My School™

Fact sheet

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

From 2013 onwards

Measuring Socio-educational Advantage

What is the Index of Community Socio-educational Advantage?

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 and school such as parental education and occupation and school characteristics such as 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 schools 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, of 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 on the basis of the performance of their students in literacy and numeracy as estimated by the National Assessment Program- Literacy and Numeracy (NAPLAN).

ICSEA allows for comparisons to be made between schools that are matched according to the socio-educational advantage (SEA) of their students and thereby allowing fair comparisons of NAPLAN results between schools with students who have a similar level of SEA.

How was ICSEA developed and how is it reported?

The development of ICSEA involved collecting student family background data and identifying, through the use of statistical models, the combination of variables that have the strongest association with student performance in the NAPLAN tests.

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 extremely educationally disadvantaged backgrounds) to about 1300 (representing schools with students with very educationally advantaged 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.

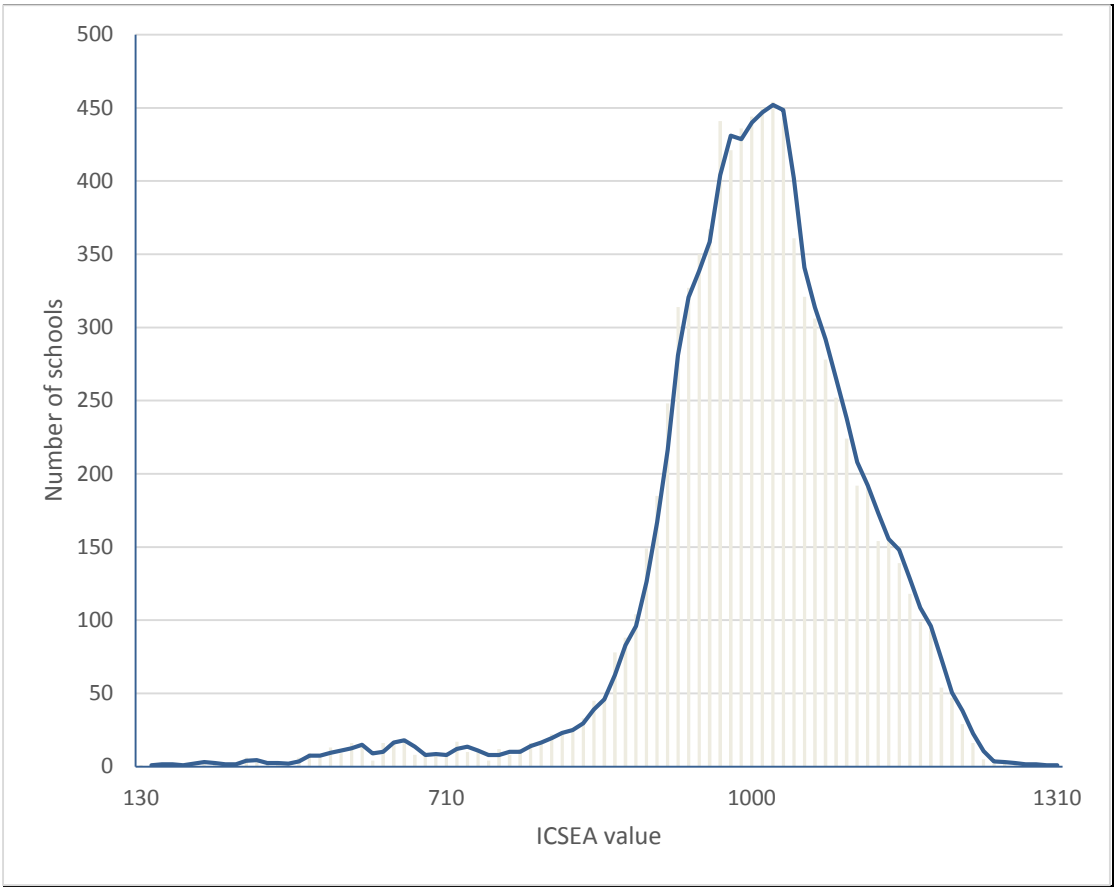

Figure 1. Distribution 2015 ICSEA values

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 and are not included in Statistically Similar Schools Groups. ICSEA is not published if the number of students' records available for the ICSEA calculation is equal or less than five. Special schools are schools for students with disability. Similarly, ICSEA values are not generated for juvenile justice schools. An ICSEA value for these schools can be provided or published on the website at the school's request, provided that data sufficiency requirements are met.

