Education Policy Brief

New School Funding Model Should Include Big Loadings for Disadvantaged Students

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Summary

The Prime Minister and the Education Minister claim that the National Partnerships on Literacy and Numeracy and Low SES Schools have increased results for students in partnership schools since 2008. They claim that schools participating in these programs have reduced the proportion of students below the national benchmarks by more than other schools and increased their average NAPLAN results by more than other schools.

Unfortunately, the Government's claims are highly questionable. The evidence it released to support its claims is weak, selective, inconsistent, and is contradicted by other NAPLAN data.

There is evidence that the proportion of students below the national minimum standards in reading and numeracy in Years 3 and 5 has been reduced in the Literacy and Numeracy partnership schools by more than in all schools. However, the evidence presents a best-case picture because the differences will be smaller when the margins of error on school test results, which are not reported in the NAPLAN data and the Government's analysis, are taken into account.

This evidence is further weakened by a comparison of changes in average test scores. There is little difference between increases in the average scores of the Literacy and Numeracy partnership schools and all schools between 2008 and 2012. There is unlikely to be any statistically significant difference in the results when the margins of error are considered.

The evidence advanced to support the strong claims for progress under the Low SES Schools partnership is very weak. There is no evidence that these schools have reduced the proportion of students below the national benchmarks by more than other schools or increased their average NAPLAN results by more than other schools.

The Government has based its claims for progress on selective data – for reading and numeracy in Years 3 and 5. It did not provide results for Years 7 and 9. This data is necessary to test the Government's claims. There are also inconsistencies between the data published for Literacy and Numeracy partnership and for the Low SES Schools partnership.

Significantly, the Government's claims are contradicted by other NAPLAN data that shows little or no overall improvement amongst low SES students and a widening of the gap between high and low SES students. This was also the finding of a recent report by the National Audit Office on the Literacy and Numeracy partnership.

The major reason for the apparent lack of success of these programs is that despite what seem to be large amounts of money allocated to them, it amounts to very little per school and per student. It is enough to buy in some extra resources and it has made a difference to some schools and disadvantaged students. However, it is far from adequate to make a sustained improvement in the achievement of all disadvantaged schools and students.

In the case of the Low SES Schools partnership, the total funding only delivers about $252,000 per school per year and about $924 per student per year, which amounts to an additional funding loading of 0.09 per disadvantaged student if the national resource standard is set at $10,000 per student. In the case of the Literacy and Numeracy partnership, the

respective figures are about $136,000 per school per year and $360 per student per year, a loading of 0.04 per student.

These loadings are very small compared to those suggested by research studies as needed to bring disadvantaged students up to performance standards. These studies show that loadings of up to 1.0 or more are needed; that is, double the average expenditure per student.

This is much larger than even the low SES loadings suggested in the Gonski report which range from 0.1 to 0.5. The maximum Gonski loading would mean an extra $5,000 per student with a national resource standard of $10,000 per student. This should be the minimum loading for disadvantaged students in the new funding model to be announced by the Federal Government. The total cost of $4.4 billion is well within the proposed Gonski funding pool.

Large funding loadings for disadvantaged students must be a fundamental feature of any new funding model. The actual loadings will be a test of the Federal Government's resolve to address disadvantage in education as it under pressure from private school organisations to keep the loadings small.

Private school organisations claim that too much money will be funnelled into government schools through the loadings and that the base payments under the Gonksi model are too low. These claims must be rejected. Private school organisations want the disadvantage loadings to be small to ensure more funding is available for private schools at the expense of government schools that enrol about 80% of disadvantaged students.

The size of the funding loadings for disadvantaged students in the Government's new funding model will be a signal of where the Government is going on school funding. Is it going to bow once more to the self-interested demands of private schools or is it genuine in wanting to improve the results of our most disadvantaged students, the large majority of whom are in government schools?

National Partnerships and Funding for Disadvantaged Students

The Prime Minister and the Education Minister claim that the National Partnerships on Literacy and Numeracy and Low SES Schools have increased results of students in partnership schools since 2008. They claim that schools participating in these programs have reduced the proportion of students below the national benchmarks by more than other schools and increased their average NAPLAN results by more than other schools.

Unfortunately, the Government's claims are highly questionable. The evidence released by the Government to support its claims is weak, selective, inconsistent, and is contradicted by other NAPLAN data.

