# 4 School education

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| Attachment tables |
| Attachment tables are identified in references throughout this Indigenous Compendium by an ‘A’ prefix (for example, in this chapter, table 4A.1). As the data are directly sourced from the 2015 Report, the Compendium also notes where the original table, figure or text in the 2015 Report can be found. For example, where the Compendium refers to ‘2015 Report, p. 4.1’, this is page 1 of chapter 4 of the 2015 Report, and  ‘2015 Report, table 4A.1’ is table 1 of attachment 4A of the 2015 Report. A list of attachment tables referred to in the Compendium is provided at the end of this chapter, and the full attachment tables are available from the Review website at www.pc.gov.au/research/recurring/report-on-government-services. |
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The School education chapter (chapter 4) in the *Report on Government Services 2015* (2015 Report) reports on the performance of government funded school education in Australia. Data are reported for Aboriginal and Torres Strait Islander Australians for a subset of the performance indicators reported in this chapter — those data are compiled and presented here.

Reporting relates to government funding only, not to the full cost to the community of providing school education. Descriptive information and performance indicators are variously reported for:

* government primary and secondary schools
* non-government primary and secondary schools
* school education as a whole (government plus non-government primary and secondary schools).

Schooling aims to provide education for all young people. The main purposes of school education are to assist students in:

* attaining knowledge, skills and understanding in key learning areas
* developing their talents, capacities, self-confidence, self-esteem and respect for others
* developing their capacity to contribute to Australia’s social, cultural and economic development.

### Aboriginal and Torres Strait Islander data in the School education chapter

The School education chapter in the 2015 Report contains the following items for Aboriginal and Torres Strait Islander Australians:

* number and proportion of full time students
* the proportion of students attaining the national minimum standard for reading, numeracy and persuasive writing and mean scale scores for reading, numeracy and persuasive writing
* the proportion of students achieving at or above the proficient standard for science literacy, civics and citizenship and information and communication technologies literacy
* the proportion of students achieving at or above the national proficient standard and mean scores for Programme for International Student Assessment (PISA) assessment results (reading literacy, mathematical literacy and scientific literacy)
* the proportion of students attaining the proficient standard and mean scores for Trends in International Mathematics and Science Study (TIMSS) assessment results
* the proportion of students attaining the intermediate international benchmark and mean scores for 2011 Progress in International Reading Literacy Study (PIRLS) assessment results
* the proportion of students attaining various proficiency levels and mean scale scores for 2013 IEA International Computer and Information Literacy Study assessment results for year 8 students
* proportion of children aged 6–15 years attending school
* apparent retention rates from year 7/8 to years 10, 11 and 12 and year 10 to year 12
* student attendance rates for years 1–10.

### Special needs groups

Some groups of students in school education have been identified as having special needs. These special needs groups include:

* Aboriginal and Torres Strait Islander students
* students from language backgrounds other than English (LBOTE)
* students with disability
* geographically remote students
* students from families of low socio-economic status.

Government schools provide education for a high proportion of students from special needs groups. In 2013, 84.4 per cent of Indigenous students and 76.0 per cent of students with disability attended government schools (tables 4A.29 and 2015 Report, table 4A.31). Further information on student body mix in government, non‑government and all schools is available in tables 4A.32–34.

### Aboriginal and Torres Strait Islander students

The number and proportion of full time students who identify as Aboriginal and Torres Strait Islander varies greatly across jurisdictions (table 4.1). In all jurisdictions, the proportion of full time Aboriginal and Torres Strait Islander students was much higher in government schools than in non‑government schools. Nationally, the proportion of full time students who identified as Aboriginal and Torres Strait Islander was 6.5 per cent in government schools and 2.3 per cent in non‑government schools in 2013 (table 4.1).

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| Table 4.1 Aboriginal and Torres Strait Islander full time students, 2013 |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  | Unit | NSW | Vic | Qld | WA | SA | | Tas | | ACT | NT | Aust | | Aboriginal and Torres Strait Islander full time students **a** | | | | | | | | | | | | | | | Government schools | | (‘000) | 49.2 | 10.4 | 45.2 | 20.7 | 9.4 | 4.9 | | 1.2 | | 13.1 | 154.1 | | Non-government schools | | (‘000) | 8.6 | 1.7 | 8.6 | 3.9 | 1.2 | 1.0 | | 0.4 | | 3.2 | 28.6 | | **All schoolsb** | | **(‘000)** | **57.7** | **12.1** | **53.8** | **24.6** | **10.6** | **5.9** | | **1.6** | | **16.3** | **182.6** | | Aboriginal and Torres Strait Islander full time students as a proportion of all full time students | | | | | | | | | | | | | | | Government schools | | % | 6.5 | 1.9 | 8.9 | 8.2 | 5.7 | 8.8 | | 3.3 | | 44.7 | 6.5 | | Non-government schools | | % | 2.1 | 0.5 | 3.4 | 3.0 | 1.3 | 4.2 | | 1.4 | | 29.0 | 2.3 | | **All schools** | | **%** | **5.0** | **1.4** | **7.1** | **6.4** | **4.1** | **7.4** | | **2.5** | | **40.4** | **5.0** | |
| a Students counted as Aboriginal and Torres Strait Islander are those who have identified as being of Aboriginal and Torres Strait Islander origin. It is possible that the number of Aboriginal and Torres Strait Islander students may be under-represented in some jurisdictions. b Totals may not add as a result of rounding. |
| *Source*: ABS (2014) *Schools Australia 2013*, Cat. no. 4221.0; table 4A.29; 2015 Report, table 4.5, p. 4.12. |
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### Framework of performance indicators

The School education performance indicator framework outlined in figure 4.1 identifies the performance indicators reported in the 2015 Report. Data for Aboriginal and Torres Strait Islander Australians are reported for a subset of the performance indicators and are presented here. It is important to interpret these data in the context of the broader performance indicator framework. The framework shows which data are comparable. For data that are not considered directly comparable, the text includes relevant caveats and supporting commentary.

Indicator boxes presented throughout the chapter provide information about the reported indicators. As these are sourced directly from the 2015 Report, they might include references to data not reported for Aboriginal and Torres Strait Islander Australians and therefore not included in this Compendium.

The National Education Agreement (NEA) covers the area of school education, and education and training indicators in the NIRA establish specific outcomes for reducing the level of disadvantage experienced by Aboriginal and Torres Strait Islander Australians. Both agreements include sets of performance indicators. Performance indicators reported in this chapter are aligned with school education performance indicators in the most recent version of the NEA, where relevant.

The performance indicator framework provides information on equity, efficiency and effectiveness, and distinguishes the outputs and outcomes of school education services (figure 4.1). Chapter 1 discusses data comparability from a Report-wide perspective (see 2015 Report, section 1.6).

Different delivery contexts and locations influence the equity, effectiveness and efficiency of school education services. Results are also affected by the broader education environment (for example, availability of employment and further educational alternatives and population movements).

The Report’s Statistical context chapter (chapter 2) contains data that may assist in interpreting the performance indicators presented in this chapter. These data cover a range of demographic and geographic characteristics, including age profile, geographic distribution of the population, income levels, education levels, tenure of dwellings and cultural heritage (including Indigenous and ethnic status).

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| Figure 4.1 School education performance indicator framework |
| |  | | --- | | Figure 4.5 School education performance indicator framework  More details can be found within the text surrounding this image. | |
| *Source*: 2015 Report, figure 4.5, p. 4.18. |
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### Equity and effectiveness

#### Attendance and participation

‘Attendance and participation’ is an indicator of governments’ objective to develop fully the talents and capacities of young people through equitable access to, and participation in, education and learning, to complete school education to year 12 or its equivalent (box 4.1). National and international research confirms a link between attendance and student achievement, although numerous interrelated factors influence attendance and achievement in complex ways.

In addition, attendance and participation rates for special needs groups are an indication of the equity of access to school education (box 4.1).

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| Box 4.1 Attendance and participation |
| Attendance and participation’ is defined by four measures.  *Attendance*   * The number of actual full time equivalent ‘student days attended’ over the collection period as a percentage of the total number of possible student days attended over the collection period. A high student attendance rate is desirable.   Data on student attendance are collected for each State and Territory by school sector (government, Catholic and independent), sex, year level (1–10) and Indigenous status (Aboriginal and Torres Strait Islander and non-Indigenous students).  Data reported for this measure are:   * not comparable across jurisdictions * complete for the current reporting period (subject to caveats). All required 2013 data are available for all jurisdictions providing the service.   It is intended to measure student attendance over a single consistent time period (the first semester) for all schools. However, current reporting against the measure is transitional, with most jurisdictions providing government school data for the first semester. Non‑government schools also provide data for the first semester. |
| (continued next page) |
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| Box 4.1 (continued) |
| *Participation*   * The total number of children aged 6–15 years and enrolled in school (full time and part time enrolments) as a proportion of the estimated resident population of the same age. Data are provided for Aboriginal and Torres Strait Islander students, non-Indigenous students and all students * Comparability issues may occur when rates utilise data from composite sources. This measure uses a numerator from the National Schools Statistics Collection and a denominator of Estimated Resident Population (an aggregate derived data series compiled from the Census of Population and Housing, the Census Post Enumeration Survey and administrative data to measure components of population change over time). * When developing a measure using data from different sources, significant data comparability issues can emerge that may affect the accuracy of the indicator. These differences can have apparently implausible or unexpected effects — for example, producing an estimate significantly greater than 100 per cent of the population with a particular attribute. These effects are particularly apparent where a cohort is small and the phenomena being measured applies to close to 100 per cent of the population. * The number of full time and part time school students of a particular age expressed as a proportion of the estimated resident population of the same age, for each year for  14–19 year olds.   A higher or increasing participation rate suggests an improvement in educational outcomes through greater access to school education. Participation rates in school education need to be interpreted with care, because rates are influenced by jurisdictional differences in age/grade structures, and the participation rate is an age-based rate. The rate is comparable over time within a jurisdiction, but may not be directly comparable across jurisdictions where there are differences in the age/grade structure.   * The proportion of 15–19 year olds who have successfully completed at least one unit of competency as part of a VET qualification at Australian Qualifications Framework (AQF) Certificate II or above.   These measures do not provide information on young people who develop their talents and capacities through other options for delivering post-compulsory education and training — for example, work-based training and enrolment in technical and further education (TAFE) delivered programs. A broader participation indicator that accounts for some of these factors is reported in the Child care, education and training sector overview.  Data reported for these three measures are   * comparable (subject to caveats) across jurisdictions and over time. * complete for the current reporting period (subject to caveats). All required 2012 and 2013 data are available for all jurisdictions providing the service.   Care should be exercised in relation to the data for Aboriginal and Torres Strait Islander students, particularly in some jurisdictions and in the non-government sectors, due to small population sizes.  Information about data quality for this indicator is at www.pc.gov.au/research/recurring/report-on-government-services. |
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##### Attendance

School attendance is measured in a specific collection period during the school year  
(see box 4.1 for details), and results may not be representative of school attendance throughout the school year.