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:

The 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 table presents the distribution of students across four socio-educational advantage 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.

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Student background 2015

Index of Community Socio-Educational Advantage (ICSEA)

School ICSEA value	1166
Average ICSEA value	1000
Data source	Parent information

Distribution of students [2]

	Bottom quarter	Middle quarters		Top quarter
School Distribution	1%	5%	19%	75%
Australian Distribution	25%	25%	25%	25%

Percentages are rounded and may not add to 100

Figure 2. Student background data on the *School profile* page

The Similar schools page

A school's ICSEA value enables it to be placed within a group of up to 60 schools that serve students who are identified as having similar levels of socio-educational advantage. This group is referred to as a Statistically Similar Schools Group (SSSG). While these schools may be found in varied geographic locations throughout Australia, based on ICSEA their students can be determined as having similar levels of educational advantage.

The description "statistically similar schools" does not imply that the students in each school are a close match with each other across each of the individual variables measured, but that taken together, the set of variables associated with each school in the group suggests that similar performance on NAPLAN tests could be expected across the schools - noting the predictive relationship between each of the variables and aggregate NAPLAN performance.

The chart on the Similar schools page provides an opportunity to graphically compare the results of a similar schools group and to identify high performing schools, and schools that are not performing as well as others. Figure 3 below shows an example of the chart.

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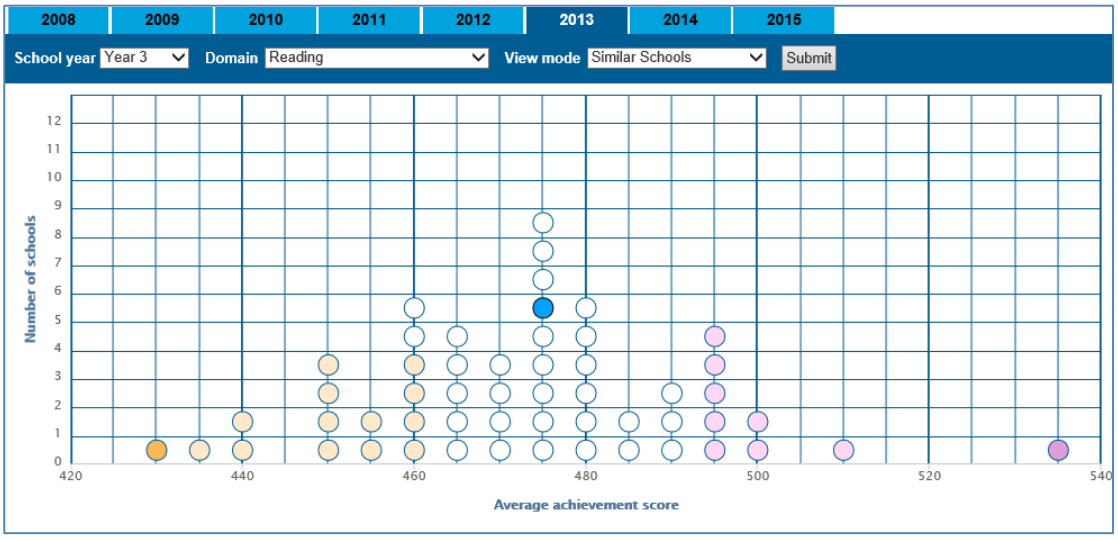

Figure 3. Depicting statistically similar schools group (SSSG) NAPLAN results

The NAPLAN results in graphs page

In the NAPLAN results section of *My School*, the Results in graphs page depicts the selected school's results with an average result for schools serving students from statistically similar backgrounds and all schools. The grouping of similar schools is based on the schools' ICSEA values.