Literacy and numeracy national partnership

The Literacy and Numeracy National Partnership has provided $540 million over four years from 2008-09 to 2011-12 to improve literacy and numeracy outcomes in about 1100 government and private schools. The scheme is focused on primary school students but also includes many high schools.

New figures released by the Federal Government show that, between 2008 and 2012, 71% of schools participating in the Literacy and Numeracy partnership reduced the percentage of Year 3 students at or below the national minimum standard for reading compared to 61% of all schools and 45% reduced the proportion at or below the numeracy benchmark compared to 38% of all schools.

Over the same period, 62% of schools reduced their percentage of Year 5 students at or below the national minimum standard for reading compared to 54% of all schools and 70% reduced the proportion at or below the numeracy benchmark compared to 59% of all schools.

These are encouraging results, but it is also true that many schools have not made any progress in this regard. Depending on the Year level and subject tested, 29 – 55% of partnership schools did not reduce the proportion of students at or below the national minimum standards between 2008 and 2012. Clearly then, the performance amongst partnership schools is quite variable.

The figures are also a best-case scenario. They do not take account of the margins of error on school results, which are very large for smaller schools and are even large for schools over 200 enrolments. It is possible that differences between partnership and all schools in reducing the proportion of students at or below the national benchmarks are much smaller when the margins of error on the test results are considered. Unfortunately, information on the margins of error is not published.

Another issue is that changes in the proportion of students above or below a benchmark can disguise different changes in average scores. While the goal of reducing the proportion of students at or below national minimum standards is very important, assessment of progress should also take account of what is happening for other students. The proportion of students above a benchmark can increase while the overall average score decreases (and vice versa). Also, the average for students below the benchmark can fall even though the proportion below a benchmark has decreased.

A common phenomenon in countries that publish school results and league tables is that schools concentrate on improving the results of students who are just below the target benchmarks (the so-called 'bubble kids').[1] There is evidence of this in Australia.[2] It is an easier way to make progress, but overseas experience shows that it can occur at the expense of other students who are well above or well below the benchmark whose average results fall.

The Federal Government figures on average scores show only minor difference between Literacy and Numeracy partnership schools and all schools in the increase in average scores between 2008 and 2012. The average score in Year 3 reading in Literacy and Numeracy partnership schools increased by about 24 points compared to 19 in all schools and by 2 points in numeracy compared to a fall of 2 points for all schools. The average score in Year 5 reading in Literacy and Numeracy partnership schools increased by about 12 points compared to 9 in all schools and by 17 points in numeracy compared to 13 points for all schools.

These are very small differences and are unlikely to be statistically significant because there is a margin of error on the results which the Government has not reported. In other words, the increase in average reading and numeracy scores in the national partnership schools was not statistically different from that for all schools and it cannot be said that the national partnership schools have made more progress in lifting student results than all other schools. The evidence presented by the Government for its claims is therefore weak.

This conclusion is consistent with the findings of a report by the Australian National Audit Office (ANAO) on the Literacy and Numeracy National Partnership (LNNP). It found no discernible difference to the performance of the participating schools:

> ...ANAO analysis of NAPLAN data from 2008 to 2011 indicates that the LNNP is yet to make a statistically significant improvement, in any state, on the average NAPLAN results of schools that received LNNP funding, when compared to schools that did not receive funding. [p.20]

Low SES school communities national partnership

The Low SES School Communities National Partnership has provided $1.5 billion over seven years (2008-09 to 2014-15) to improve student engagement and outcomes in approximately 1700 low socio-economic status government and private schools around the country. The funding is matched by co-investment from state and territory governments.

The joint media release by the Prime Minister and the Education Minister claims that schools in the Low SES School Communities partnership have increased the number of students achieving at or above national minimum standards at a greater rate than other schools. However, no data is provided to support this claim. Indeed, it is contradicted by the Government's own analysis of the results for these schools.

The analysis states that schools participating in the Low SES School Communities partnerships "have generally kept pace with all Australian schools when it comes to reducing the number of students sitting at or below the NMS (national minimum standard) for literacy and numeracy". The analysis also states that the majority of partnership schools successfully

[1] Booher-Jennings, J. 2005, Below the Bubble: "Educational Triage" and the Texas Accountability System. *American Educational Research Journal*, 42 (2): 231–268; Krieg, J. M. 2008, Are Students Left Behind? The Distributional Effects of the No Child Left Behind Act. *Education Finance and Policy*, 3 (2): 250-281; Neal, D. & Schanzenbach, D. 2010. Left Behind By Design: Proficiency Counts and Test-Based Accountability. *Review of Economics and Statistics*, 92 (2): 263–283.