Non-Indigenous students in government schools had higher attendance rates than Aboriginal and Torres Strait Islander students across all year levels in all jurisdictions (figure 4.2 and table 4A.198). The differences varied across states and territories. A similar pattern to the government schools was observed for non-government schools (independent and Catholic schools) in most jurisdictions (tables 4A.200 and 4A.202).

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| Figure 4.2 Student attendance rate, Aboriginal and Torres Strait Islander students, government schools, 2013**a** |
| |  | | --- | | Figure 4.7 Student attendance rate, Aboriginal and Torres Strait Islander students, government schools, 2013  More details can be found within the text surrounding this image. | |
| a Attendance rates are the number of actual full time equivalent ‘student days’ attended as a percentage of the total number of possible student days attended over the period. Student attendance data are reported for full time students in years 1–10, but are not collected uniformly across jurisdictions and schooling sectors and therefore are not comparable. |
| *Source*: ACARA (unpublished); table 4A.198 ; 2015 Report, figure 4.6, p. 4.21. |
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##### Participation — proportion of children aged 6–15 years enrolled in school

Nationally, 100.3 per cent of children aged 6–15 years were enrolled (either full or part time) in school in 2013 (figure 4.3). (See box 4.1 for an explanation of rates above   
100 per cent). The proportion of 6–15 year old Aboriginal and Torres Strait Islander students enrolled was 95.4 per cent and compared to 100.7 per cent of non-Indigenous 6‑15 year old students.

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| Figure 4.3 Proportion of children aged 6–15 years enrolled in school, 2013**a, b** |
| |  | | --- | | Figure 4.3 Proportion of children aged 6-15 years enrolled in school, 2013  More details can be found within the text surrounding this image. | |
| a Data are based on estimated residential population derived from the 2011 Census of Population and Housing. See footnotes to table 4A.183 for further information on derivations of population figures.  bProportions are determined using the number of students enrolled in the jurisdiction divided by the estimated residential population for the jurisdiction, for the age group. Proportions that exceed 100 per cent may reflect disparities between the sources of data for students and the residential population, multiple enrolments by individual students or students residing in one jurisdiction enrolling in schools in another jurisdiction. In particular, enrolment rates in the ACT exceed 100 per cent as a result of NSW residents from surrounding areas enrolling in ACT. As a result of the relative sizes of the populations this has a larger effect on the ACT rates than the NSW rates. This is referred to as cross-border enrolment. See table 4A.183 for further details. |
| *Source*: ABS (2014) *Schools Australia, 2013,* Cat. no. 4221.0; ABS (2013) *Population by Age and Sex, Australian States and Territories, June 2013,* Cat. no. 3101.0; ABS (2013) *Estimates and Projections, Aboriginal and Torres Strait Islander Australians*, 2001 to 2026, Cat. no. 3238.0; table 4A.183. |
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#### Retention

‘Retention’ to the final years of schooling is an indicator of governments’ objective that all students have access to high quality education and training necessary to complete education to year 12 or its equivalent (box 4.2).

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| Box 4.2 Retention |
| Retention (apparent retention rate) is defined as the number of full time school students in a designated level/year of education as a percentage of their respective cohort group (either at the commencement of their secondary schooling at year 7 or 8, or at year 10). Data are reported for:   * the proportion of students commencing secondary school at year 7 or 8 and continuing to year 10 * the proportion of students commencing secondary school at year 7 or 8 and continuing to year 12 * the proportion of year 10 students continuing to year 12.   Data are reported for all students, Aboriginal and Torres Strait Islander and non-Indigenous students, and for students in government and non-government schools.  A higher or increasing apparent retention rate suggests that a larger proportion of students are continuing to participate in school education, which is likely to result in improved educational outcomes.  This indicator does not include part time students or provide information on students who pursue year 12 (or equivalent qualifications) through non-school pathways.  The term ‘apparent’ is used because the indicator is derived from total numbers of students in each of the relevant year levels, not by tracking the retention of individual students. Care needs be taken in interpretation because the apparent retention rate does not take account of factors such as:   * students repeating a year of education or returning to education after a period of absence * movement or migration of students between school sectors, between states/territories and between countries * the impact of full fee paying overseas students.   These factors may lead to apparent retention rates that exceed 100 per cent.  Data reported for all measures in this indicator are:   * comparable (subject to caveats) across jurisdictions and over time * complete for the current reporting period (subject to caveats). All required 2013 data are available for all jurisdictions providing the service.   Information about data quality for this indicator is at www.pc.gov.au/research/recurring/report-on-government-services. |
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In most jurisdictions in 2013, apparent retention rates from the commencement of secondary school at year 7 or 8 (2015 Report, figure 4.2 shows the starting years across jurisdictions) to year 10, were 99 per cent to 104 per cent, with a national rate of   
101.5 per cent (figure 4.4). Retention rates can exceed 100 per cent for a variety of reasons (see box 4.2). High rates are to be expected, because normal year level progression means students in year 10 are generally of an age at which schooling is compulsory.

Retention rates for Aboriginal and Torres Strait Islander students provide one measure of the equity of access to schooling. Retention rates to year 10 for Aboriginal and Torres Strait Islander students were lower than those for non-Indigenous students and all students in some jurisdictions, with a national retention rate for Aboriginal and Torres Strait Islander students of 98.1 per cent, 3.6 percentage points lower than that for non-Indigenous students and 3.4 percentage points lower than that for all students (figure 4.4).

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| Figure 4.4 Apparent retention rate from year 7 or 8 to year 10, full time secondary students, all schools, 2013**a, b, c, d, e** |
| |  | | --- | | Figure 4.11 Apparent retention rate from year 7 or 8 to year 10, full time secondary students, all schools, 2013  More details can be found within the text surrounding this image. | |
| a Apparent retention rates are affected by factors that vary across jurisdictions. For this reason, variations in apparent retention rates over time within jurisdictions may be more useful than comparisons across jurisdictions. b Retention rates can exceed 100 per cent for a variety of reasons, including student transfers between jurisdictions and students repeating years. c The standard apparent retention rate calculation excludes part time students, which has implications for the interpretation of results for all jurisdictions (table 4.4). d Ungraded students are not included in the calculation of apparent retention rates. e Some students' Indigenous status is not stated. Consequently, the number of Aboriginal and Torres Strait Islander students counted in the Aboriginal and Torres Strait Islander rates may be under‑represented in some jurisdictions. Students for whom Indigenous status is not stated are included in the data for 'non‑Indigenous students', and are included in the data for 'all students'. |
| *Source*: ABS (2014) *Schools Australia 2013*, Cat. no. 4221.0; table 4A.186; 2015 Report, figure 4.11,  p. 4.28. |
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The national apparent retention rate from the commencement of secondary schooling at year 7 or year 8 (2015 Report figure 4.2 shows the differences across jurisdictions) to year 10 for all full time students was 98.3 per cent in 2005, rising to 99.8 per cent in 2009 and 101.5 per cent in 2013 (2015 Report, figure 4.12). Data for intervening years and by Indigenous status are in table 4A.188. Data for government schools and non‑government schools are in tables 4A.189 and 4A.190.

The national apparent retention rate, from the commencement of secondary school at   
year 7 or 8 (2015 Report, figure 4.2 shows the differences across jurisdictions) to year 12, for all full time students was 75.3 per cent in 2005, increasing to 81.6 per cent in 2013   
(2015 Report, figure 4.13). Data for intervening years and by Indigenous status are in   
table 4A.188. Data for government schools and non-government schools are in   
tables 4A.189 and 4A.190.

Retention rates from year 7 or 8 to year 12 for Aboriginal and Torres Strait Islander students in all schools were lower than those for non-Indigenous students and all students in all jurisdictions in 2013, with a national retention rate for Aboriginal and Torres Strait Islander students of 55.1 per cent, 27.8 percentage points lower than that for non‑Indigenous students (82.9 per cent) and 26.5 percentage points lower than that for all students (81.6 per cent) (table 4A.188).

For government and non-government schools, apparent rates of retention from year 10 to year 12 for Aboriginal and Torres Strait Islander students in 2013 were consistently lower than rates for all students but varied across jurisdictions (figure 4.5 and 2015 Report, figure 4.14). In interpreting Aboriginal and Torres Strait Islander apparent retention rates, it should be noted that, nationally, 1.9 per cent of Aboriginal and Torres Strait Islander students left school before year 10 (figure 4.4 and table 4A.186), and so are not included in the base year for retention from year 10 to year 12. Further, Aboriginal and Torres Strait Islander students made up 6.5 per cent of all students in government schools compared with 2.3 per cent in non-government schools and some jurisdictions have very low numbers of Aboriginal and Torres Strait Islander students (table 4.1).

Nationally in 2013, Aboriginal and Torres Strait Islander retention from year 10 to year 12 for all schools was 55.8 per cent (figure 4.5), compared with 81.9 per cent for non‑Indigenous students (table 4A.188). However, Aboriginal and Torres Strait Islander retention from year 10 to year 12 for all schools has risen from 45.3 per cent in 2005, with the gap between Aboriginal and Torres Strait Islander students and non-Indigenous students narrowing from 32.2 percentage points in 2005 to 26.1 percentage points in 2013 (table 4A.188).

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| Figure 4.5 Apparent retention rates from year 10 to year 12, Aboriginal and Torres Strait Islander full time secondary students, 2013**a, b, c, d** |
| |  | | --- | | Figure 4.15 Apparent retention rates from year 10 to year 12, Aboriginal and Torres Strait Islander full time secondary students, 2013  More details can be found within the text surrounding this image. | |
| a Apparent retention rates are affected by factors that vary across jurisdictions. For this reason, variations in apparent retention rates over time within jurisdictions may be more useful than comparisons across jurisdictions (see tables 4A.188–190). b The standard apparent retention rate calculation excludes part time students, which has implications for the interpretation of results for all jurisdictions (2015 Report, table 4.4). cUngraded students are not included in the calculation of apparent retention rates. d Some students' Indigenous status is not stated. Consequently, in these rates Aboriginal and Torres Strait Islander students may be under‑represented in some jurisdictions. |
| *Source*: ABS (2014) *Schools Australia 2013*, Cat. no. 4221.0; tables 4A.188–190; 2015 Report,  figure 4.14, p. 4.31. |
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Nationally, apparent rates of retention for all full time students from year 10 to year 12 rose slightly from 76.5 per cent in 2005 to 80.7 per cent in 2013 (2015 Report, figure 4.16). Data for intervening years and by Indigenous status are in table 4A.188. Data for government schools and non-government schools are in tables 4A.189 and 4A.190.

