

Guide to understanding the Index of Community Socio-educational Advantage (ICSEA)

My School[®]

2020

What is the Index of Community Socio-educational Advantage (ICSEA)?

There is a substantial body of research evidence that shows the educational performance of students, among many other things, is related to certain characteristics of their family (parental education, parental non-school education, and occupation) and school (location and socio-economic background of the students it serves).

The Index of Community Socio-educational Advantage (ICSEA) is a scale of socio-educational advantage that is computed for each school.

ICSEA enables visitors to *My School* to make comparisons between a selected school and all students with a similar background based on the level of educational advantage or disadvantage that students bring to their academic studies.

ICSEA does not use information concerning the wealth of the parents of students or the resources of a school. An ICSEA value is not a rating of the school, its staff or teaching programs, nor its overall student performance in testing programs.

Why was ICSEA developed?

ICSEA was developed to enable fair and meaningful comparisons between schools of the students' performance in literacy and numeracy as estimated by the National Assessment Program- Literacy and Numeracy (NAPLAN) based on the level of educational advantage or disadvantage that students bring to their academic studies.

ICSEA allows for comparisons to be made between a selected school and all students with a similar background that are matched according to the socio-educational advantage (SEA) and thereby allowing fair comparisons of NAPLAN results.

How was ICSEA developed and how is it reported?

The development of ICSEA involved collecting student family background data and identifying, with a statistical model, the combination of variables that have the strongest association with student performance in the NAPLAN results.

ICSEA values are calculated on a scale which has a median of 1000 and a standard deviation of 100. ICSEA values typically range from approximately 500 (representing schools with extremely disadvantaged student backgrounds) to about 1300 (representing schools with extremely advantaged student backgrounds). ACARA calculates an ICSEA value for all schools for which sufficient aggregate-level data is available.

Figure 1 below depicts the distribution of ICSEA values across all those schools in Australia for whom a value is calculated.