[2] Australian Primary Principals Association 2010, *The Reporting and Use of NAPLAN*, June.

reduced the percentage of students at or below the NMS in Year 3 reading, Year 5 reading and Year 5 numeracy between 2008 and 2012. Other data provided in the analysis shows that a majority of all schools also did this.

In other words, the analysis admits that partnership schools have been no more successful than other schools in reducing the number and percentage of students at or below the national benchmarks more than other schools. This clearly contradicts the claims of the Prime Minister and the Education Minister in their joint media release.

The Government's analysis also shows that the percentage of students at or below the minimum standards in the Low SES School Communities partnerships decreased in Year 3 reading and in Year 5 reading and numeracy. However, no comparison is provided with all schools, as was the case for the Literacy and Numeracy partnership. Inspection of the national reports on the NAPLAN results shows that all schools also reduced this percentage by similar amounts so, partnership schools did no better than all schools on this measure.

The Government's analysis also states that more than 50 per cent of the schools taking part in the Low SES School Communities National Partnership improved their average scores in Year 3 Reading, Year 5 Reading and Year 5 Numeracy. Again, no comparison is provided with all schools and nor is any account taken of the margin of error associated with the average scores. The 2012 national report on the NAPLAN results shows that the mean scores for all students increased between 2008 and 2012 in Year 3 reading and Year 5 reading and numeracy and that these increases were statistically significant. So, once again, there is no evidence any greater improvement for the partnership schools over all schools.

Selective evidence

The evidence presented by the Government is very selective as it refers to Year 3 and 5 but not Year 7 and 9.

Both the Literacy and Numeracy and the Low SES School Communities partnerships provide funding for high schools as well as primary schools. While the main focus of the Literacy and Numeracy national partnerships is on primary school students, many high schools are also funded through the program. Both partnership agreements with state and territory governments specify that the performance indicators to be used to assess progress include literacy and numeracy outcomes for Years 7 and 9 as well as Years 3 and 5. However, the Government failed to provide any data on literacy and numeracy outcomes in the high school years. This creates a suspicion that the Government has published results that help its case.

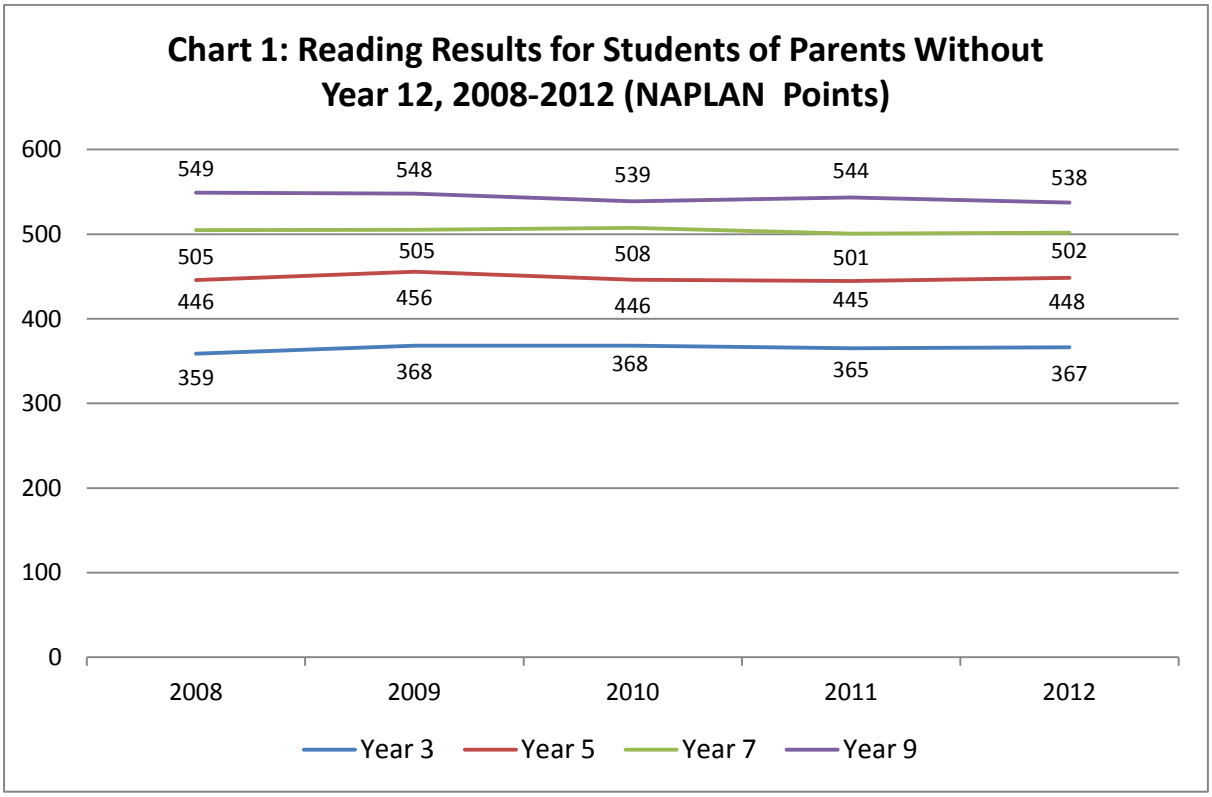
The suspicion that the Government has been selective in the evidence it published is furthered by differences in the results reported for the two partnerships. More comparative data for partnership and all schools is provided in the analysis of progress under the Literacy and Numeracy partnership than in the case of the Low SES School Communities partnership.