### Outcomes

Outcomes are the impact of services on the status of an individual or group (while outputs are the actual services delivered) (see 2015 Report, chapter 1, section 1.5).

#### Nationally comparable learning outcomes

Learning outcomes measure students’ attainment of a range of skills, in literacy and numeracy, and in areas such as science literacy, information and communication technology, and civics and citizenship.

The ‘learning outcomes’ indicator examines outcomes in these areas and draws on two main sources of information:

* the National Assessment Program — Literacy and Numeracy (NAPLAN), and NAP sample assessments. These are SCSEEC (now Education Council)‑endorsed tests developed to measure student performance in relation to the National Goals for Schooling
* Australia’s participation in four international tests — the Organisation for Economic Co-operation and Development (OECD) Programme for International Student Assessment (PISA); the International Association for Educational Assessment (IAEA) Trends in International Mathematics and Science Study (TIMSS); the Progress in International Reading Literacy Study (PIRLS); and the IEA International Computer and Information Literacy Study (ICILS).

##### National Assessment Program

This chapter reports proportions of students undertaking NAPLAN testing in years 3, 5, 7 and 9 achieving the national minimum standard, and mean scale score learning outcomes, for reading, persuasive writing and numeracy performance in 2014, including by Indigenous status and geolocation. Data comparing a range of time series outcomes from 2008–2014 and 2013–2014 for reading and numeracy are also included in the chapter, as are data for cohort gains from 2008–2010–2012–2014 (years 3–5–7–9) for reading and numeracy.

Achieving (but not exceeding) the national minimum standard represents achievement of the basic elements of literacy or numeracy for the year level. Students who have not achieved the national minimum standard for that year need focused intervention and additional support to help them achieve the skills they require to progress in schooling (ACARA 2014a). The chapter and attachment tables also include additional data on NAPLAN mean scale scores for 2014.

Detailed NAPLAN data for 2014, including outcomes by socio-economic status (parental education and occupation), are included in the attachment tables (tables 4A.36–37,   
4A.39–40 and 4A.42–43, 2014 Report, tables 4A.38 and 4A.41 for reading performance, tables 4A.72–73, 4A.75–76 and 4A.78–79 and 2015 Report, tables 4A.74 and 4A.77 for numeracy performance for persuasive writing performance and tables 4A.108–109, 4A.111–112, 4A.114–115 and 2015 Report, tables 4A.110 and 4A.113 for numeracy performance). More detailed NAPLAN time series data for 2008–2014 and 2013–2014 are included in tables 4A.44–52 for reading performance and tables 4A.116–124 for numeracy performance. Time series data for 2011–2014 and 2013–2014 for persuasive writing are included in tables 4A.80–88. In 2011, NAPLAN writing testing changed from narrative to persuasive writing, leading to a break in the time series. Data for narrative writing (for 2008, 2009 and 2010) are included in the 2010–2012 Reports.

The NAP also undertakes triennial national sample assessments on a rotating basis. This chapter reports year 6 and year 10 civics and citizenship performance data for 2004, 2007 2010 and 2013 (2013 data are available for the first time in this Report). The attachment tables include additional data on year 6 science literacy performance for 2006, 2009 and 2012 (table 4A.146 and 2015 Report, tables 4A.144–145 and 147–148); year 6 and year 10 civics and citizenship literacy performance for 2004, 2007, 2010 and 2013 (table 4A.151 and 2015 Report, tables 4A.147–150 and 152–153) and year 6 and year 10 information and communication technologies literacy performance for 2005, 2008 and 2011   
(tables 4A.155–156 and 2015 Report, tables 4A.154 and 157–158).

##### International tests

This chapter reports outcomes of:

* triennial PISA assessments in reading literacy, mathematical literacy and scientific literacy for 15 year old students. Data from the 2000, 2003, 2006, 2009 and 2012 assessments are included in this Report (tables 4A.159–160, 4A.165, 4A.170–173 and 2015 Report, tables 4A.161–164 and 166–169)
* the four-yearly TIMSS assessments on mathematics and science achievement for year 4 and year 8, conducted in 2011. The attachment tables include additional information on the 2011 test, as well as data from 2003 and 2007 (tables 4A.174–177 and 2015 Report, table 4A.178)
* the five-yearly PIRLS test for year 4, conducted in 2011, on reading literacy performance (table 4A.180 and 2105 Report, table 4A.179)
* the ICILS test, that assesses the extent to which students know about, understand, and are able to use information and communication technology. It was conducted at year 8 level for the first time in 2013 (table 4A.182 and 2105 Report, table 4A.181).

##### Interpreting learning outcomes data

To assist with making comparisons across jurisdictions, where appropriate,   
95 per cent confidence intervals are presented in charts and attachment tables. Confidence intervals are a standard way of expressing the degree of uncertainty associated with survey estimates or performance measurement. An estimate of 80 per cent with a confidence interval of ± 2.0, for example, means that if another sample had been drawn, or if another combination of test items had been used, there is a 95 per cent chance that the result would lie between 78 per cent and 82 per cent. Each learning outcomes proportion can be thought of in terms of a range. If one jurisdiction’s rate ranges from 78–82 per cent and another’s from 77–81 per cent, then it is not possible to say with confidence that one differs from the other (because there is unlikely to be a statistically significant difference). Where ranges do not overlap, there is a high likelihood that there is a statistically significant difference. A statistically significant difference means there is a high probability that there is an actual difference; it does not imply that the difference is necessarily large or important.

##### Participation in NAPLAN testing

NAPLAN testing reports the number of assessed, exempt, absent and withdrawn students. Assessed students include all students who attempt the test and exempt students. Students with a language background other than English who arrived from overseas less than a year before the test, and students with significant intellectual disabilities may be exempted from testing. Participating students are those who were assessed or deemed exempt — other students were either absent or withdrawn. A higher or increasing proportion of students participating in NAPLAN testing suggests an improvement in that aspect of educational participation. Participation in the 2014 NAPLAN tests, by Indigenous status, for reading, writing and numeracy are included in tables 4A.42, 4A.78 and 4A.114 respectively. The proportion of assessed, exempt, absent and withdrawn students in years 3, 5, 7 and 9 for reading, persuasive writing and numeracy in 2014 are in tables 4A.43, 4A.79 and 4A.115 respectively. In all domains and year levels, a lower proportion of Aboriginal and Torres Strait Islander students than non-Indigenous or all students participated in NAPLAN testing.

#### Learning outcomes

‘Learning outcomes’ is an indicator of governments’ objective that all students should attain a range of skills, including: English literacy, such that every student should be able to read, write, spell and communicate at an appropriate level; skills in numeracy; and skills and becoming informed in areas such as science literacy; information and communications technologies; and civics and citizenship (box 4.3).

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| Box 4.3 Learning outcomes |
| ‘Learning outcomes’ is defined by seven measures:   * the proportion of years 3, 5, 7 and 9 students achieving at or above the national minimum standard in NAPLAN testing for reading, persuasive writing and numeracy for a given year, reported by Indigenous status, sex, LBOTE, socio-economic status and MCEECDYA categories of geolocation. Significance of difference across states and territories for all students is also identified. (Section 4.1 of the 2015 Report identifies the profile of equity groups in each State and Territory) * the mean scale score (on the common national scale, ranging from 0 to 1000) achieved by years 3, 5, 7 and 9 students in NAPLAN assessment for reading, persuasive writing and numeracy for a given year, reported by Indigenous status. Significance of difference across states and territories for all students is also identified. This Report also includes a time series for student cohort ‘gain’ (for example, between year 3 in 2012 and year 5 in 2014) based on the mean scale score outcomes for reading and numeracy * the proportion of sampled year 6 and year 10 students achieving at or above the proficient standard in civics and citizenship; information and communication technologies; and science literacy (year 6 only). National data from the triennial National Assessment Program tests are reported by sex, Indigenous status, LBOTE status, MCEECDYA categories of geolocation and socio-economic status * the proportion of sampled 15 year old students achieving at or above the proficient standard on the OECD PISA combined reading, mathematical literacy and science literacy scales in a triennial international assessment. National data are also reported by sex, Indigenous status, socio-economic status and geolocation * the proportion of sampled students achieving at or above the proficient standard on the TIMSS mathematical literacy and science literacy scales in a quadrennial assessment (assessed year 4 and year 8 students who achieve at or above the proficient standard on the TIMSS mathematical literacy scale for a given year). National data are also reported by sex, Indigenous status and MCEECDYA categories of geolocation * the proportion of sampled year 4 students achieving at or above the proficient standard on the 5 yearly PIRLS reading literacy test. National data are also reported by sex, Indigenous status and MCEECDYA categories of geolocation * the proportions of sampled students achieving at various proficiency levels, and mean scale scores on the ICILS.   A high or increasing proportion of students achieving at or above the national minimum standard or proficient standard, or a high or increasing mean scale score for learning outcomes is desirable.  Data reported for all measures in this indicator are   * comparable (subject to caveats) across jurisdictions and over time * complete for the current reporting period (subject to caveats). All required 2013 and 2014 data are available for all jurisdictions providing the service.   Information about data quality for this indicator is at www.pc.gov.au/research/recurring/report-on-government-services. |
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##### NAPLAN Reading

This section of the learning outcomes indicator provides key outcomes for NAPLAN testing (years 3, 5, 7 and 9) in the reading domain. Outcomes by Indigenous status are highlighted, but outcomes for a range of other equity groups including male, female, LBOTE, geolocation and socio-economic status (parental education and parental occupation) are included in tables 4A.36–37, 4A.39–40 and 4A.42–53, and 2015 Report  
tables 4A.38 and 4A.41.

###### All students and Aboriginal and Torres Strait Islander students

The proportion of year 3 students who achieved at or above the reading national minimum standard in 2014 was 93.1–93.7 per cent nationally. The proportion for Aboriginal and Torres Strait Islander students (73.1–76.3 per cent) was significantly lower than for non‑Indigenous students (94.5–94.9 per cent) (figure 4.6). These proportions varied across jurisdictions.

