K4.1

Proportion (%) of population aged 25–64 years with higher qualifications, by age and sex, 2005

	25–34	35–44	45–54	55–64	Total 25–64
At least upper secondary					
Males	81.2	79.9	77.5	68.0	77.3
Females	82.4	77.9	72.1	58.3	73.9
Total	81.8	78.9	74.7	63.1	75.5
Tertiary					
Males	22.4	20.6	18.5	12.4	18.9
Females	24.9	19.2	14.9	8.0	17.4
Total	23.7	19.8	16.7	10.1	18.1

Source: Statistics New Zealand, Household Labour Force Survey

Notes: (1) Tertiary equals bachelor's degree or higher (2) Figures prior to 2005 have been revised

ETHNIC DIFFERENCES

Māori and Pacific adults are much less likely than adults in the European and Other ethnic groups to have higher qualifications. In the year ended June 2005, 62 percent of Māori and 50 percent of Pacific adults aged 25–64 years held at least upper secondary qualifications, compared with 79 percent of Europeans. Similarly, just 7 percent of Māori and 6 percent of Pacific adults held a tertiary qualification at bachelor's degree level or above, compared with 18 percent of Europeans. However, since 1991, growth in the proportion of adults with at least upper secondary qualifications was faster for Māori and Pacific adults than for Europeans. The Other ethnic group has consistently had the highest proportion of adults with a tertiary qualification, more than double that of Europeans.

Table K4.2

Proportion (%) of population aged 25–64 years with higher qualifications, by ethnic group, selected years, 1996–2005

	European	Māori	Pacific	Other	Total
At least upper secondary					
1996	72.8	48.1	38.5	60.2	68.6
2001	77.0	58.6	56.2	66.2	73.4
2004	79.2	64.7	61.2	71.2	76.1
2005	79.4	62.1	49.8	70.9	75.5
Tertiary					
1996	10.4	2.4	2.1	27.2	10.2
2001	13.2	4.7	5.3	30.6	13.2
2004	15.8	6.1	7.2	37.3	16.3
2005	17.6	6.8	6.1	39.5	18.1

Source: Statistics New Zealand, Household Labour Force Survey

Notes: (1) Other in this data includes the Asian population (2) Tertiary equals bachelor's degree or higher (3) Figures prior to 2005 have been revised

**INTERNATIONAL
COMPARISON**

In 2003, 78 percent of New Zealand adults had at least upper secondary level qualifications, compared with an OECD median of 66 percent.⁴³ New Zealand ranked 11th out of 30 OECD countries. New Zealand ranked 14th equal (with Finland and Ireland) in the proportion of adults who have bachelor's degrees or higher, with a rate of 16 percent (the same as the OECD median). Countries which had higher proportions of adults with qualifications at this level included the United States and Norway (each 29 percent – the highest rate), Canada (22 percent), Australia (20 percent), and the United Kingdom (19 percent). New Zealand is among the two-thirds of OECD countries in which females aged 25–34 are more likely than males of that age to have tertiary qualifications to bachelor's degree or higher.

Adult literacy skills in English

DEFINITION

The proportion of the population aged 16–65 years with literacy skills in English (defined as prose, document and quantitative skills at Level 3 or above), as measured in the 1996 International Adult Literacy Survey (IALS).

Level 3 is a “suitable minimum for coping with the demands of everyday life and work in a complex, advanced society. It denotes roughly the skill level required for successful secondary school completion and college entry”.⁴⁴ Prose literacy is the ability to understand and use information from texts, including editorials, news stories, brochures and instruction materials. Document literacy is the ability to locate and use information contained in formats, including maps, tables and job application forms. Quantitative literacy is the ability to apply arithmetic operations to numbers embedded in printed materials, such as balancing a cheque book or completing an order form.