The analysis of the Literacy and Numeracy partnership provides comparative data between partnership and all schools on the percentage of schools that reduced the proportion of students at or below the NMS and the average NAPLAN score improvement. Similar data is not provided for schools participating in the Low SES School Communities partnership.

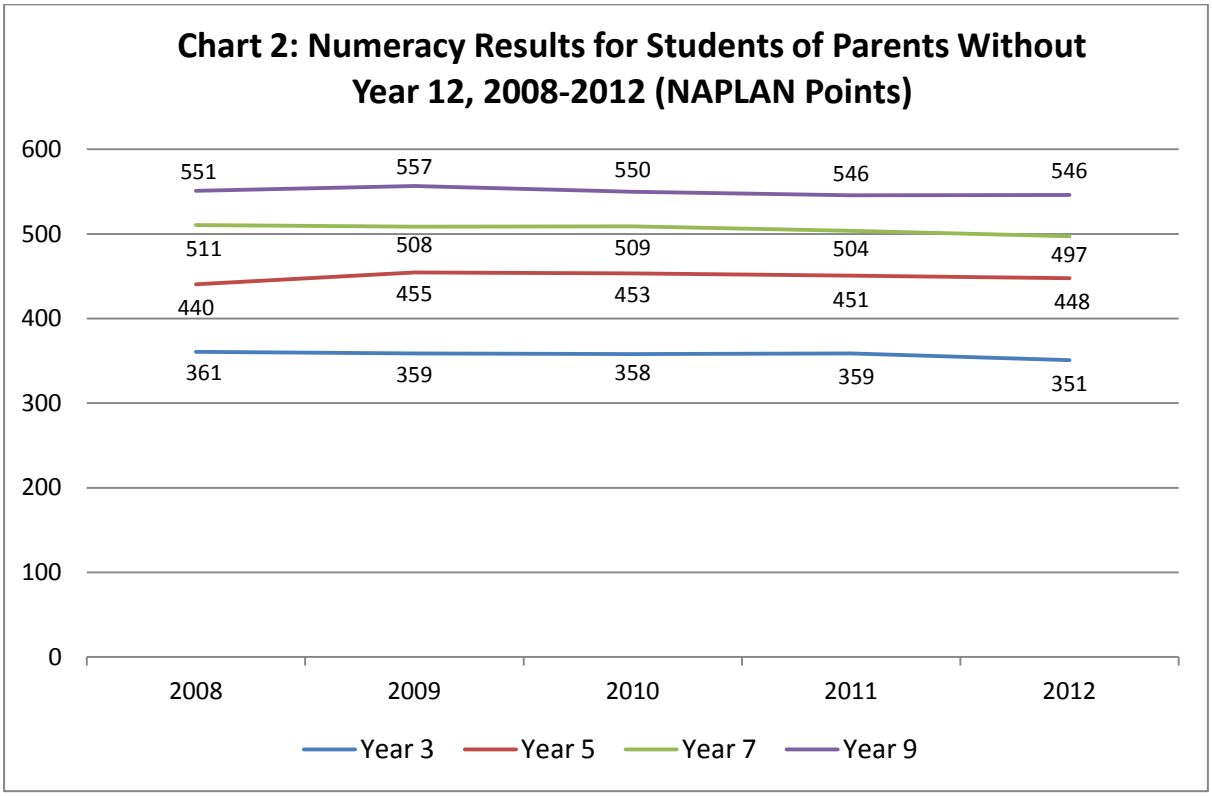
Government claims are contradicted by other NAPLAN data

The Federal Government claims of progress by national partnership schools are also contradicted by the NAPLAN results for low SES students (defined as students of parents

without Year 12). They show little improvement in the average reading and numeracy scores for these students between 2008 and 2012 – they remained flat or fell in most Year levels.