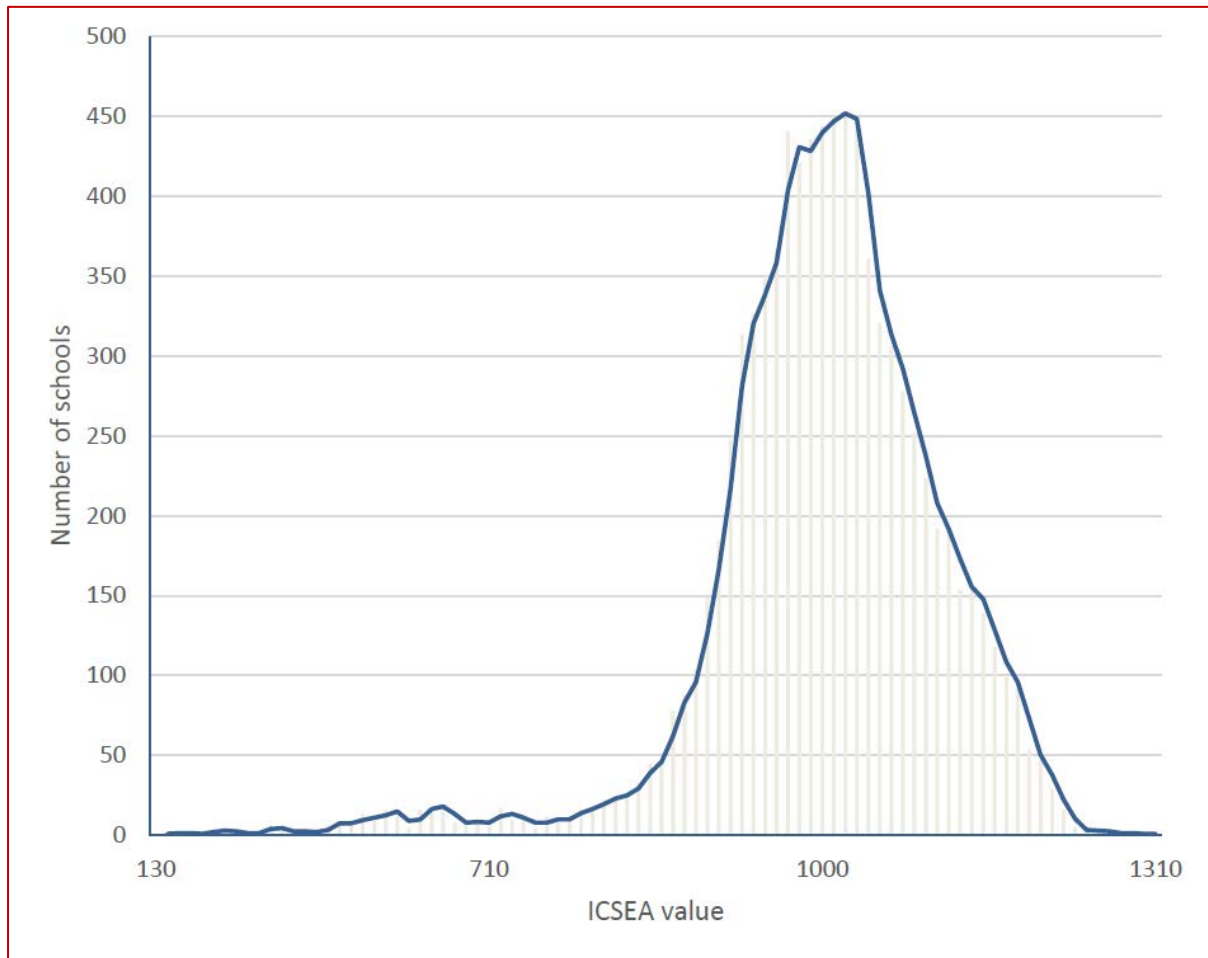


Figure 1. Distribution of 2015 ICSEA values

Do all schools have an ICSEA value?

Schools that are categorised as special schools on the *My School* website do not have ICSEA values reported for 2014 – 2017. Special schools are schools for students with disability and/or special needs. Similarly, ICSEA values are not generated for juvenile justice schools.

Similarly, schools that do not have students that sit NAPLAN (e.g. Senior Secondary and Infant schools) also do not have ICSEA values reported for 2014 – 2017.

ICSEA is not published if the number of complete student records available for the ICSEA calculation is less than five.

How is ICSEA used on the *My School* website?

There are six instances where ICSEA values are displayed or used to depict information on *My School*. They are:

School profile page

Each school's ICSEA value appears on the School profile page, displayed in the Student background section.

In addition to the school ICSEA value a histogram presents the distribution of students across four socio-educational advantage (SEA) quarters representing a scale of relative disadvantage ('bottom quarter') through to relative advantage ('top quarter'). SEA quarters provide further contextual information about the socio-educational composition of the students in the school.

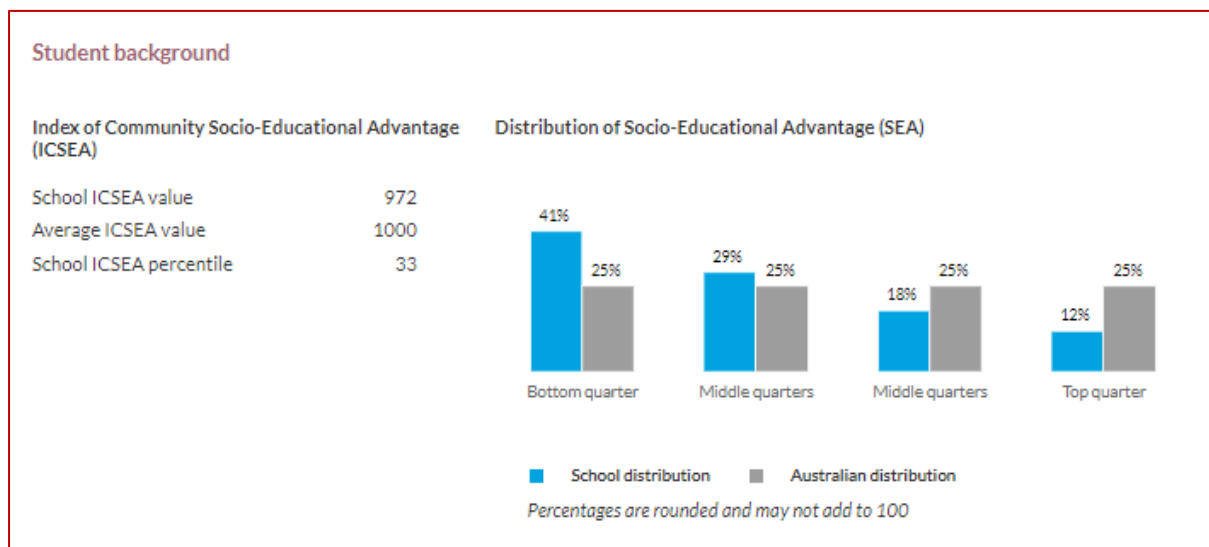


Figure 2. Student background data on the School profile page

The school ICSEA percentile is reported to help the user understand where the selected school is placed on the Australian scale of ICSEA. In the example provided above, the School ICSEA value of 972 is in the 33rd percentile which means that this selected school is more educationally advantaged than 33% of schools in Australia and more educationally disadvantaged than 67% of schools in Australia.

