Fact sheet

Guide to understanding gain

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Frequently asked questions

What is the purpose of the 'Student gain' page?
My School enables parents, educators and members of the community to track student performance over time and identify schools that have been successful in achieving significant progress for their students.

Which students are included in the 'Student gain' page?
Results from matched students are displayed for the selected school on the 'Student gain' page. Matched students are those students who participated in the NAPLAN tests in both 2008 and 2010, or any of the two year intervals up to 2013 and 2015. The percentage of the students matched in the school is published with the graph.

Why might school results on the 'Student gain' page differ to results on other NAPLAN results pages?
The results for the selected school on the 'Student gain' page show matched students only. NAPLAN results displayed on other pages show the average achievement of all students in the school who participated in a particular NAPLAN test.

For which domains (test areas) is gain information reported?
For the 2008 - 2010 student cohort, gain information is reported for NAPLAN tests in reading, narrative writing and numeracy. For the 2009 - 2011, and 2010 - 2012 student cohort, gain information is reported in reading and numeracy. A change in the writing genre in 2011, from narrative writing to persuasive writing, means that results from 2009 cannot be compared with results from 2011, and 2010 results cannot be compared to 2012. However, the student gain comparison is available for writing for 2011 - 2013, 2012 - 2014, 2013 – 2015 and 2014 - 2016.

Why might some schools have NAPLAN results but not have information about gain?
If there are fewer than five matched students at a school, no results are reported on the 'Student gain' page.

Is gain information based on the same matched students for each test domain?
Matched students are identified for each test domain and this number can change within a school. For example, a student may have participated in a reading test in both Years 3 and 5, but was absent for the numeracy test in Year 5. For this school, there will be fewer matched students in numeracy than in reading. If the number of matched students falls below five for numeracy, this school will have a result reported for reading Year 3–5, but not for numeracy Year 3–5.

What comparisons are made of the gain made by students in a given school?
Matched students in the selected school are compared with students:
- in statistically similar schools
- across Australia with the same starting scores
- in all schools in Australia.

These comparisons can be viewed individually or in any combination on the same graph. Different symbols are used for each comparison group. The symbols for the comparison groups are slightly smaller than those for the selected school so that, in instances where they have the same value, the position of both will still be visible.

Which year's ICSEA value is used for a school's statistically similar school group comparison?

The achievement and gain results for schools with statistically similar students shown on the student gain page have been determined using the selected school's ICSEA value for the latter of the two years. For example, the 2015 ICSEA value is used for comparisons of gains between 2013 and 2015.

How are results expressed?

Results are expressed in terms of average (mean) scores and median scores. The default view will be average scores. The median (or middle) score is more useful when a school has a skewed distribution of results, which is often the case for schools with small enrolments.

Why has a comparison using the starting scores been included?

In 2011 ACARA worked with experts from government and non-government education sector jurisdictional authorities and representatives across Australia to improve the measure of student gain. The *My School* website now provides a comparison of gains made by groups of students starting from the same achievement level; that is, all students who had the same starting score in the first of the two years (for example, students with the same score in Year 3 in 2013 compared to their scores in Year 5 in 2015.)

The enhanced depiction answers the question, 'How much has this group of students in this school progressed, compared with all students from across Australia who started from the same achievement level?' While this measure does not demonstrate other important factors such as the effects of teachers or school resources on student gain, it does provide an alternative way in which to consider student progress.

Why do students starting with lower scores tend to make greater gains than those starting with higher scores?

In part, this is a statistical artefact (known as 'regression towards the mean') whereby if a test score is extreme on its first measurement, it will tend to be closer to the average on a second measurement. But it also reflects the fact that the greatest progress is usually made in the early years. Students who start with high levels of literacy have less opportunity to show progress as measured by NAPLAN test scores than those starting with low levels of literacy.

What other information should be considered when interpreting the gain graph?

While NAPLAN tests are constructed so that results in a learning domain can be directly compared across time, a school's results for any year will always be associated with a degree of uncertainty (consistent with statistical reporting). This uncertainty is represented by confidence intervals around the results. While the midpoint of the diamond represents the best estimate of the mean/median performance of the matched students, the 'true' value of mean/median is likely to fall somewhere within these confidence intervals with 90 per cent certainty.