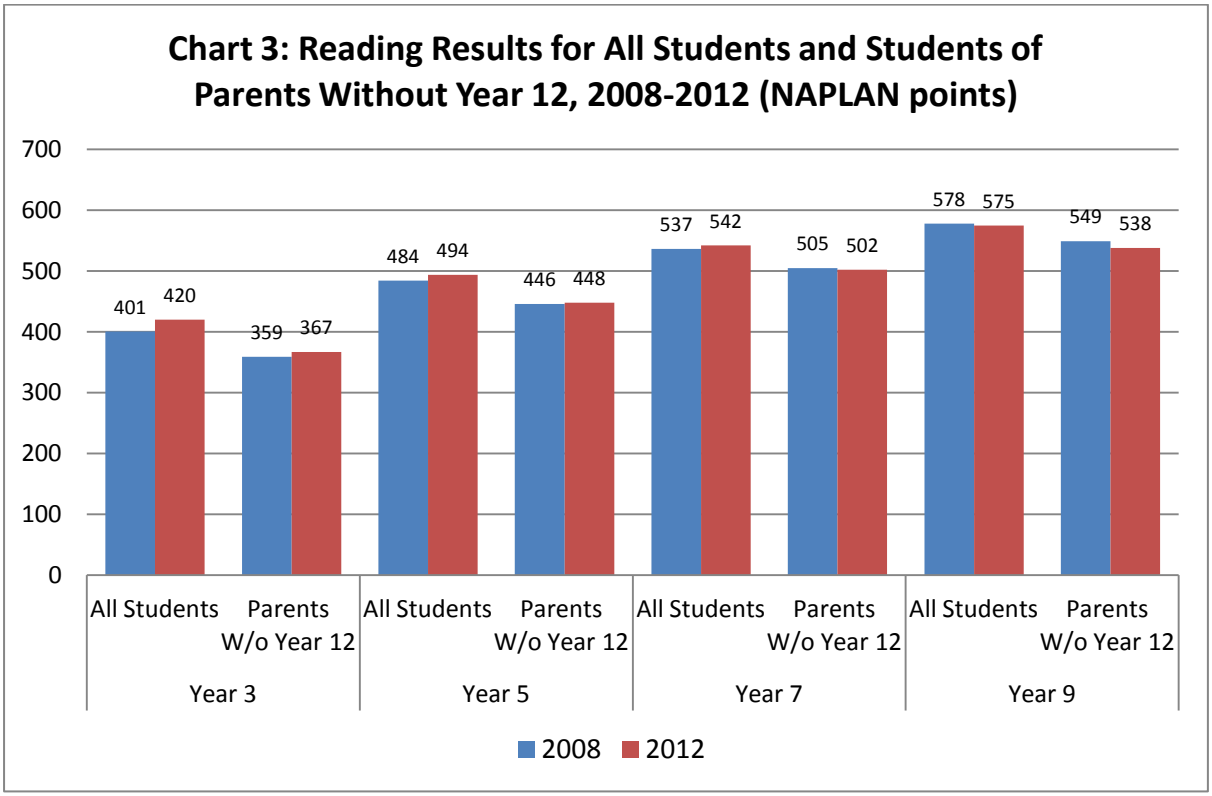
Source: NAPLAN National Reports 2008 - 2012: http://www.nap.edu.au/results-and-reports/national-reports.html



Source: NAPLAN National Reports 2008 - 2012: http://www.nap.edu.au/results-and-reports/national-reports.html

The average reading scores for Year 3 students of parents without Year 12 increased between 2008 and 2012, while those for Year 5 and 8 remained virtually unchanged and the Year 9 average fell [Chart 1]. The average numeracy scores fell in Year 3, 7 and 9 but increased in Year 5 [Chart 2]. It is not possible to tell whether the increases and decreases are statistically significant because the margins of error are not reported for the NAPLAN results.

