

**Education Policy Brief**

# **Higher Funding Loadings are Needed for Schools With Greater Concentrations of Disadvantaged Students**

**Trevor Cobbold**

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## Key Points

1. The Gonski funding model provides higher funding loadings for schools with greater concentrations of low socio-economic status (SES) students to help reduce the large gap in student achievement between rich and poor.
2. Independent Schools Victoria has long opposed additional funding loadings for low SES students because it claims that the relationship between SES and student achievement is weak. It ignores a massive amount of research evidence showing that family SES has a very significant influence on student achievement at school. The strong relationship is one of the most robust findings in education research.
3. There is overwhelming evidence to reject the proposal by Independent Schools Victoria that the higher funding loadings for schools with greater concentrations of low SES students be removed. Its claim that there is no evidence base for the loadings is incorrect.
4. A corpus of research studies from overseas and Australia show that a student attending a school where the average SES of students is low is likely to have lower outcomes than a student from a similar background attending a school where the average SES is high. Average school results decline with greater concentration of low SES students.
5. New analysis based on the My School data for 2013 shows a clear trend for schools with greater concentrations of students in the lowest SES quartile to have lower average NAPLAN results (see Chart p.6).
  - The average Year 9 reading score of schools with less than 10 per cent of students in the lowest SES quartile was 144 points higher than schools with more than 70 per cent in that quartile. This gap is equivalent to about seven years of learning.
  - The achievement gap compared to the average score for schools with the smallest proportion of students in lowest SES quartile increases as the level of concentration increases.
  - The effect of school SES concentration on student achievement increases from Year 5 to Year 9.
6. The claim by Independent Schools Victoria that low SES concentration loadings will lead to greater social segregation between schools is misplaced. Increasing social segregation is being driven by the publication of school results and league tables which give schools a greater incentive to recruit high achieving students who are lower cost and boost school rankings and reputations.
  - This has happened in New Zealand. Despite the application of low SES concentration loadings, schools manipulate enrolment zones to recruit more high SES students and exclude low SES students.
7. There is a strong element of hypocrisy in the concern of Independent Schools Victoria about increasing social segregation. It represents the wealthiest schools in the state that have self-segregated by setting high fees and selecting their students.
8. If the proposal to remove the concentration loadings for low SES students were to be adopted it would further undermine the Gonski funding model, reduce opportunities for low SES students and serve to maintain the large achievement gaps between rich and poor.

## **Introduction**

Under the new Federal funding model, loadings provide extra funding for schools with higher proportions of lower SES students. These loadings are intended to provide schools with more resources to improve school outcomes for low SES students.

The loadings apply to students in the lowest two SES quartiles. The loadings for students in the lowest SES quartile are on a sliding scale ranging from 15 per cent (or 0.15) for the first student in the lowest SES quartile (\$1,391 per primary student and \$1,829 per secondary student in 2014) to 50 per cent (or 0.50) for each student in schools with more than 75 per cent of students in the lowest quartile (\$4,635 per primary student and \$6,096 per secondary student). For students in the second lowest SES quartile, the loadings range from 7.5 per cent (\$695 per primary student and \$914 per secondary student) to 37.5 per cent for schools with over 75 per cent of students from this quartile (\$3,477 per primary student and \$4,572 per secondary student).

It was recently reported that Independent Schools Victoria has proposed to the Federal Government review of the low socio-economic status (SES) funding loadings that the loadings for schools with concentrations of low SES students should be removed [Topsfield 2014]. While the submission has not been made public, it was also reported that it is based on a submission to the recent Senate Select Committee on school funding. In this latter submission, Independent Schools Victoria argued that there is no evidence base for the loadings and that they could lead to greater social segregation between schools.

Independent Schools Victoria is wrong on both counts. There is overwhelming research evidence to support higher funding loadings for schools with greater concentrations of low SES students. It is not likely that the loadings will encourage schools to recruit more low SES students to maximise their funding because there is a greater incentive for schools to reduce enrolments of low SES students and recruit higher SES students to maximise their rankings and reputations.