Part II
Depictions of student gain

The 'Student gain' page allows users to select various results and to combine them with others on the same graph. The following images provide examples of how student achievement gain is graphically depicted on the *My School* website.

Example 1

The default view shows the average achievement gain for schools serving students from statistically similar backgrounds as well as the average achievement gain for students at the selected school.
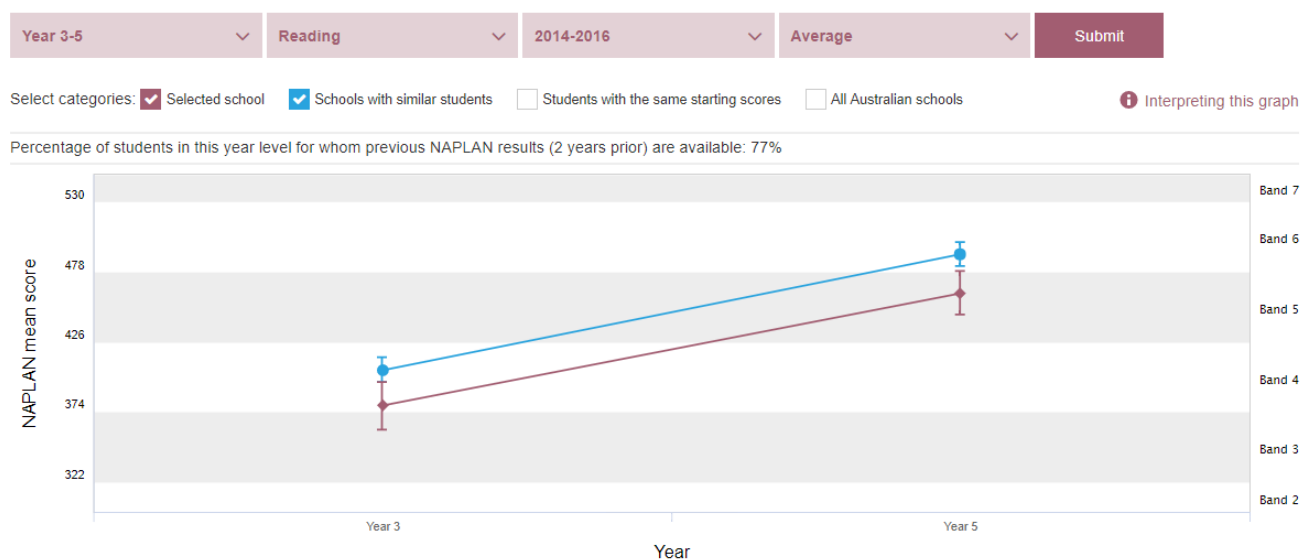

Figure 1. 'Selected school' and 'Schools with similar students'

Example 2

If you selecting the 'Students with the same starting scores' check-box, the site displays a depiction of the average gain for students with the same starting scores, as well as the average achievement gain for students at the selected school.
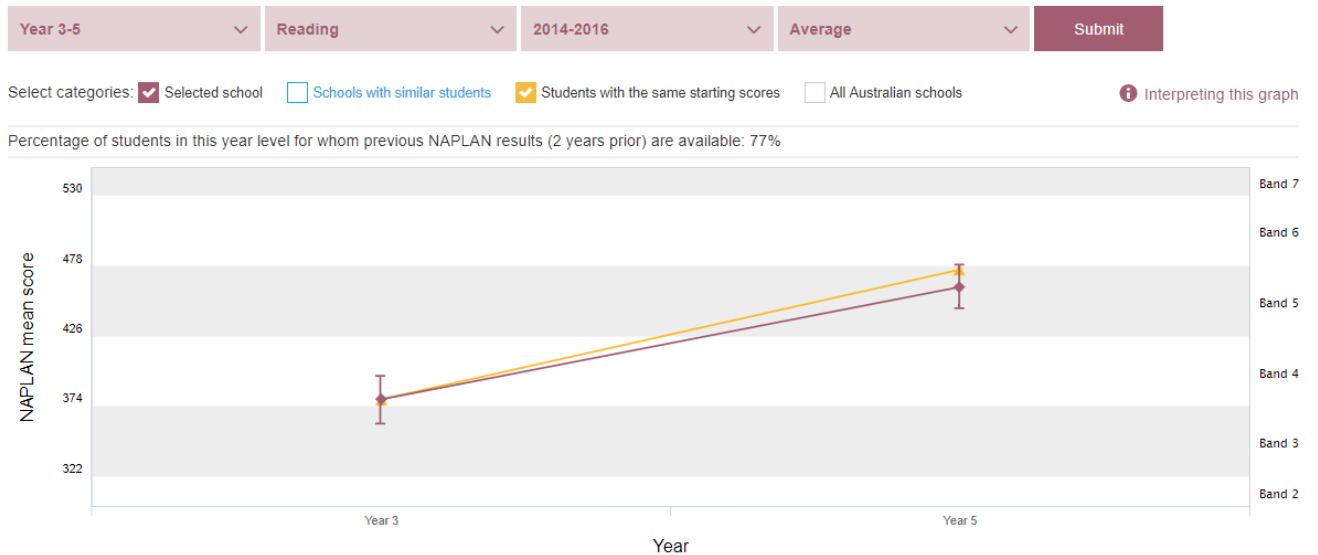