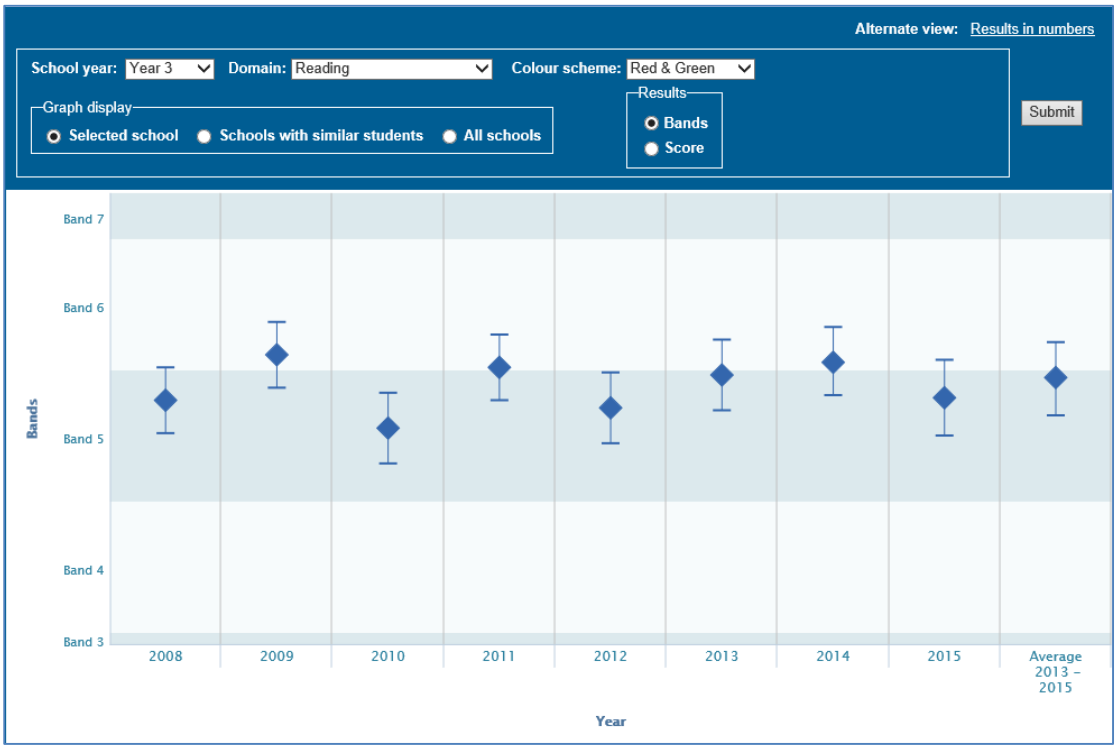

Figure 4. Example of the selected school's NAPLAN results graph

The NAPLAN Results in numbers page

The Results in numbers 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. For each result comparison average results are provided for the Statistically Similar Schools Group (determined using ICSEA) and for all