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| Figure 4.6 Proportion of year 3 students achieving at or above the reading national minimum standard, 2014**a, b** |
| |  | | --- | | Figure 4.24 Proportion of year 3 students achieving at or above the reading national minimum standard, 2014  More details can be found within the text surrounding this image. | |
| a Error bars represent the 95 per cent confidence interval associated with each point estimate. b For further information and caveats see table 4A.36. |
| *Source*: ACARA (2014 and unpublished) *NAPLAN Achievement in Reading, Writing, Language Conventions and Numeracy: National Report for 2014*; table 4A.36; 2015 Report, figure 4.24, p. 4.50. |
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The mean scale score for year 3 reading in 2014 for all students was 417.2–419.4 nationally. The mean scale score for Aboriginal and Torres Strait Islander students   
(328.9–336.9) was significantly lower than for non-Indigenous students (422.2–424.2). Mean scale scores varied across jurisdictions (table 4A.39).

The proportion of year 5 students who achieved at or above the reading national minimum standard in 2014 was 92.7–93.1 per cent nationally. The proportion for Aboriginal and Torres Strait Islander students (68.7–71.9 per cent) was significantly lower than for non‑Indigenous students (94.0–94.4 per cent) (figure 4.7). These proportions varied across jurisdictions.

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| Figure 4.7 Proportion of year 5 students achieving at or above the reading national minimum standard, 2014**a, b** |
| |  | | --- | | Figure 4.25 Proportion of year 5 students achieving at or above the reading national minimum standard, 2014  More details can be found within the text surrounding this image. | |
| a Error bars represent the 95 per cent confidence interval associated with each point estimate. b For further information and caveats see table 4A.36. |
| *Source*: ACARA (2014 and unpublished) *NAPLAN Achievement in Reading, Writing, Language Conventions and Numeracy: National Report for 2014*; table 4A.36, figure 4.25, p. 4.51. |
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The mean scale score for year 5 reading in 2014 for all students was 499.6–501.6 nationally. The mean scale score for Aboriginal and Torres Strait Islander students   
(418.7–425.5) was significantly lower than for non-Indigenous students (504.0–506.0). Mean scale scores varied across jurisdictions (table 4A.39).

The proportion of year 7 students who achieved at or above the reading national minimum standard in 2014 was 94.6–95.2 per cent nationally. The proportion for Aboriginal and Torres Strait Islander students (75.3–78.9 per cent) was significantly lower than for non‑Indigenous students (95.7–96.1 per cent) (figure 4.8). These proportions varied across jurisdictions.

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| Figure 4.8 Proportion of year 7 students achieving at or above the reading national minimum standard, 2014**a, b** |
| |  | | --- | | Figure 4.26 Proportion of year 7 students achieving at or above the reading national minimum standard, 2014  More details can be found within the text surrounding this image. | |
| a Error bars represent the 95 per cent confidence interval associated with each point estimate. b For further information and caveats see table 4A.36. |
| *Source*: ACARA (2014 and unpublished) *NAPLAN Achievement in Reading, Writing, Language Conventions and Numeracy: National Report for 2014*; table 4A.36, figure 4.26, p. 4.54. |
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The mean scale score for year 7 reading in 2014 for all students was 544.7–547.5 nationally. The mean scale score for Aboriginal and Torres Strait Islander students   
(475.3–482.7) was significantly lower than for non-Indigenous students (548.4–551.2). Mean scale scores varied across jurisdictions (table 4A.39).

The proportion of year 9 students who achieved at or above the reading national minimum standard in 2014 was 91.7–92.5 per cent nationally. The proportion for Aboriginal and Torres Strait Islander students (69.6–72.8 per cent) was significantly lower than for non‑Indigenous students (93.0–93.6 per cent) (figure 4.9). These proportions varied across jurisdictions.

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| Figure 4.9 Proportion of year 9 students achieving at or above the reading national minimum standard, 2014**a, b** |
| |  | | --- | | Figure 4.27 Proportion of year 9 students achieving at or above the reading national minimum standard, 2014  More details can be found within the text surrounding this image. | |
| a Error bars represent the 95 per cent confidence interval associated with each point estimate. **b** For further information and caveats see table 4A.36. |
| *Source: ACARA (2014 and unpublished) NAPLAN Achievement in Reading, Writing, Language Conventions and Numeracy: National Report for 2014*; table 4A.36, figure 4.27, p. 4.56. |
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The mean scale score for year 9 reading in 2014 for all students was 578.9–581.9 nationally. The mean scale score for Aboriginal and Torres Strait Islander students   
(514.2–520.6) was significantly lower than for non-Indigenous students (582.4–585.4). Mean scale scores varied across jurisdictions (table 4A.39).

###### Geolocation

Nationally, in 2014, reading outcomes tended to decline with remoteness. In year 3, for example, 94.5–94.9 per cent of students in metropolitan areas achieved at or above the reading national minimum standard, significantly higher than the proportions of provincial students (91.8–92.6 per cent), remote students (81.7–86.7 per cent) and very remote students (49.6–61.8 per cent) (figure 4.10).

For all geolocation categories across years 3, 5, 7 and 9, reading outcomes nationally for Aboriginal and Torres Strait Islander students were lower than those for non-Indigenous students. Nationally, outcomes for Aboriginal and Torres Strait Islander students generally declined as remoteness increased, and the gap in learning outcomes between Aboriginal and Torres Strait Islander students and non-Indigenous students was generally greater in remote and very remote areas than in metropolitan and provincial areas.

State and Territory results by Indigenous status and geolocation for years 3, 5, 7 and 9 reading literacy are in table 4A.37. The general pattern in jurisdictions appears similar to the national results. However, due to relatively large confidence intervals, caution should be exercised when making comparisons for some data. Mean scale score results by Indigenous status and geolocation are provided in table 4A.40.

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| Figure 4.10 National proportion of year 3 students achieving at or above the reading national minimum standard, by Indigenous status and geolocation, 2014**a, b** |
| |  | | --- | | Figure 4.28 National proportion of year 3 students achieving at or above the reading national minimum standard, by Indigenous status and geolocation, 2014  More details can be found within the text surrounding this image. | |
| a Error bars represent the 95 per cent confidence interval associated with each point estimate. b Data for year 3 students are shown and may not be representative of students in years 5, 7 and 9, which are detailed in table 4A.37. |
| *Source*: ACARA (2014 and unpublished) *NAPLAN Achievement in Reading, Writing, Language Conventions and Numeracy: National Report for 2014*; table 4A.37; 2015 Report, figure 4.28, p. 4.58. |
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###### Time series analysis of NAPLAN reading outcomes — statistical significance of differences between years

Table 4.2 provides a summary of differences in achievement at year 5 for mean scale score and proportions at and above national minimum standard for reading, by Indigenous status, on a national basis, across various years.

Nationally, for year 5 reading:

* the proportion of students achieving at or above the national minimum standard in 2014 was lower than and was statistically significantly different from 2013, but close to or not statistically significantly different from 2008. The mean scale score for 2014 was above and was statistically significantly different from 2008, but close to or not statistically significantly different from 2013
* the proportion of Aboriginal and Torres Strait Islander students achieving at or above the national minimum standard in 2014 was lower then and was statistically significantly different from 2013, but close to or not statistically significantly different from 2008. The mean scale score for Aboriginal and Torres Strait Islander students in 2014 was below and was statistically significantly different from 2013, but was above and was statistically significantly different from 2008
* the proportion of non-Indigenous students achieving at or above the national minimum standard in 2014 was lower than and was statistically significantly different from 2013, but close to or not statistically significantly different from 2008. The mean scale score for non-Indigenous students in 2014 was above and was statistically significantly different from 2008, but close to or not statistically significantly different from 2013 (table 4.2).

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| Table 4.2 Mean scale scores and proportion of students who achieved at or above the national minimum standard for year 5 reading, and nature of the differences, 2008 and 2013 to 2014, Australia**a, b** |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  | |  | | |  | | | | Nature of the differences | | | |  |  | 2008 | | | 2013 | | | 2014 | 2008 to 2014 | | | 2013 to 2014 | |  | | **Aboriginal and Torres Strait Islander students** | | | | | | | | | Mean scale score | no. | 403.4 ± 4.1 | | | 439.4 ± 3.4 | | | 422.1 ± 3.4 | △ | | | ▽ | | | At or above NMS | % | 63.4 ± 1.8 | | | 83.3 ± 1.7 | | | 70.3 ± 1.6 | ■ | | | ▽ | | | **Non-Indigenous students** | | | | | | | | | |  | | |  | | Mean scale score | no. | 488.7 ± 1.0 | | | 505.9 ± 0.8 | | | 505.0 ± 1.0 | △ | | | ■ | | | At or above NMS | % | 92.6 ± 0.2 | | | 96.9 ± 0.1 | | | 94.2 ± 0.2 | ■ | | | ▽ | | | **All students** | | |  | | |  | | | |  | | |  | | Mean scale score | no. | 484.4 ± 1.1 | | | 502.3 ± 0.9 | | | 500.6 ± 1.0 | △ | | | ■ | | | At or above NMS | % | 91.0 ± 0.3 | | | 96.1 ± 0.2 | | | 92.9 ± 0.2 | ■ | | | ▽ | | |
| NMS = National Minimum Standard.  For comparison of mean scale scores: △ Average achievement is above and is statistically significantly different from the base year (or previous year). ■ Average achievement is close to or not statistically different from the base year (or previous year). ▽ Average achievement is below and is statistically significantly different from the base year (or previous year).  For comparison of percentage of students at or above national minimum standard: △ Percentage of students at or above national minimum standard is higher than and is statistically significantly different from the base year (or previous year). ■ Percentage of students at or above national minimum standard is close to or not statistically different from the base year (or previous year). ▽ Percentage of students at or above national minimum standard is lower than and is statistically significantly different from the base year (or previous year).  a The mean scale scores and proportions at or above national minimum standard reported in this table include 95 per cent confidence intervals (for example, a mean scale score of 400.0 ± 2.7). The confidence intervals in this table are for the specific year applicable and do not provide an indication of statistically significant differences between years. See section 2.5 of the statistical context chapter (chapter 2) for more information on confidence intervals. b For further information and caveats see table 4A.52. |
| *Source*: ACARA (2014 and unpublished) *NAPLAN Achievement in Reading, Writing, Language Conventions and Numeracy: National Report for 2014*, ACARA, Sydney; table 4A.52; 2015 Report, table 4.11, p. 4.60. |
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###### Cohort gain

Analysis of NAPLAN mean scale score data for the years 2008 to 2010, 2010 to 2012 and 2012 to 2014 enables comparisons of outcomes for the same cohort of students over time (box 4.4). This chapter reports on gains in reading and numeracy from year 3 in 2008 to year 5 in 2010, year 7 in 2012, and year 9 in 2014. Student gain for other cohorts and from 2009 to 2011 and 2013 are included in attachment tables.