Student results table

The student results page displays in table form the selected school's average results in each of the five test domains, and across each of the school's year levels in which students sit the tests. When its data are available, the selected school's results are displayed with options to compare them against "Students with similar background" and "All Australian students". Figure 3 provides an example of the table.

Within each major cell, the school's average results are shown with a colour comparison to "Students with similar background". When you hover over each major cell (tap finger with a mobile device) additional detail below the selected school's average will reveal to show the margin of error at 90 per cent level of confidence. Below this margin of error will be two smaller cells, marked "SIM" and "ALL", showing the average for "Students with similar background" and "All Australian students" respectively. Below this the test type mode (Paper or Online) will be reported.

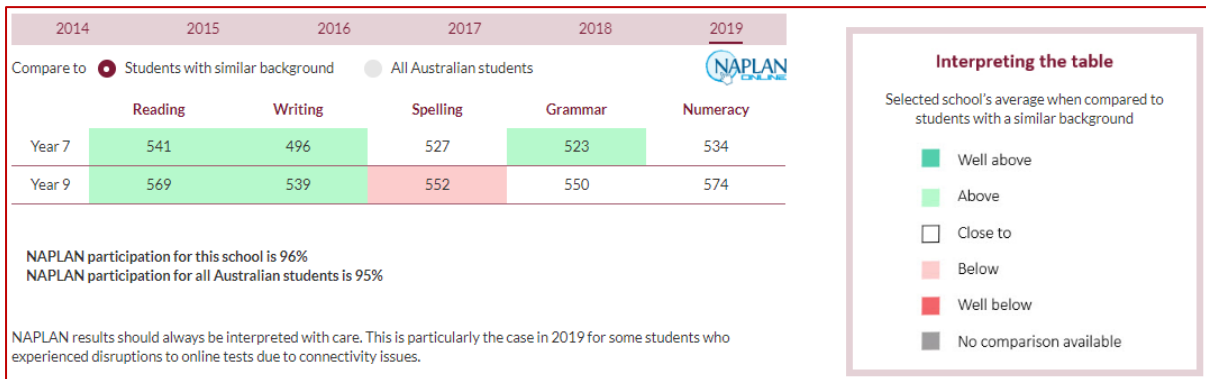


Figure 3. Example of the Student results table

Student results over time graph

In the “Student results over time” section of the *My School* website, a graph displaying the selected school's results with a comparison colour against the average result for “Students with similar background” is reported. This similar background comparison is made by comparing students with similar SEA scores. Figure 4 provides an example of the graph.



Figure 4. Example of the Student results over time graph

Student progress graph

Student progress in NAPLAN performance is reported for Reading, Writing and Numeracy. In situations where the necessary data are not available, or school circumstances do not allow the matching of students across year levels, it is not possible to display Student progress.

NAPLAN results displayed for the selected school relate only to matched students; that is, those students who sat NAPLAN tests on two occasions at the same school and have results on both occasions. Results are shown only for schools with five or more matched students.

On this page, users can compare the level of progress for the selected school with: the average level of progress for “Students with the same starting score and similar background”. This similar background calculation comes from identifying students with similar SEA scores. An example of this graph is provided at Figure 5 below.