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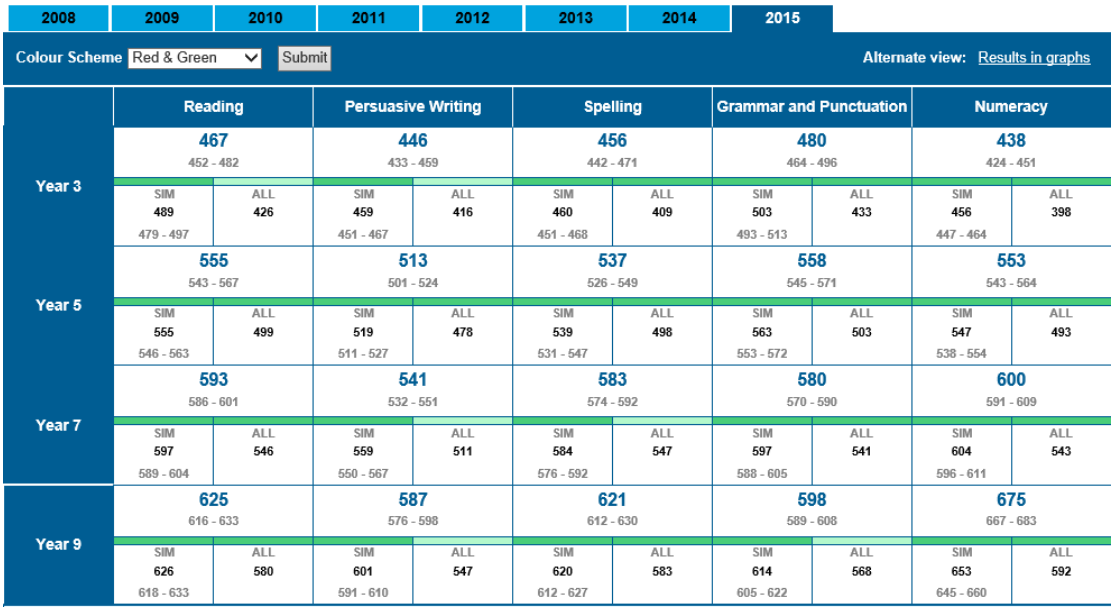
Australian schools. Figure 5 provides an example of the table.

Within each major cell the school's average results are shown, with the margin of error associated with each result immediately below. The margin of error figures represent the lower and upper bounds of a 90% confidence interval around the average. Below each of these cells are two smaller cells, marked "SIM" and "ALL", showing the average and confidence intervals for statistically similar schools, and the average for all Australian schools respectively.



	Reading		Persuasive Writing		Spelling		Grammar and Punctuation		Numeracy	
Year 3	467 (452 - 482)		446 (433 - 459)		456 (442 - 471)		480 (464 - 496)		438 (424 - 451)	
	SIM 489 (479 - 497)	ALL 426	SIM 459 (451 - 467)	ALL 416	SIM 460 (451 - 468)	ALL 409	SIM 503 (493 - 513)	ALL 433	SIM 456 (447 - 464)	ALL 398
Year 5	555 (543 - 567)		513 (501 - 524)		537 (526 - 549)		558 (545 - 571)		553 (543 - 564)	
	SIM 555 (546 - 563)	ALL 499	SIM 519 (511 - 527)	ALL 478	SIM 539 (531 - 547)	ALL 498	SIM 563 (553 - 572)	ALL 503	SIM 547 (538 - 554)	ALL 493
Year 7	593 (586 - 601)		541 (532 - 551)		583 (574 - 592)		580 (570 - 590)		600 (591 - 609)	
	SIM 597 (589 - 604)	ALL 546	SIM 559 (550 - 567)	ALL 511	SIM 584 (576 - 592)	ALL 547	SIM 597 (588 - 605)	ALL 541	SIM 604 (596 - 611)	ALL 543
Year 9	625 (616 - 633)		587 (576 - 598)		621 (612 - 630)		598 (589 - 608)		675 (667 - 683)	
	SIM 626 (618 - 633)	ALL 580	SIM 601 (591 - 610)	ALL 547	SIM 620 (612 - 627)	ALL 583	SIM 614 (605 - 622)	ALL 568	SIM 653 (645 - 660)	ALL 592

Figure 5. Example of the NAPLAN Results in numbers table

The NAPLAN Results in bands page

On the Results in bands page a table displays the selected school's results for each of the five test domains at each year level for which data are available, across the NAPLAN achievement bands. The table shows the percentage of the school's students who achieved results within each band level, together with the average percentages of students in the Statistically Similar Schools Group and the average percentages of students in Australian schools achieving results in each band. An example is provided at Figure 6 below. More information about achievement bands is provided on the National Assessment Program website at www.nap.edu.au