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| Box 4.4 Achievement and gain |
| For national reporting purposes, gain is the difference in mean scale scores in a domain for the same cohort of students between two testing years, for example between 2012 and 2014. The cohorts between the two years are not matched — that is, there will be differences between the exact composition of the student body in any given State or Territory.  A feature of gain in NAPLAN performance is that the size of the gain tends to be associated with the level of prior performance: the lower the prior performance, the more likely the possibility of greater gain. Further, for literacy and numeracy, student gain is greater in the early years. Few of the differences across states and territories in the gains made between 2008 and 2010, between 2010 and 2012 and between 2012 and 2014 are statistically significant. This report includes confidence intervals, which provide an indication of the level of uncertainty of the gain over the two year period. |
| *Source:* ACARA (2014a)*.* |
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From year 3 in 2008 to year 5 in 2010, the gain in reading mean scale score (on the common national scale for years 3, 5, 7 and 9, ranging from 0 to 1000) was between   
79.0 and 94.8 points nationally. For the same cohort, from year 5 in 2010 to year 7 in 2012, the mean scale score gain was between 47.0 and 61.2 points nationally, and from year 7 in 2012 to year 9 in 2014, the mean scale score gain was between 33.4 and 44.4 points nationally (table 4.3).

For Aboriginal and Torres Strait Islander students, from year 3 in 2008 to year 5 in 2010 the mean scale score gain nationally was between 85.9 and 105.9 points, from year 5 in 2010 to year 7 in 2012 the mean scale score gain was between 56.6 and 73.8 points nationally and from year 7 in 2012 to year 9 in 2014, the mean scale score gain was between 35.7 and 49.5 points. For non‑Indigenous students, from year 3 in 2008 to year 5 in 2010 the mean scale score gain nationally was between 78.5 and 94.3 points, from year 5 in 2010 to year 7 in 2012, the mean scale score was between 46.5 and 60.7 points nationally and from year 7 in 2012 to year 9 in 2014, the mean scale score gain was between 33.4 and 44.4 points (table 4.3).

These mean scale score gains varied across jurisdictions (table 4.3). Data for other cohorts from 2008–2010, 2010–2012 and 2012–2014 are in table 4A.53. Data for years 2009–2011 and 2011–2013 are in table 4A.71.

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| Table 4.3 Gain in mean scale score for reading: year 3 (2008) to year 5 (2010) to year 7 (2012) to year 9 (2014)**a, b** |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | *NSW* | *Vic* | *Qld* | *WA* | *SA* | *Tas* | *ACT* | *NT* | *Aust* | | **Aboriginal and Torres Strait Islander students** | | | | | | | | | | | 2008 Year 3 | 347.5  ± 3.6 | 368.9  ± 6.3 | 309.5  ± 7.6 | 292.7  ± 7.1 | 329.7  ± 8.7 | 376.6  ± 9.4 | 359.5  ± 17.6 | 208.1  ± 19.5 | 313.7  ± 4.9 | | 2010 Year 5 | 433.3  ± 3.4 | 454.4  ± 6.5 | 411.3  ± 4.7 | 387.3  ± 6.1 | 408.8  ± 7.5 | 451.9  ± 8.8 | 430.6  ± 14.7 | 326.7  ± 18.8 | 409.6  ± 3.8 | | 2012 Year 7 | 489.9  ± 3.2 | 504.3  ± 5.5 | 478.0  ± 4.0 | 462.0  ± 5.2 | 478.4  ± 7.6 | 505.0  ± 7.9 | 507.4  ± 14.2 | 397.3  ± 22.7 | 474.8  ± 3.4 | | 2014 Year 9 | 529.2  ± 3.1 | 540.3  ± 4.9 | 521.3  ± 4.3 | 508.4  ± 7.6 | 516.7  ± 6.7 | 539.7  ± 7.5 | 540.3  ± 14.4 | 437.8  ± 22.9 | 517.4  ± 3.2 | | **Gain 2008-2010** | **85.8  ± 9.2** | **85.5  ± 11.9** | **101.8  ± 11.8** | **94.6  ± 12.2** | **79.1  ± 13.9** | **75.3  ± 15.0** | **71.1  ± 24.1** | **118.6  ± 28.2** | **95.9  ± 10.0** | | **Gain 2010-2012** | **56.6  ± 8.4** | **49.9  ± 11.0** | **66.7  ± 9.3** | **74.7  ± 10.6** | **69.6  ± 12.8** | **53.1  ± 13.7** | **76.8  ± 21.6** | **70.6  ± 30.3** | **65.2  ± 8.6** | | **Gain 2012-2014** | **39.3  ± 6.8** | **36.0  ± 9.0** | **43.3  ± 7.8** | **46.4  ± 10.5** | **38.3  ± 11.3** | **34.7  ± 12.0** | **32.9  ± 20.9** | **40.5  ± 32.6** | **42.6  ± 6.9** | | **Non-Indigenous students** | | | | | | | | | | | 2008 Year 3 | 414.9  ± 1.7 | 420.6  ± 1.6 | 375.9  ± 2.4 | 394.5  ± 2.7 | 403.9  ± 3.1 | 403.4  ± 5.2 | 422.8  ± 5.7 | 382.5  ± 8.1 | 405.0  ± 1.1 | | 2010 Year 5 | 498.7  ± 1.9 | 502.7  ± 1.7 | 473.4  ± 1.9 | 484.5  ± 2.6 | 479.1  ± 2.9 | 488.0  ± 5.3 | 510.4  ± 5.4 | 475.4  ± 6.1 | 491.4  ± 1.0 | | 2012 Year 7 | 548.7  ± 2.9 | 549.1  ± 2.6 | 536.8  ± 1.9 | 543.3  ± 2.9 | 539.5  ± 2.8 | 542.8  ± 6.8 | 559.8  ± 8.3 | 530.8  ± 13.2 | 545.0  ± 1.3 | | 2014 Year 9 | 587.5  ± 3.0 | 586.3  ± 2.9 | 575.4  ± 3.0 | 590.0  ± 4.5 | 575.5  ± 4.7 | 575.8  ± 7.1 | 599.1  ± 8.5 | 572.4  ± 12.0 | 583.9  ± 1.5 | | **Gain 2008-2010** | **83.8  ± 8.2** | **82.1  ± 8.1** | **97.5  ± 8.4** | **90.0  ± 8.6** | **75.2  ± 8.9** | **84.6  ± 10.7** | **87.6  ± 11.0** | **92.9  ± 12.8** | **86.4  ± 7.9** | | **Gain 2010-2012** | **50.0  ± 7.8** | **46.4  ± 7.6** | **63.4  ± 7.4** | **58.8  ± 7.9** | **60.4  ± 8.0** | **54.8  ± 11.1** | **49.4  ± 12.1** | **55.4  ± 16.1** | **53.6  ± 7.1** | | **Gain 2012-2014** | **38.8  ± 6.6** | **37.2  ± 6.4** | **38.6  ± 6.2** | **46.7  ± 7.4** | **36.0  ± 7.5** | **33.0  ± 11.1** | **39.3  ± 12.9** | **41.6  ± 18.6** | **38.9  ± 5.5** | | **All students** | | | | | | | | | | | 2008 Year 3 | 412.3  ± 1.8 | 419.9  ± 1.6 | 371.1  ± 2.6 | 386.7  ± 3.1 | 400.5  ± 3.3 | 401.2  ± 4.9 | 421.0  ± 5.9 | 306.6  ± 19.9 | 400.5  ± 1.2 | | 2010 Year 5 | 496.2  ± 1.9 | 502.2  ± 1.7 | 468.7  ± 2.1 | 477.5  ± 2.8 | 476.5  ± 3.0 | 484.6  ± 5.5 | 508.6  ± 5.5 | 412.1  ± 18.1 | 487.4  ± 1.1 | | 2012 Year 7 | 546.1  ± 2.9 | 548.3  ± 2.6 | 532.7  ± 2.0 | 537.8  ± 3.0 | 537.0  ± 2.9 | 540.6  ± 7.4 | 558.6  ± 8.3 | 474.3  ± 22.2 | 541.5  ± 1.3 | | 2014 Year 9 | 584.3  ± 2.9 | 585.5  ± 2.9 | 571.6  ± 3.1 | 584.4  ± 4.8 | 573.0  ± 5.0 | 573.4  ± 7.4 | 597.3  ± 8.6 | 521.7  ± 22.2 | 580.4 ± 1.5 | | **Gain 2008-2010** | **83.9  ± 8.2** | **82.3  ± 8.1** | **97.6  ± 8.4** | **90.8  ± 8.8** | **76.0  ± 9.0** | **83.4  ± 10.7** | **87.6  ± 11.1** | **105.5  ± 27.7** | **86.9  ± 7.9** | | **Gain 2010-2012** | **49.9  ± 7.8** | **46.1  ± 7.6** | **64.0  ± 7.5** | **60.3  ± 8.1** | **60.5  ± 8.1** | **56.0  ± 11.6** | **50.0  ± 12.1** | **62.2  ± 29.5** | **54.1  ± 7.1** | | **Gain 2012-2014** | **38.2  ± 6.6** | **37.2 ±  6.4** | **38.9  ± 6.3** | **46.6  ± 7.6** | **36.0  ± 7.7** | **32.8  ± 11.7** | **38.7  ± 13.0** | **47.4  ± 31.8** | **38.9  ± 5.5** | |
| a The mean scale scores for 2008, 2010, 2012 and 2014 reported in this table include 95 per cent confidence intervals (for example, a mean scale score of 400.0 ± 2.7, or a gain from 2010 to 2012 of  80.1 ± 2.7). Confidence intervals for the gain provide an indication of the level of uncertainty of the gain over the two year period. b The confidence interval provided is for the specific jurisdictional gain and should not be used for comparisons between jurisdictions or between subgroups. |
| *Source*: ACARA (2014 and unpublished) *2014 National Assessment Program — Literacy and Numeracy: Achievement in Numeracy, Writing, Language Conventions and Numeracy*; table 4A.53; 2015 Report,  table 4.12, p. 4.62. |

##### NAPLAN Numeracy

This section of the learning outcomes indicator provides key outcomes for NAPLAN testing (years 3, 5, 7 and 9) in the numeracy domain. Outcomes by Indigenous status are highlighted, but outcomes for a range of other equity groups, including male, female, LBOTE, geolocation and socio-economic status (parental education and parental occupation) are included in tables 4A.108–109, 4A.111–112, 4A.114–125, and 2015 Report tables 4A.110 and 4A.113.

###### All students and Aboriginal and Torres Strait islander students

The proportion of year 3 students who achieved at or above the numeracy national minimum standard in 2014 was 94.4–94.8 per cent nationally. The proportion for Aboriginal and Torres strait Islander students (76.8–79.6 per cent) was significantly lower than for non‑Indigenous students (95.5–95.9 per cent) (figure 4.11). These proportions varied across jurisdictions.