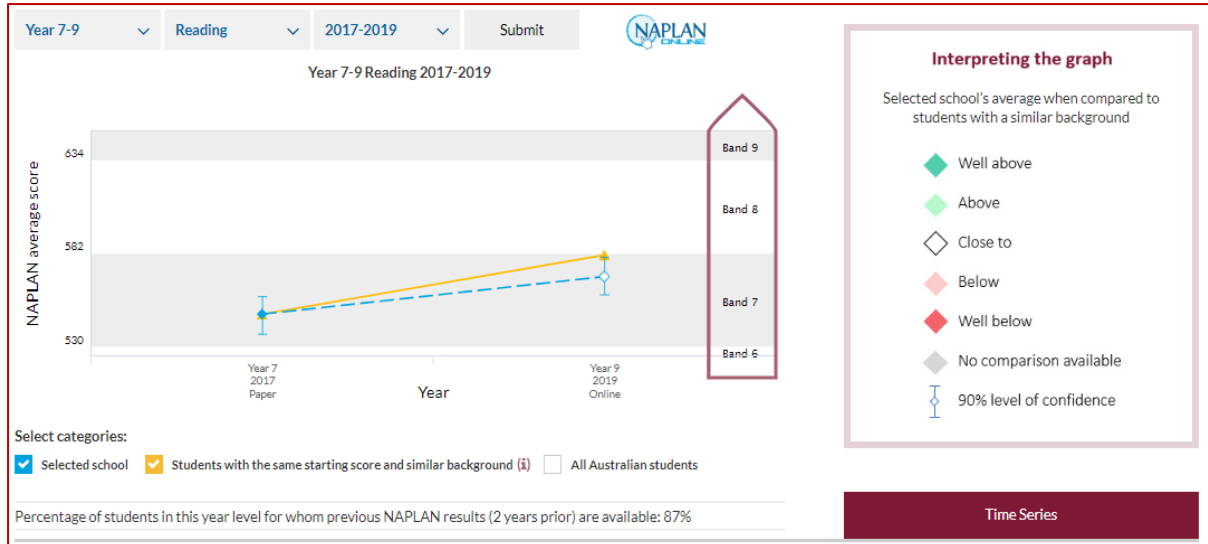


Figure 5. Example of the student progress graph

Percentage of students making above average progress table

A table showing the percentage of students at the school who achieved above average progress when compared to students of a similar background and who had the same starting score on their previous NAPLAN test. This similar background calculation comes from identifying students with similar SEA scores. An example of this table is provided at Figure 6 below.

Year 7-9	2012-2014	2013-2015	2014-2016	2015-2017	2016-2018	2017-2019
Reading	48	54	51	50	58	49
Writing	47	47	52	58	45	57
Numeracy	50	49	48	37	48	48

Figure 6. Example of the 'percentage of students making above average progress' table

Student progress time series graph

A graph showing how different groups of students improved their results between two consecutive NAPLAN tests over the same domain is reported. A diamond with a colour comparison to “Students with same starting score and similar background is also reported. This similar background calculation comes from identifying students with similar SEA scores. An example of this graph is provided at Figure 7 below.