Figure 2. 'Selected school' and 'Students with the same starting scores'

Example 3

If you selecting the 'All Australian schools' check-box, the site displays a depiction of the average gain for all students as well as the average achievement gain for students at the selected school.
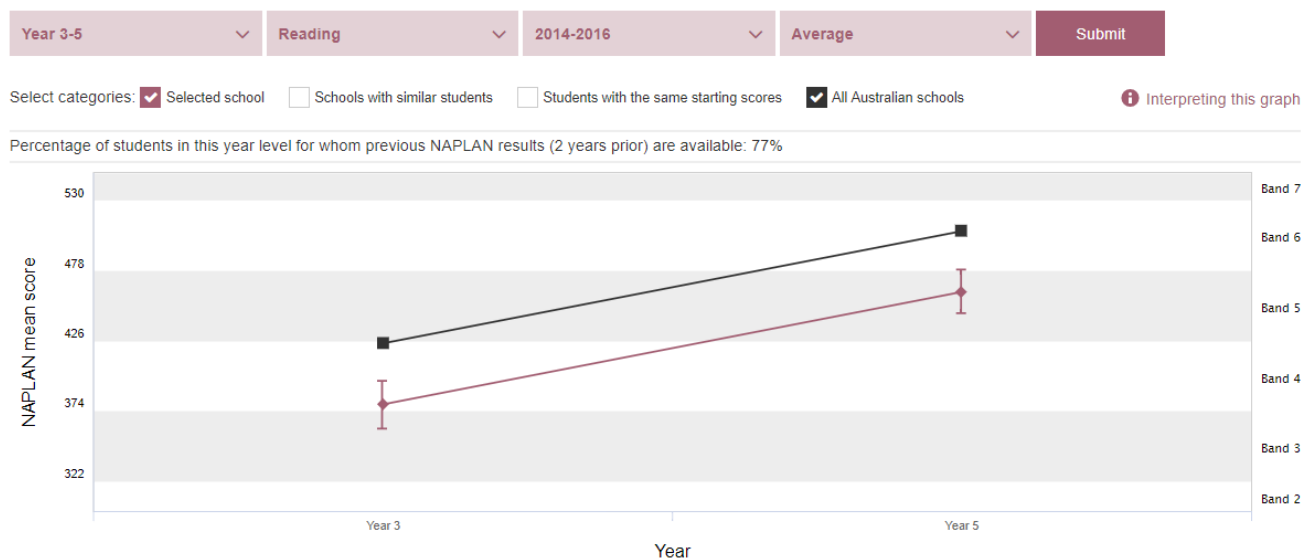

Figure 3. 'Selected school' and 'All schools'

Example 4

Lastly, selecting a number of options allows richer comparisons to be made. In this example, the gain for students at the selected school is compared to the gain for schools with similar students and the gain made by students with the same starting scores.

Figure 4. 'Selected school', 'Schools with similar students' and 'Students with the same starting scores'