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| Figure 4.11 Proportion of year 3 students achieving at or above the numeracy national minimum standard, 2014**a, b** |
| |  | | --- | | Figure 4.29 Proportion of year 3 students achieving at or above the numeracy national minimum standard, 2014   More details can be found within the text surrounding this image. | |
| a Error bars represent the 95 per cent confidence interval associated with each point estimate. b For further information and caveats see table 4A.108. |
| *Source*: ACARA (2014 and unpublished) *NAPLAN Achievement in Reading, Writing, Language Conventions and Numeracy: National Report for 2014*; table 4A.108; 2015 Report, figure 4.29, p. 4.63. |
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Statistical significance of differences across states and territories between proportions of year 3 students who achieved at or above the national minimum standard for numeracy in 2014 are provided in table 4A.108.

The mean scale score for year 3 numeracy in 2014 for all students was 400.8–402.8 nationally. The mean scale score for Aboriginal and Torres Strait Islander students   
(328.6–334.4) was significantly lower than for non-Indigenous students (405.0–406.8). Mean scale scores varied across jurisdictions (table 4A.111).

The proportion of year 5 students who achieved at or above the numeracy national minimum standard in 2014 was 93.3–93.7 per cent nationally. The proportion of Aboriginal and Torres Strait Islander students (69.5–72.7 per cent) was significantly lower than for non‑Indigenous students (94.6–95.0 per cent) (figure 4.12). These proportions varied across jurisdictions.

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| Figure 4.12 Proportion of year 5 students achieving at or above the numeracy national minimum standard, 2014**a, b** |
| |  | | --- | | Figure 4.30 Proportion of year 5 students achieving at or above the numeracy national minimum standard, 2014  More details can be found within the text surrounding this image. | |
| a Error bars represent the 95 per cent confidence interval associated with each point estimate. b For further information and caveats see table 4A.108. |
| *Source*: ACARA (2014 and unpublished) *NAPLAN Achievement in Reading, Writing, Language Conventions and Numeracy: National Report for 2014*; table 4A.108; 2015 Report, figure 4.30, p. 4.65. |
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Nationally, the mean scale score for year 5 numeracy in 2014 for all students was   
486.6–488.6 nationally. The mean scale score for Aboriginal and Torres Strait Islander students (415.3–420.5) was significantly lower than for non-Indigenous students (490.6‑492.4). Mean scale scores varied across jurisdictions (table 4A.111).

The proportion of year 7 students who achieved at or above the numeracy national minimum standard in 2014 was 94.9–95.3 per cent nationally. The proportion of Aboriginal and Torres Strait Islander students (77.9–81.1 per cent) was significantly lower than for non‑Indigenous students (95.9–96.3 per cent) (figure 4.13). These proportions varied across jurisdictions.

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| Figure 4.13 Proportion of year 7 students achieving at or above the numeracy national minimum standard, 2014**a, b** |
| |  | | --- | | Figure 4.31 Proportion of year 7 students achieving at or above the numeracy national minimum standard, 2014  More details can be found within the text surrounding this image. | |
| a Error bars represent the 95 per cent confidence interval associated with each point estimate. b For further information and caveats see table 4A.108. |
| *Source*: ACARA (2014 and unpublished) *NAPLAN Achievement in Reading, Writing, Language Conventions and Numeracy: National Report for 2014*; table 4A.108; 2015 Report, figure 4.31, p. 4.67. |
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Nationally, the mean scale score for year 7 numeracy in 2014 for all students was 544.2‑547.6 nationally. The mean scale score for Aboriginal and Torres Strait Islander students   
(475.7–481.3) was significantly lower than for non-Indigenous students (548.0–551.4). Mean scale scores varied across jurisdictions (table 4A.111).

The proportion of year 9 students who achieved at or above the numeracy national minimum standard in 2014 was 93.8–94.4 per cent nationally. The proportion of Aboriginal and Torres Strait Islander students (74.7–77.7 per cent) was significantly lower than for non‑Indigenous students (94.9–95.5 per cent) (figure 4.14). These proportions varied across jurisdictions.

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| Figure 4.14 Proportion of year 9 students achieving at or above the numeracy national minimum standard, 2014**a, b** |
| |  | | --- | | Figure 4.32 Proportion of year 9 students achieving at or above the numeracy national minimum standard, 2014  More details can be found within the text surrounding this image. | |
| a Error bars represent the 95 per cent confidence interval associated with each point estimate. b For further information and caveats see table 4A.108. |
| *Source*: ACARA (2014 and unpublished) *NAPLAN Achievement in Reading, Writing, Language Conventions and Numeracy: National Report for 2014*; table 4A.108; 2015 Report, figure 4.32, p. 4.69. |
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Nationally, the mean scale score for year 9 numeracy in 2014 for all students was   
585.9–589.7 nationally. The mean scale score for Aboriginal and Torres Strait Islander students (520.3–525.3) was significantly lower than for non-Indigenous students   
(589.5–593.3). Mean scale scores varied across jurisdictions (table 4A.111).

###### Geolocation

Across all year levels, numeracy outcomes tended to decline with remoteness. For year 3, for example, 95.3–95.7 per cent of students in metropolitan areas achieved at or above the national minimum standard, higher than the proportion for provincial students   
(93.5–94.3 per cent), remote students (85.2–90.0 per cent) and very remote students   
(55.9–67.5 per cent) (figure 4.15).

For all geolocation categories across years 3, 5, 7 and 9, the numeracy outcomes nationally for Aboriginal and Torres Strait Islander students were lower than those for non‑Indigenous students. Nationally, outcomes for Aboriginal and Torres Strait Islander students generally declined as remoteness increased, and the gap in learning outcomes between Aboriginal and Torres Strait Islander students and non-Indigenous students was generally greater in remote and very remote areas than in metropolitan and provincial areas.

State and Territory results by Indigenous status and geolocation for years 3, 5, 7 and 9 numeracy literacy are in table 4A.109. The general pattern in jurisdictions appears similar to the national results. However, due to relatively large confidence intervals, caution should be exercised when making comparisons for some data. Mean scale score results by Indigenous status and geolocation are provided in table 4A.112.

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| Figure 4.15 National proportion of year 3 students achieving at or above the numeracy national minimum standard, by Indigenous status and geolocation, 2014**a, b** |
| |  | | --- | | Figure 4.33 National proportion of year 3 students achieving at or above the numeracy national minimum standard, by Indigenous status and geolocation, 2014  More details can be found within the text surrounding this image. | |
| a Error bars represent the 95 per cent confidence interval associated with each point estimate. b Data for year 3 students are shown and may not be representative of students in years 5, 7 and 9 which are detailed in table 4A.109. |
| *Source*: ACARA (2014 and unpublished) *NAPLAN Achievement in Reading, Writing, Language Conventions and Numeracy: National Report for 2014*; table 4A.109; 2015 Report, figure 4.33, p. 4.71. |
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###### Time series analysis of NAPLAN numeracy outcomes — Statistical significance of differences between years

Table 4.4 provides a summary of the nature of differences in achievement at year 5 for mean scale score and proportions at and above the national minimum standard for numeracy, by Indigenous status, on a national basis across various years. Data for states and territories are in tables 4A.116–123. These data are not comparable across jurisdictions and can only be used for a comparison across time for a jurisdiction, or nationally.

Nationally, for year 5 numeracy:

* the percentage of students achieving at or above the national minimum standard in 2014, and the mean scale scores, were close to or not statistically significantly different from both 2008 and 2013
* the percentage of Aboriginal and Torres Strait Islander students achieving at or above the national minimum standard in 2014, and the mean scale scores, were close to or not statistically significantly different from both 2008 and 2013
* the percentage of non-Indigenous students achieving at or above the national minimum standard in 2014, and the mean scale scores, were close to or not statistically significantly different from both 2008 and 2013 (table 4.4).

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| Table 4.4 Mean scale scores and proportion of students who achieved at or above the national minimum standard for year 5 numeracy, 2008 and 2013 to 2014, and nature of the differences, Australia**a, b** |
| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  | | Nature of the difference | | | | | |  | | 2008 | 2013 | 2014 | 2008 to 2014 | 2013 to 2014 | | **Aboriginal and Torres Strait Islander students** | | | | | | | | Mean scale score | no. | 408.0 ± 2.8 | 417.4 ± 2.9 | 417.9 ± 2.6 | ■ | ■ | | At or above NMS | % | 69.2 ± 1.7 | 73.0 ± 1.7 | 71.1 ± 1.6 | ■ | ■ | | **Non-Indigenous students** | | | | | | | | Mean scale score | no. | 479.5 ±1.0 | 489.8 ± 1.0 | 491.5 ± 0.9 | ■ | ■ | | At or above NMS | % | 94.0 ± 0.2 | 94.6 ± 0.2 | 94.8 ± 0.2 | ■ | ■ | | **All students** | | | | | | | | Mean scale score | no. | 475.9 ± 1.1 | 485.8 ± 1.1 | 487.6 ± 1.0 | ■ | ■ | | At or above NMS | % | 92.7 ± 0.2 | 93.4 ± 0.2 | 93.5 ± 0.2 | ■ | ■ | |
| NMS = National Minimum Standard.  For Comparison of mean scale scores: ■ Average achievement is close to or not statistically different from the base year (or previous year).  For Comparison of percentage of students at or above national minimum standard: ■ Percentage of students at or above national minimum standard is close to or not statistically different from the base year (or previous year).  a The mean scale scores and proportions at or above national minimum standard reported in this table include 95 per cent confidence intervals (for example, a mean scale score of 400.0 ± 2.7). The confidence intervals in this table are for the specific year applicable and do not provide an indication of statistically significant differences between years. See section 2.5 of the statistical context chapter (chapter 2) for more information on confidence intervals. b For further information and caveats see table 4A.124. |
| *Source*: ACARA (2014 and unpublished) *NAPLAN Achievement in Reading, Writing, Language Conventions and Numeracy: National Report for 2014*, ACARA, Sydney; table 4A.124; 2015 Report, table 4.17, p. 4.73. |
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###### Cohort gain

Analysis of NAPLAN mean scale score data for the years 2008 to 2010, 2010 to 2012 and 2012 to 2014 enables comparisons of outcomes for the same cohort of students over time (box 4.4). From year 3 in 2008 to year 5 in 2010, the gain in numeracy mean scale score (on the common national scale for years 3, 5, 7 and 9, ranging from 0 to 1000) was between 83.6 and 100.2 points nationally. For the same cohort, from year 5 in 2010 to year 7 in 2012, the mean scale score gain was between 43.3 and 55.3 points nationally, and from year 7 in 2012 to year 9 in 2014, the mean scale score gain was between 45.0 and 54.4 points nationally (table 4.5).