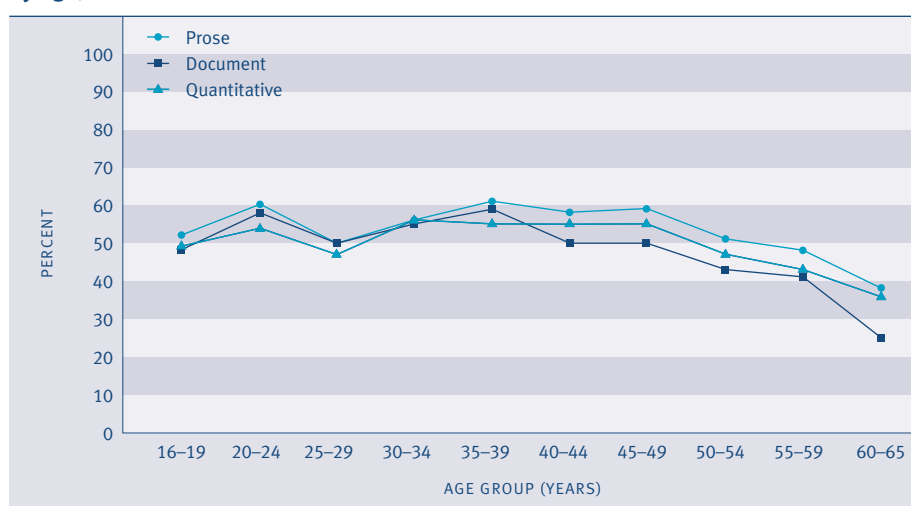
RELEVANCE

The increasing complexity of our society and the need for a more flexible and highly educated workforce mean individuals need to be able to understand and apply information of varying difficulty from a range of sources to function effectively at work and in everyday life. The IALS was designed to measure adult literacy skills in English by assessing proficiency levels, using test materials derived from specific contexts within countries.

CURRENT LEVEL

Results from the first international literacy survey in 1996 show that 54 percent of New Zealand’s population aged 16–65 years had prose literacy skills at Level 3 or above, 50 percent had document skills at Level 3 or above and 51 percent had quantitative skills at Level 3 or above.

Figure K5.1 **Proportion of adults aged 16–65 years with higher literacy skills (Level 3 or above), by age, 1996**



Source: Ministry of Education (2001b)

AGE DIFFERENCES

Across all three domains, the proportion of people with literacy skills at Level 3 or above was broadly similar for people aged 16–49 years but then declined with age for people aged over 50 years. Poorer literacy levels among those aged over 50 years may be due either to differences in the education received by older people or to a decline in these skills as people age.

SEX DIFFERENCES

Women performed better than men in prose literacy (58 percent at Level 3 or above compared with 50 percent for men). The reverse was true in respect of quantitative skills: 55 percent of men had quantitative literacy skills at Level 3 or above, compared with 47 percent of women. Differences between men and women in respect of document literacy skills at those levels were negligible.

ETHNIC DIFFERENCES

Across all three domains, over half of all Europeans had literacy skills at Level 3 or above. Pacific peoples consistently had the smallest proportions at this level (less than a third in each domain). Māori had a larger proportion than other non-European ethnic groups in prose literacy at Level 3 or above but a smaller proportion in the document and quantitative literacy domains. Among Māori and Pacific adults, there were considerable sex differences favouring males in the document and quantitative domains that were not evident among European adults. For example, only 18 percent of Pacific females were at Level 3 or above for quantitative literacy compared with 42 percent of Pacific males. The sex disparity was not as great among Māori but was still substantial, with 26 percent of females at Level 3 or above for quantitative literacy compared with 36 percent of males.⁴⁵

Table K5.1

Proportion (%) of adults aged 16–65 years with higher level literacy skills (Level 3 or above), 1996

	Prose literacy	Document literacy	Quantitative literacy
European	61	56	57
Māori	36	30	30
Pacific	27	25	28
Other	32	34	37
Total	54	50	51

Sources: Ministry of Education (2001b); OECD (2000)

INTERNATIONAL COMPARISON

New Zealand's prose literacy rate of 54.2 percent was close to the OECD median of 53.5 percent, and placed New Zealand seventh out of 17 OECD countries.⁴⁶ The top prose literacy performer in the OECD was Sweden with 72.1 percent. Outcomes for other countries included Canada (57.8 percent), Australia (55.8 percent), the United States (53.5 percent) and the United Kingdom (47.9 percent). New Zealand had a document literacy score of 49.5 percent, slightly lower than the OECD median of 52.9 percent. This placed New Zealand 13th in the OECD for document literacy. Scores for other countries included Canada (57.2 percent), Australia (55.1 percent), the United States (50.4 percent) and the United Kingdom (49.6 percent). For quantitative literacy, New Zealand scored 50.6 percent. This was significantly lower than the OECD median of 57 percent and ranked New Zealand at 12th place. Other countries' outcomes included Canada (57 percent), Australia (56.8 percent), the United States (53.8 percent) and the United Kingdom (49 percent).⁴⁷