The NAPLAN results also show that the performance of low SES students has not improved relative to all students between 2008 and 2012, if anything, it has deteriorated. While the reading score for Year 3 students of parents without Year 12 increased between 2008 and 2012, the increase was less than half that for all students [Chart 3]. Similarly, the Year 5 and Year 7 results for all students increased by more than for low SES students and the Year 9 average for all students fell by less than that for low SES student.

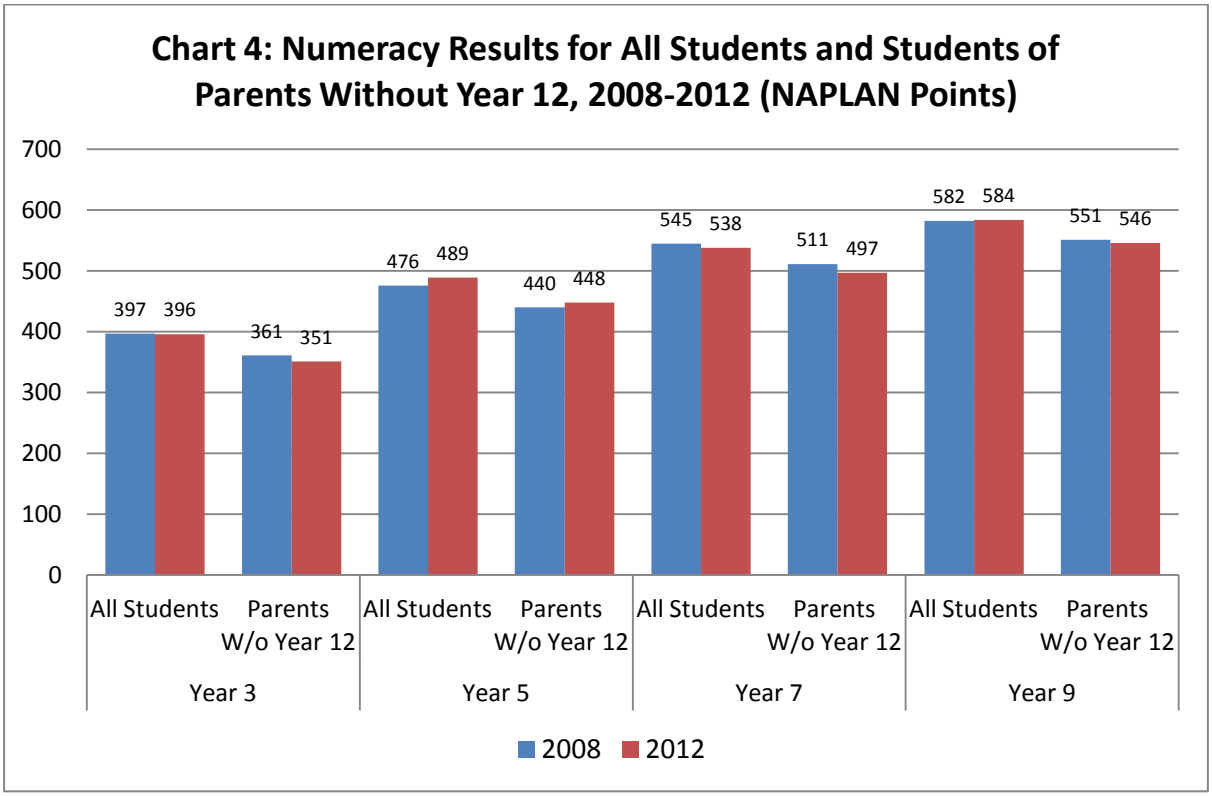


Source: NAPLAN National Reports 2008 & 2012: http://www.nap.edu.au/results-and-reports/national-reports.html

The average numeracy score for low SES students fell by much more than for all students in Year 3 and 7 while the Year 5 average increased for all students by more than for low SES students [Chart 4]. In Year 9, the average score for all students remained stable while that for low SES students fell.

The lack of overall progress in improving school outcomes for low SES students is also seen in the increasing achievement gaps between students of parents without Year 12 and those of parents with a university education. In 2012, Year 5 students of parents who had not completed Year 12 were 85 points in reading behind students whose parents had a university degree and 78 points behind in numeracy [Chart 5]. These gaps are equivalent to three to four years of schooling (the average gain for all students between Years 7 & 9 is about 40 points on the NAPLAN reading and numeracy scales, or 20 points per year). The gaps for both reading and numeracy have increased by about 10 points since 2008, although without the

margins of error reported it is not possible to tell whether the increases are statistically significant. Certainly, however, the gaps have not decreased.