For Aboriginal and Torres Strait Islander students, from year 3 in 2008 to year 5 in 2010 the mean scale score gain nationally was between 80.0 and 98.6 points, from year 5 in 2010 to year 7 in 2012 the mean scale score gain was between 45.4 and 59.6 points nationally and from year 7 in 2012 to year 9 in 2014, the mean scale score gain was between 48.0 and 58.8 points. For non‑Indigenous students, from year 3 in 2008 to year 5 in 2010 the mean scale score gain nationally was between 83.8 and 100.4 points, from   
year 5 in 2010 to year 7 in 2012, the mean scale score was between 43.2 and 55.2 points nationally and from year 7 in 2012 to year 9 in 2014, the mean scale score gain was between 44.9 and 54.3 points (table 4.5).

These mean scale score gains varied across jurisdictions (table 4.5). Data for other cohorts from 2008–2010, 2010–2012 and 2012–2014 are in table 4A.125. Data for years   
2009–2011 and 2011–2013 are in table 4A.143.

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| Table 4.5 Gain in mean scale score for numeracy: year 3 (2008) to year 5 (2010) to year 7 (2012) to year 9 (2014)**a, b** |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | *NSW* | *Vic* | *Qld* | *WA* | *SA* | *Tas* | *ACT* | *NT* | *Aust* | | **Aboriginal and Torres Strait Islander students** | | | | | | | | | | | 2008 Year 3 | 350.3  ± 3.1 | 376.9  ± 5.5 | 316.2  ± 6.4 | 313.9  ± 5.1 | 330.7  ± 6.5 | 377.1  ± 8.2 | 355.1  ± 16.2 | 275.0  ± 11.0 | 327.6  ± 3.3 | | 2010 Year 5 | 435.8  ± 3.0 | 457.0  ± 5.8 | 419.5 ± 4.5 | 398.0 ± 6.0 | 406.9  ± 6.8 | 450.0  ± 8.0 | 434.7  ± 12.8 | 351.6  ± 13.0 | 416.9  ± 3.1 | | 2012 Year 7 | 477.4  ± 3.2 | 494.6  ± 5.2 | 475.9  ± 3.7 | 461.0  ± 5.0 | 464.8  ± 6.3 | 491.0  ± 7.3 | 493.1  ± 12.2 | 410.1  ± 15.0 | 469.4  ± 2.6 | | 2014 Year 9 | 531.5  ± 3.2 | 538.3  ± 4.5 | 525.6  ± 3.9 | 518.0  ± 7.4 | 513.8  ± 5.9 | 541.2 ± 7.1 | 535.6  ± 12.4 | 467.6  ± 13.8 | 522.8  ± 2.5 | | **Gain 2008-2010** | **85.5  ± 9.2** | **80.1  ± 11.4** | **103.3  ± 11.3** | **84.1  ± 11.3** | **76.2  ± 12.4** | **72.9  ± 14.1** | **79.6  ± 22.1** | **76.6  ± 18.9** | **89.3  ± 9.3** | | **Gain 2010-2012** | **41.6  ± 7.2** | **37.6  ± 9.7** | **56.4  ± 8.2** | **63.0  ± 9.7** | **57.9 ± 10.9** | **41.0  ± 12.3** | **58.4  ± 18.6** | **58.5  ± 20.6** | **52.5  ± 7.1** | | **Gain 2012-2014** | **54.1  ± 6.0** | **43.7  ± 7.9** | **49.7  ± 6.7** | **57.0 ± 9.8** | **49.0 ± 9.5** | **50.2  ± 10.9** | **42.5  ± 17.8** | **57.5  ± 20.8** | **53.4  ± 5.4** | | **Non-Indigenous students** | | | | | | | | | | | 2008 Year 3 | 411.3  ± 1.6 | 417.5  ± 1.4 | 371.9  ± 2.1 | 387.4  ± 2.2 | 391.7  ± 2.5 | 401.6  ± 4.5 | 413.1  ± 5.0 | 386.9  ± 5.9 | 400.5  ± 1.0 | | 2010 Year 5 | 501.0  ± 1.9 | 503.2  ± 1.6 | 478.5  ± 1.8 | 483.0  ± 2.4 | 475.2  ± 2.7 | 482.8  ± 4.6 | 500.2  ± 5.0 | 472.7  ± 5.0 | 492.6  ± 1.0 | | 2012 Year 7 | 546.6  ± 3.8 | 545.3  ± 3.1 | 536.1  ± 2.0 | 540.3  ± 3.2 | 531.8  ± 3.1 | 528.6  ± 6.6 | 547.2  ± 9.7 | 522.7  ± 13.2 | 541.8  ± 1.6 | | 2014 Year 9 | 598.0  ± 3.9 | 593.2  ± 3.8 | 583.7  ± 3.3 | 596.5  ± 5.4 | 576.3  ± 5.0 | 575.0  ± 6.8 | 596.2  ± 9.6 | 569.2  ± 11.5 | 591.4  ± 1.9 | | **Gain 2008-2010** | **89.7  ± 8.5** | **85.7  ± 8.4** | **106.6  ± 8.6** | **95.6 ± 8.8** | **83.5  ± 9.0** | **81.2  ± 10.4** | **87.1  ± 10.7** | **85.8  ± 11.2** | **92.1  ± 8.3** | | **Gain 2010-2012** | **45.6  ± 7.2** | **42.1 ± 6.7** | **57.6  ± 6.3** | **57.3  ± 7.0** | **56.6  ± 7.1** | **45.8  ± 9.9** | **47.0  ± 12.3** | **50.0  ± 15.2** | **49.2  ± 6.0** | | **Gain 2012-2014** | **51.4  ± 6.7** | **47.9  ± 6.3** | **47.6  ± 5.5** | **56.2  ± 7.4** | **44.5  ± 7.1** | **46.4  ± 10.3** | **49.0  ± 14.2** | **46.5  ± 17.9** | **49.6  ± 4.7** | | **All students** | | | | | | | | | | | 2008 Year 3 | 408.9  ± 1.6 | 416.9  ± 1.4 | 367.9  ± 2.2 | 381.9  ± 2.4 | 388.8  ± 2.7 | 399.9  ± 4.2 | 411.5  ± 5.1 | 338.4  ± 12.4 | 396.9  ± 1.0 | | 2010 Year 5 | 498.4  ± 2.0 | 502.7  ± 1.6 | 474.1  ± 1.9 | 476.8  ± 2.6 | 472.6  ± 2.8 | 479.4  ± 4.8 | 498.7  ± 5.1 | 421.5  ± 14.4 | 488.8  ± 1.0 | | 2012 Year 7 | 543.4  ± 3.8 | 544.3  ± 3.1 | 532.0  ± 2.1 | 534.9  ± 3.3 | 529.1  ± 3.1 | 526.0  ± 7.1 | 545.9  ± 9.7 | 474.7  ± 18.4 | 538.1  ± 1.6 | | 2014 Year 9 | 594.3  ± 3.8 | 592.3  ± 3.8 | 579.8  ± 3.4 | 591.1  ± 5.5 | 573.6  ± 5.3 | 572.8  ± 7.0 | 594.4  ± 9.7 | 532.0  ± 17.2 | 587.8  ± 1.9 | | **Gain 2008-2010** | **89.5  ± 8.5** | **85.8  ± 8.4** | **106.2  ± 8.6** | **94.9  ± 8.9** | **83.8  ± 9.0** | **79.5  ± 10.3** | **87.2  ± 10.8** | **83.1  ± 20.5** | **91.9  ± 8.3** | | **Gain 2010-2012** | **45.0  ± 7.2** | **41.6  ± 6.7** | **57.9  ± 6.4** | **58.1  ± 7.1** | **56.5  ± 7.1** | **46.6  ± 10.3** | **47.2  ± 12.4** | **53.2  ± 24.1** | **49.3  ± 6.0** | | **Gain 2012-2014** | **50.9  ± 6.7** | **48.0  ± 6.3** | **47.8  ± 5.6** | **56.2  ± 7.6** | **44.5  ± 7.3** | **46.8  ± 10.8** | **48.5  ± 14.3** | **57.3  ± 25.5** | **49.7  ± 4.7** | |
| a The mean scale scores for 2008, 2010, 2012 and 2014 reported in this table include 95 per cent confidence intervals (for example, a mean scale score of 400.0 ± 2.7, or a gain from 2010 to 2012 of  80.1 ± 2.7). Confidence intervals for the gain provide an indication of the level of uncertainty of the gain over the two year period. b The confidence interval provided is for the specific jurisdictional gain and should not be used for comparisons between jurisdictions or between subgroups. |
| *Source*: ACARA (2014 and unpublished) *2014 National Assessment Program — Literacy and Numeracy: Achievement in Numeracy, Writing, Language Conventions and Numeracy*; table 4A.125; 2015 Report, table 4.18, p. 4.75. |

##### NAPLAN Persuasive Writing

This section of the learning outcomes indicator provides key outcomes for NAPLAN testing (years 3, 5, 7 and 9) in the persuasive writing domain. Outcomes by Indigenous status are highlighted, but outcomes for a range of other equity groups including male, female, LBOTE, geolocation and socio-economic status (parental education and parental occupation) for 2014 are included in tables 4A.72–73, 4A.75–76 and 4A.78–89,   
2015 Report, tables 4A.74 and 4A.77.

This chapter reports on 2014 NAPLAN outcomes. NAPLAN persuasive writing outcomes for 2013 (not included in earlier reports) are in attachment tables 4A.90–91, 4A.93–94, 4A.96–107, 2015 Report, tables 4A.92, 4A.95.

The proportion of year 5 students who achieved at or above the persuasive writing national minimum standard in 2014 was 89.9–90.5 per cent nationally. The proportion of Aboriginal and Torres Strait Islander students (61.7–64.9 per cent) was significantly lower than for non‑Indigenous students (91.6–92.3 per cent). These proportions varied across jurisdictions (figure 4.16).

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| Figure 4.16 Proportion of year 5 students achieving at or above the persuasive writing national minimum standard, 2014**a, b** |
| |  | | --- | | Figure 4.34 Proportion of year 5 students achieving at or above the persuasive writing national minimum standard, 2014  More details can be found within the text surrounding this image. | |
| a Error bars represent the 95 per cent confidence interval associated with each point estimate. b For further information and caveats see table 4A.72. |
| *Source*: ACARA (2014 and unpublished) *NAPLAN Achievement in Reading, Writing, Language Conventions and Numeracy: National Report for 2014*; table 4A.72; 2015 Report, figure 4.34, p. 4.76. |
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Statistical significance of differences across states and territories between proportions of year 5 students who achieved at or above the national minimum standard for persuasive writing in 2014 are provided in table 4A.72.