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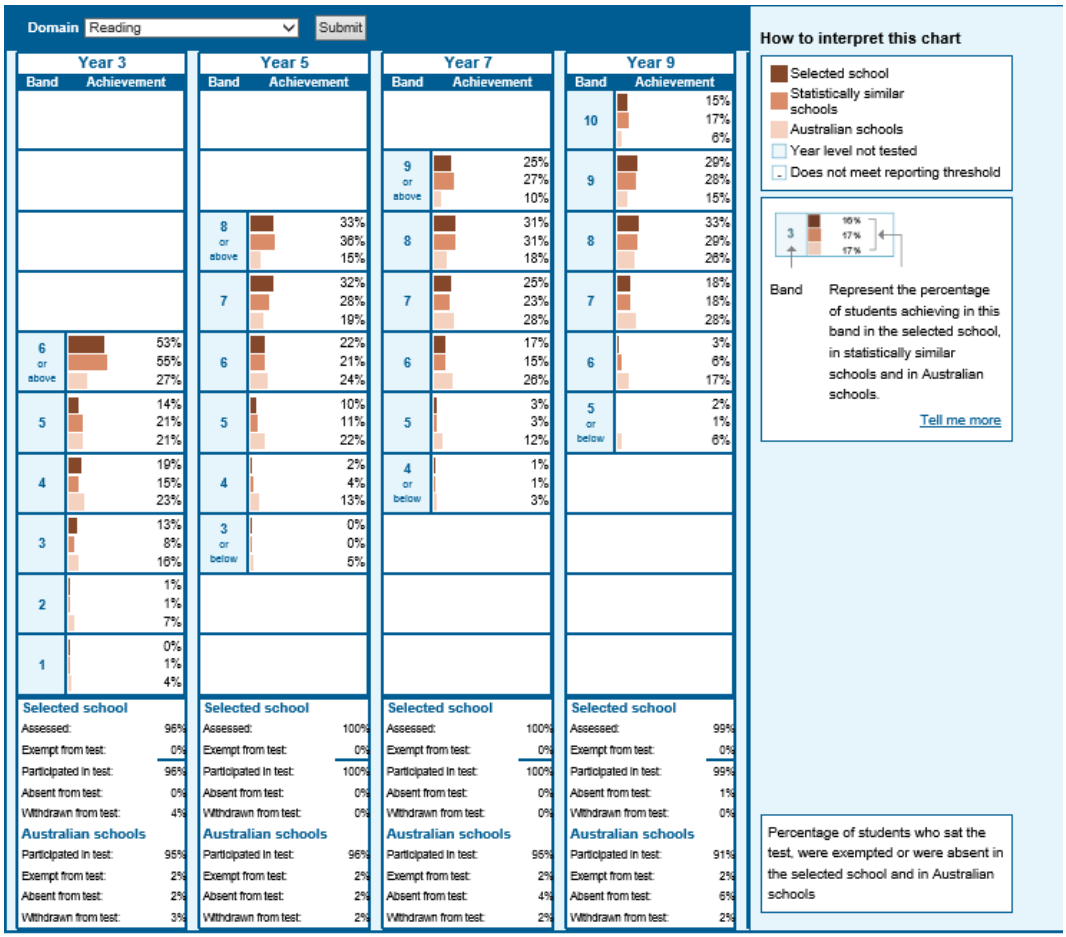

Figure 6. Example of the NAPLAN Results in bands table

The Student gain page

Student gains in NAPLAN performance are 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 gain.

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 gain for the selected school with: the average level of gain for students in schools from the Statistically Similar School Group; with the average level of gain for all students with the same starting scores; and with the average level of gain for students in all Australian schools. An example is provided at Figure 7 below.