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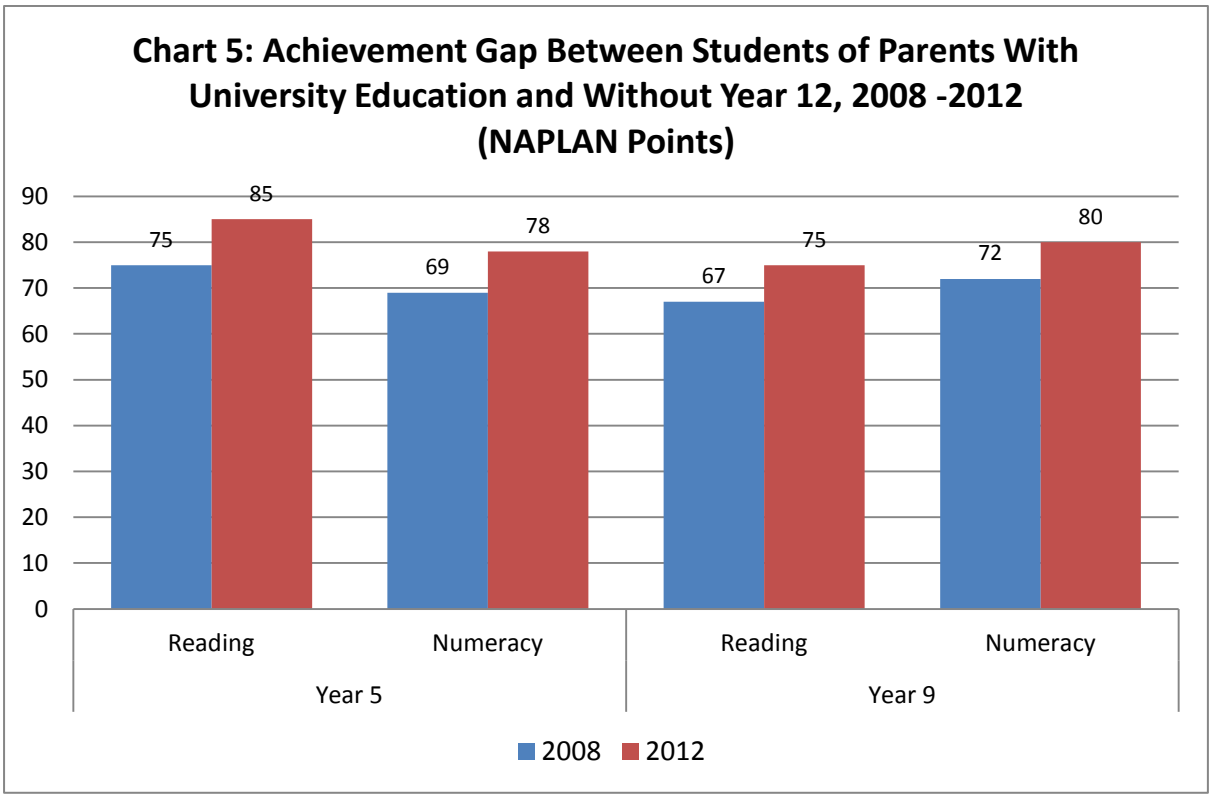

Source: NAPLAN National Reports 2002 & 2012: http://www.nap.edu.au/results-and-reports/national-reports.html

In 2012, Year 9 students of parents who had not completed Year 12 were 75 points in reading behind students whose parents had a university degree and 80 points behind in numeracy [Chart 5]. The gaps for both reading and numeracy have increased by about 8 points since 2008, but once again it is not possible to say these are statistically significant increases.

Thus, the NAPLAN results contradict the Government's claims. They show that there was no improvement in the average reading and numeracy scores of low SES students in most Year levels between 2008 and 2012, that no greater progress was made by low SES students compared to all students, and that achievement gaps between low and high SES students increased.

Funding implications

There is one very good reason why the partnership programs do not appear to be delivering significant improvement in student results. It is because the funding per student is very small compared to what research studies show is needed to bring disadvantaged students up to a minimum standard.

The Federal Government contribution to the Literacy and Numeracy partnership is $540 million over four years and consists of $150 million in facilitation payments to the states/territories in the first two years of the program, $350 million in reward payments to the states/territories for meeting performance targets in the last two years of the program, and $40 million for research initiatives. State and territory governments were also required to provide co-investment to match the Federal facilitation payments. There are no requirements as to how the reward payments are to be used.