The mean scale score for year 5 persuasive writing in 2014 for all students was   
467.4–469.2 nationally. The mean scale score for Aboriginal and Torres Strait Islander students (387.5–396.1) was significantly lower than for non-Indigenous students   
(471.9–473.5). Mean scale scores varied across jurisdictions (table 4A.75).

###### Geolocation

Across all year levels, persuasive writing outcomes tended to decline with remoteness. For year 5, for example, 91.8–92.4 per cent of students in metropolitan areas achieved at or above the national minimum standard, higher than the proportion for provincial students (86.9–87.9 per cent), remote students (74.3–80.9 per cent) and very remote students   
(39.4–52.2 per cent) (figure 4.17).

For all geolocation categories across years 3, 5, 7 and 9, the persuasive writing outcomes nationally for Aboriginal and Torres Strait Islander students were lower than those for non‑Indigenous students. Nationally, outcomes for Aboriginal and Torres Strait Islander students generally declined as remoteness increased, and the gap in learning outcomes between Aboriginal and Torres Strait Islander students and non-Indigenous students was generally greater in remote and very remote areas than in metropolitan and provincial areas.

State and Territory results by Indigenous status and geolocation for years 3, 5, 7   
and 9 numeracy literacy are in table 4A.73. The general pattern in jurisdictions appears similar to the national results. However, due to relatively large confidence intervals, caution should be exercised when making comparisons for some data. Mean scale score results by Indigenous status and geolocation are provided in table 4A.76.

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| Figure 4.17 National proportion of year 5 students achieving at or above the persuasive writing national minimum standard, by Indigenous status and geolocation, 2014**a, b** |
| |  | | --- | | Figure 4.35 National proportion of year 5 students achieving at or above the persuasive writing national minimum standard, by Indigenous status and geolocation, 2014  More details can be found within the text surrounding this image. | |
| a Error bars represent the 95 per cent confidence interval associated with each point estimate. **b** Data for year 3 students are shown and may not be representative of students in years 3, 7 and 9 which are detailed in table 4A.73. |
| *Source*: ACARA (2014 and unpublished) *NAPLAN Achievement in Reading, Writing, Language Conventions and Numeracy: National Report for 2014*; table 4A.73; 2015 Report, figure 4.35, p. 4.78. |
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Data for years 3, 7 and 9, and outcomes by equity group, parental education and parental occupation for 2014 are in tables 4A.72–79.

Statistical significance of differences for persuasive writing between 2011, 2013 and 2014 for years 3, 5, 7 and 9 for mean scale scores and proportions at and above national minimum standard are included separately for each state and territory and nationally in tables 4A.80–88. These tables also include proportions at or above national minimum standard for LBOTE students and by sex.

##### National Assessment Program — Civics and citizenship performance

The National Years 6 and 10 Civics and citizenship assessment was conducted for the first time in 2004 and is repeated triennially. In 2013, 5777 year 6 students from   
342 government and non-government schools and 5478 year 10 students from   
329 government and non‑government schools from all states and territories participated in the assessment (ACARA 2014b).

Nationally in 2013, 13.9–30.1 per cent of Aboriginal and Torres Strait Islander year 6 students achieved at the proficient standard or above in civics and citizenship, significantly lower than the proportion for non‑Indigenous students (48.4–53.6 per cent) (table 4A.151).

Nationally in 2013, the proportion of participating year 10 students who achieved at or above the proficient standard in civics and citizenship performance was 41.4–46.6 per cent, not significantly different from 2004, 2007 or 2010. These proportions varied across jurisdictions (2015 Report, figure 4.37).

Nationally in 2013, 6.6–27.4 per cent of Aboriginal and Torres Strait Islander year 10 students achieved at the proficient standard or above in civics and citizenship, significantly lower than the proportion for non‑Indigenous students (41.9–48.1 per cent) (table 4A.151).

##### ICILS assessment

The IEA International Computer and Information Literacy Study (ICILS) was conducted at year 8 level for the first time in 2013 (box 4.5).

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| Box 4.5 IEA International Computer and Information Literacy Study (ICILS) |
| ICILS is a sample assessment that examines students’ acquisition of computer and information literacy: ‘the ability to use computers to investigate, create and communicate in order to participate effectively at home, at school, in the workplace and in society’. The assessment was developed by ACER and is organised by the International Association for the Evaluation of Educational Achievement (IEA). The main purpose of ICILS is to determine how well students are prepared for study, work and life in the information age, and how their performance compares with students in other participating countries. In total, 21 education systems participated in the 2013 cycle of ICILS.  The modules tested included authentic computer based information literacy, management and communication tasks.  In Australia, 5326 students from 320 government and non-government schools participated in the test in 2013.  Unlike other international and national tests, including the National Assessment Program — ICT performance assessment of years 6 and 10 (reported elsewhere in this chapter), there is no national proficiency level set for ICILS testing at this time. |
| *Source*: ACER (2014). |
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Nationally, the mean score for ICILS in 2013 was 541.6 score points. This was significantly above the average of all participating counties who met the required sampling rates. Mean scores varies across jurisdictions (2015 Report, figure 4.39).

Nationally, in 2013, the mean scores for Aboriginal and Torres Strait Islander students (478.9 points) were significantly below that of non-Indigenous students (545.9 points)

### Definitions of key terms

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| **Apparent retention rates** | The number of full time students in a designated year of schooling, expressed as a percentage of their respective cohort group at an earlier base year. For example, the year 10-12 retention rate is calculated by dividing the total number of full time students in year 12 in the target year by the total number of full time students in year 10 two years before the target year. |
| **Comparability** | Data are considered comparable if, (subject to caveats) they can be used to inform an assessment of comparative performance. Typically, data are considered comparable when they are collected in the same way and in accordance with the same definitions. For comparable indicators or measures, significant differences in reported results allow an assessment of differences in performance, rather than being the result of anomalies in the data. |
| **Full time student** | A person who satisfies the definition of a student and undertakes a workload equivalent to, or greater than, that usually undertaken by a student of that year level. The definition of full time student varies across jurisdictions. |
| **Aboriginal and Torres Strait Islander students** | Students of Aboriginal or Torres Strait Islander origin who identify as being an Aboriginal or Torres Strait Islander or from an Aboriginal and Torres Strait Islander background. Administrative processes for determining Indigenous status vary across jurisdictions. For NAPLAN data, a student is considered to be 'Indigenous' if he or she identifies as being of Aboriginal and/or Torres Strait Islander origin. |
| **Language background other than English (LBOTE) student** | A status that is determined by administrative processes that vary across jurisdictions. For NAPLAN data, a student is considered to be 'LBOTE' if either the student or parents/guardians speak a language other than English at home. Separately, data are also sourced from the 2011 Census of Population and Housing. |
| **Part time student** | A student undertaking a workload that is less than that specified as being full time in the jurisdiction. |
| **Participation rate** | The number of full time and part time school students of a particular age (as at 1 July), expressed as a proportion of the estimated resident population of the same age (as at 30 June). |
| **Science literacy** | Science literacy and scientific literacy: the application of broad conceptual understandings of science to make sense of the world, understand natural phenomena, and interpret media reports about scientific issues. It also includes asking investigable questions, conducting investigations, collecting and interpreting data and making decisions. |
| **Socio-economic status** | As identified in footnotes to specific tables. |
| **Student-to-staff ratios** | The number of FTE students per FTE teaching staff. Students at special schools are allocated to primary and secondary (see below). The FTE of staff includes those who are generally active in schools and ancillary education establishments. |
| **Student** | A person who is formally (officially) enrolled or registered at a school, and is also active in a primary, secondary or special education program at that school. Students at special schools are allocated to primary and secondary on the basis of their actual grade (if assigned); whether or not they are receiving primary or secondary curriculum instruction; or, as a last resort, whether they are of primary or secondary school age. |
| **Students with disability** | Students included in the annual system reports to the Department of Education. The definitions of students with disabilities are based on individual State and Territory criteria, so data are not comparable across jurisdictions. |
| **Ungraded student** | A student in ungraded classes who cannot readily be allocated to a year of education. These students are included as either ungraded primary or ungraded secondary, according to the typical age level in each jurisdiction. |

### List of attachment tables

Attachment tables for data within this chapter are contained in the attachment to the Compendium. These tables are identified in references throughout this chapter by a ‘4A’ prefix (for example, table 4A.1 is table 1 in the School education attachment). Attachment tables are on the Review website (www.pc.gov.au/research/recurring/report-on-government-services).

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| **Table 4A.29** | Aboriginal and Torres Strait Islander full time students, 2013 |
| **Table 4A.32** | Student body mix, government schools (per cent) |
| **Table 4A.33** | Student body mix, non-government schools (per cent) |
| **Table 4A.34** | Student body mix, all schools (per cent) |
| **Table 4A.36** | Proportion of students who achieved at or above the national minimum standard for reading, 2014 (per cent) |
| **Table 4A.37** | Proportion of year 3, 5, 7 and 9 students who achieved at or above the national minimum standard for reading, by Indigenous status and geolocation, 2014 (per cent) |
| **Table 4A.39** | Mean scale scores for reading, years 3, 5, 7 and 9 students, by Indigenous status, 2014 (score points) |
| **Table 4A.40** | NAPLAN Mean scale scores for reading, by Indigenous status and geolocation, 2014 (score points) |
| **Table 4A.42** | Participation rate in reading assessment, 2014, by Indigenous status (per cent) |
| **Table 4A.43** | Exempt, absent and withdrawn, and assessed students in reading assessment, by Indigenous status, 2014 (per cent) |
| **Table 4A.44** | Mean scale scores and proportion of students who achieved at or above the national minimum standard for reading, and nature of differences, 2008 and 2013 to 2014, NSW |
| **Table 4A.45** | Mean scale scores and proportion of students who achieved at or above the national minimum standard for reading, and nature of differences, 2008 and 2013 to 2014, Victoria |
| **Table 4A.46** | Mean scale scores and proportion of students who achieved at or above the national minimum standard for reading, and nature of differences, 2008 and 2013 to 2014, Queensland |
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| **Table 4A.48** | Mean scale scores and proportion of students who achieved at or above the national minimum standard for reading, and nature of differences, 2008 and 2013 to 2014, South Australia |
| **Table 4A.49** | Mean scale scores and proportion of students who achieved at or above the national minimum standard for reading, and nature of differences, 2008 and 2013 to 2014, Tasmania |
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