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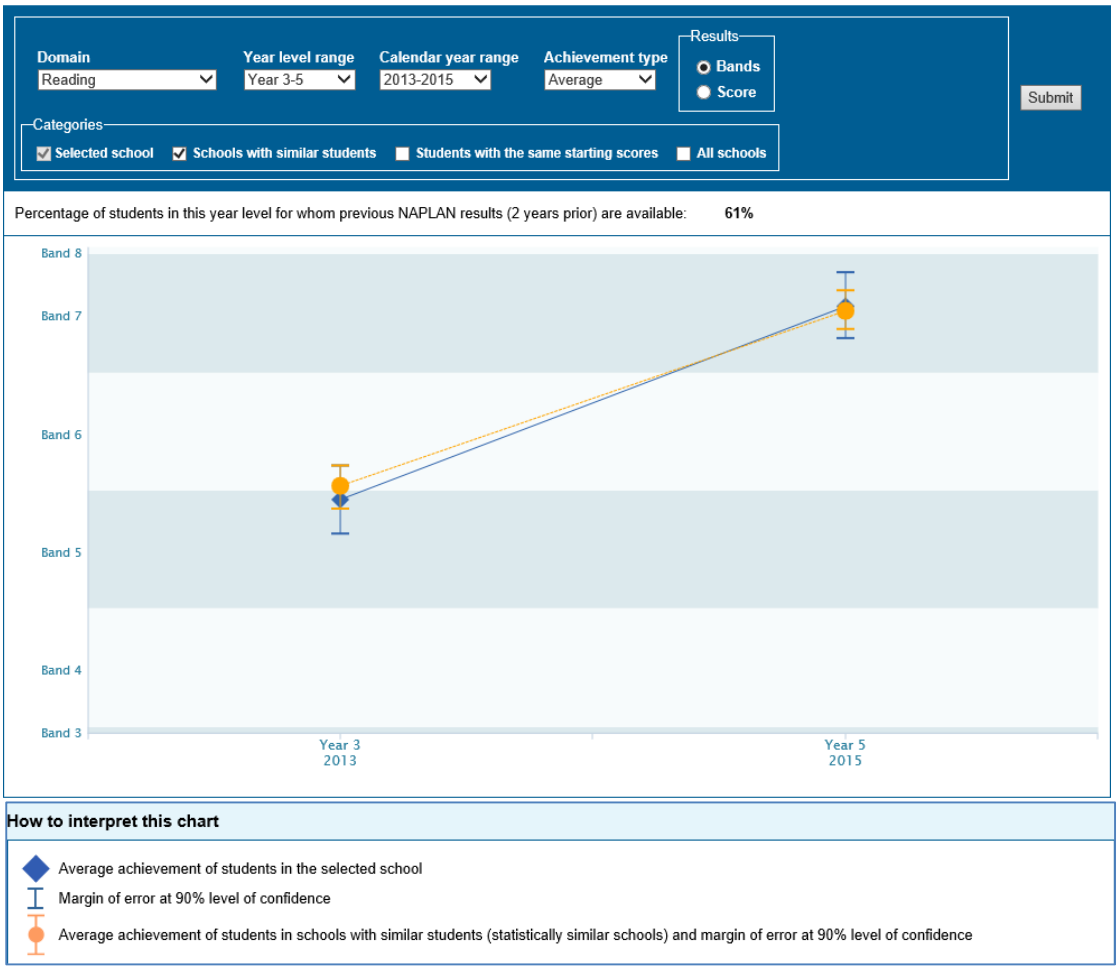

Figure 7. Example of the Student gain graph

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;
- identify schools with students from statistically similar backgrounds that are performing at a high level, particularly in their priority areas;
- explore success factors in statistically similar high-performing schools across the country and incorporate relevant strategies into their improvement plans; and
- communicate with the wider school community about their performance and 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 *My School* as a basis on which to:

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- understand how their local school is performing relative to other schools serving students from statistically
- similar backgrounds;
- 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:

ICSEA = SEA + Remoteness + 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 parent 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.

Parent 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 last 12 months

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School education level

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

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.

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.

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