Thus, only about $300 million over two years was specifically directed at about 1100 schools and 417,000 students. This amounts to just about $136,000 per school per year and $360 per student per year, a loading of 0.04 per student based on a national resource standard of $10,000 per student.

The Low SES Schools partnership provides for a Federal Government contribution of $1.5 billion over seven years with an equal co-investment by state and territory governments. It is targeted at about 1700 schools and about 464,000 students. It amounts to about $252,000 per school per year and about $924 per student per year, a loading of 0.09.

The additional funding provided by these partnerships schemes have been welcomed by all concerned to improve school outcomes for disadvantaged students. They have allowed schools to buy in some extra resources and they have made a difference to some schools and disadvantaged students. However, they are far from adequate to make a sustained improvement in the achievement of all disadvantaged schools and students.

Overseas research studies show that the additional expenditure required for low income students to achieve at adequate standards is up to double or more the cost of educating an average student.[3] This suggests a loading of 1.0, which is over 10 times that provided by the Low SES Schools partnership. This would mean an extra $10,000 per disadvantaged student if the national resource standard is determined at $10,000 per student.

[3]See Duncombe, William & Yinger, John 2005. How Much More Does a Disadvantaged Student Cost? *Economics of Education Review*, 24: 513-532; Duncombe, William & Yinger, John 2008. Measurement of Cost Differentials. In Ladd, Helen F. & Fiske, Edward B. (eds.). *Handbook of Research on Education Finance and Policy*. Routledge, London: 238-256.

Under the most generous loadings proposed by the Gonski report, a low SES student in a very low SES school would have a loading of only 0.5. (While the suggested loadings for Indigenous students range from 0.4 to 1.0 and those for remote area schools range from 0.1 to 1.0, these students form a very small proportion of all disadvantaged students). The maximum low SES loading would mean an extra $5,000 per student if the national resource standard is set at $10,000 per student. However, a low SES student in a high SES school would only have a loading of 0.1, which is little more than what is provided now under the Low SES Schools partnership.

The implication is that the loadings proposed by the Gonski report are unlikely to be adequate to the challenge of increasing school outcomes for disadvantaged students. Rather than a maximum loading, 0.5 should be the minimum loading. If applied to all students currently covered by the Literacy and Numeracy and Low SES Schools partnerships, this would cost about $4.4 billion (based on the number of students in the two partnership schemes) out of the $6.5 billion proposed for the Gonksi funding model.

Adequate funding loadings for disadvantaged students must be a fundamental feature of any new funding model. The loadings will be a test of the Federal Government's resolve to address disadvantage in education because it is under pressure from private schools to keep the loadings small.

Private school organisations want to reduce the level of loadings for various categories of disadvantaged students and increase the level of base funding under the new model. They claim that the base payments under the Gonksi model are too low and that too much money will be funnelled into government schools through the loadings.

One private school organisation – Independent Schools Victoria – has gone so far as to say that there should be no loadings for disadvantaged students because it says that the link between socio-economic status and student achievement is very weak. This is contradicted by extensive Australian and overseas evidence of a very strong link. Study after study in various countries has demonstrated this link.[4]

These claims should be rejected for they are – blatant self-interest. Private school organisations want the disadvantage loadings to be small to ensure more funding for them at the expense of government schools that enrol about 80% of disadvantaged students. They can see that a school funding model designed to reduce disadvantage in education will largely benefit government schools.

The size of the funding loadings for disadvantaged students in the Government's new funding model will be a signal of where the Government is going on school funding. Is it going to bow once more to the self-interested demands of private schools or is it genuine in wanting to improve the results of our most disadvantaged students, the large majority of whom are in government schools?

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[4] For example, see Sirin, Selcuk R. 2005,,Socioeconomic Status and Student Achievement: A Meta-Analytic Review of Research. *Review of Educational Research* 75 (3): 417-45; OECD 2010. *PISA 2009 Results: Overcoming Social Background – Equity in Learning Opportunities and Outcomes (Volume II)*, Paris; Reardon, S. 2011, The Widening Achievement Gap Between the Rich and Poor: New Evidence and Possible Explanations. In G.J. Duncan and R.J. Murnane (eds.) *Whither Opportunity? Rising Inequality, Schools and Children's Life Chances*, Russell Sage, New York, 91-116.
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