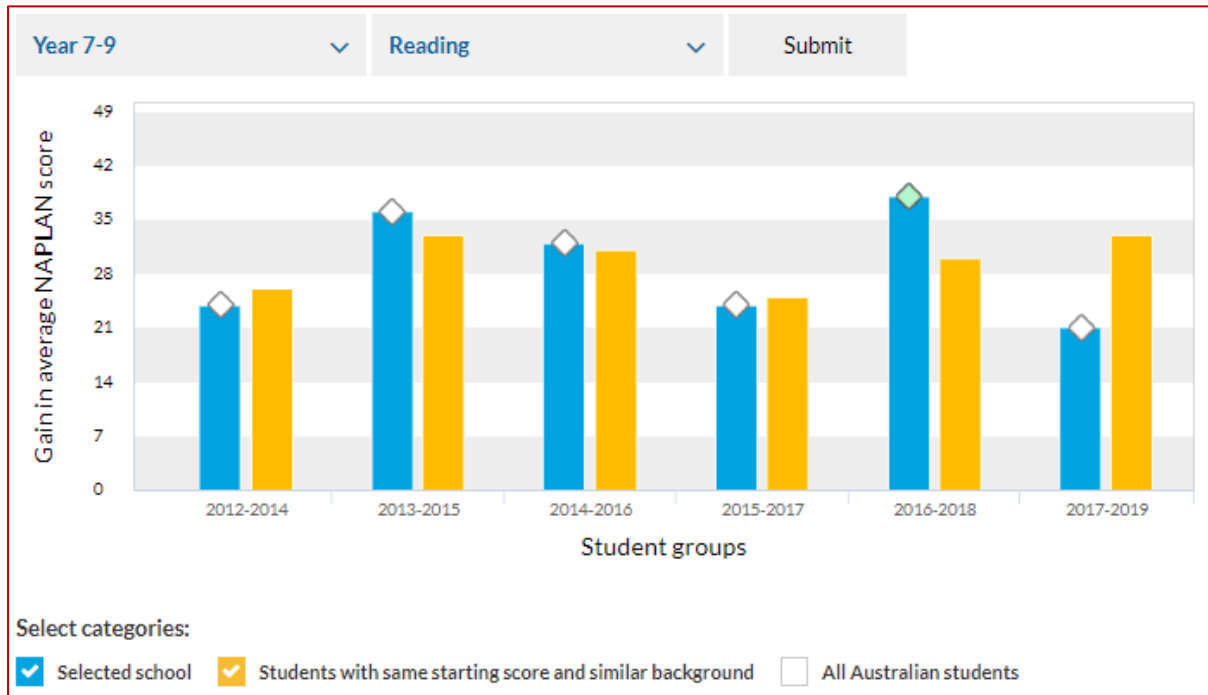


Figure 7. Example of the student progress time series graph

Please use the latest look for this section example as the Select categories has been left aligned in the latest UAT site.

How can ICSEA and *My School* be used to drive school improvement?

Schools can use the information on *My School* as a basis on which to:

- monitor performance and identify priority areas in which to focus improvement efforts; and
- communicate with the wider school community about their performance and progress to gain support for improvement initiatives.

Teachers can use the information on *My School* as a basis on which to:

- integrate the information from the website with system and classroom data and use this to develop intervention programs to support higher levels of student achievement in literacy and numeracy;
- determine where they need to make adjustments to teaching programs and strategies;
- connect with teachers in other schools to share ideas;
- compare the progress of their students with students in other schools; and
- engage with parents in support of their children's learning.

Parents and other members of the school community can use the information on Fact Sheet *My School* as a basis on which to:

- understand how their local school is performing relative to students with a similar background;

- gain a broader understanding of the learning environments and performance of schools in their local community, as well as within their state or territory and across the nation;
- initiate communication with a school based on comprehensive and detailed information;
- seek a greater level of engagement with a school in support of their child's learning; and
- become involved in advocating for and supporting improvement initiatives within the school.

Calculating ICSEA Values

What is the ICSEA formula?

ICSEA values were first published on the *My School* website at the end of January 2010. For the second iteration of the website the ICSEA formula was revised and student-level data, in addition to community-level data, were used to create a stronger measure of educational advantage.

At the request of Education Ministers, ACARA investigated the possibility of using student-level data, obtained directly from students' families, to calculate ICSEA, rather than indirect (ABS) census data.

The modelling undertaken indicated that by using direct student-level parent occupation and parent education data, it is possible to obtain a stronger measure of student socio-educational advantage (SEA). In broad terms, that model is based on the following formula:

$$\text{ICSEA} = \text{SEA} + \text{Remoteness} + \text{Percent Indigenous student enrolment}$$

What information is used to develop the formula?

The construction of the SEA component of ICSEA for *My School* uses information relating to parental occupation, school education and non-school education obtained from student enrolment records. These data are referred to as 'parent data' on *My School*.

When enrolling a child in school, all parents are asked which of the following options best describes their occupation, the school education and non-school education levels they achieved.

Parental occupation

- Senior management in large business organisation, government administration and defence and qualified professionals
- Other business managers, arts/media/sportspersons and associate professionals
- Tradesmen/women, clerks and skilled office, sales and service staff.
- Machine operators, hospitality staff, assistants, labourers and related workers
- Not in paid work in the last 12 months

Parental school education level

- Year 12 or equivalent
- Year 11 or equivalent
- Year 10 or equivalent
- Year 9 or equivalent or below

Parental non-school education level

- Bachelor degree or above
- Advanced diploma/Diploma
- Certificate I to IV (including trade certificate)
- No non-school qualification

Where do the data used to calculate ICSEA values come from?

Most state and territory government Education Departments and Catholic system jurisdictional authorities have provided ACARA with the parental background data for all students in their schools.

For some non-government systemic schools and most independent schools, data are only available for students who participated in NAPLAN. Those data were collected and provided to ACARA by the Test Administration Authority in each state and territory. For these groups of schools, the NAPLAN parental background data for students in the previous two years are used to calculate ICSEA.

Do data collected at enrolment become out-of-date?

Even though parental background data is collected at enrolment and may not be updated during the time that a student is enrolled in a school, it remains reasonably accurate.

The school education level of parents will only change for the very few parents that undertake further secondary-level schooling through TAFE or an equivalent. The non-school education level will only change for the comparatively small proportion of parents who undertake formal post-school education.

Although many parents are likely to change jobs during the time that their children are enrolled in a school, they are likely to remain within the same occupation category.