## **Independent Schools Victoria has long opposed extra funding for low SES students**

Independent Schools Victoria has always opposed funding loadings for low SES students. It originally proposed to the Gonski review of school funding that there should be no loadings at all. In its response to research papers commissioned by the Gonski review of school funding, Independent Schools Victoria said that low SES students should not receive extra funding because the relationship between SES and education outcomes is “weak” and “inconclusive” [Independent Schools Victoria, 2011a, p.21; 2011c, p. 20; 2011b, p.9]. It claimed that “low SES has a minor influence on student performance” and said that the idea that low SES is a significant barrier to educational achievement is “without foundation, and should be ignored” [Independent Schools Victoria, 2011c, p.10].

This extreme position denies a mountain of evidence from overseas and in Australia, including from some of the most conservative education researchers, that clearly shows a strong relationship between SES and student achievement. Only a few can be mentioned here, but many more are referenced in reviews of the literature [see Haveman & Wolfe 1995, Sirin 2005, Murphy 2010, Duncan & Murnane 2011, Hanushek & Woessmann 2011].

Successive PISA studies show that large differences between the average results of low and high SES students exist in all countries, although the extent of the gap varies between

countries. Many other studies in many countries and many cross-country studies have observed high correlations between different aspects of parent SES background (in particular, parent education) and student performance in terms of average results and school completion.

Major reviews of research studies are emphatic about the strong relationship. For example, a meta-analysis of 58 research studies concluded:

Of all the factors examined in the meta-analytic literature, family SES at the student level is one of the strongest correlates of academic performance. At the school level, the correlations were even stronger.

This review's overall finding, therefore, suggests that parents' location in the socioeconomic structure has a strong impact on students' academic achievement. [Sirin 2005: 438]

The author of one of the most comprehensive studies of the impact of family and school resources on student achievement in recent times stated:

The Coleman Report found a substantial influence of family background, especially parental education, and modern social science has confirmed these effects: virtually every examination of schooling performance has found substantial advantages to families of higher standing, whether measured by income, occupation, parental education, or some other dimension. [Grubb 2011: 92]

A recent extensive review of international and country studies concluded:

A significant association of students' academic achievement with the socio-economic background of their families is evident in all countries around the world. [Hanushek & Woessmann 2011: 126]

In reviewing the evidence, another prominent scholar said:

Study after study has demonstrated that children from disadvantaged households perform less well in school on average than those from more advantaged households. This empirical relationship shows up in studies using observations at the levels of the individual student, the school, the district, the state, the country.... Regardless of the measures used and the sophistication of the methods, similar patterns emerge. [Ladd 2012: 204]

One recent major study said that the relationship between SES and student achievement is one of the most robust findings in education research:

The relationship between family socioeconomic characteristics and student achievement is one of the most robust patterns in educational scholarship... [Reardon 2011: 92]

As one of the Gonski panel members, Ken Boston, stated in a response to Questions on Notice from the recent Senate Select Committee inquiry on school funding: "The jury is in on this issue: the evidence is overwhelming" [Boston 2014: 6].

In the event, the extreme position adopted by Independent Schools Victoria was rejected by the Gonski panel which recommended that funding loadings for low SES students be introduced together with higher loadings for schools with greater concentrations of low SES students. A variation on the Gonski loadings was implemented in the new Federal funding model to operate from 2014.

## **Extensive research evidence for low SES concentration loadings**

Having failed to deny low SES students additional funding, Independent Schools Victoria has adjusted its strategy. It is now focussed on getting rid of the higher loadings for greater concentrations of low SES students. In its submission to the Senate Select Committee inquiry it proposed that the loadings be removed in favour of maintaining an unspecified flat amount

per student [Independent Schools Victoria 2014]. Apparently, Independent Schools Victoria has not changed the views it expressed this submission [Topsfield 2014].

The Senate inquiry submission claims that there is no evidence base for the higher loadings [8]. But, once again, Independent Schools Victoria has ignored a mountain of evidence that student results decline with greater concentration of disadvantage.

Many research studies show that concentration of low SES students in schools is a factor in student performance. A student attending a school where the average SES of the student body is low is likely to have lower outcomes than a student from a similar background attending a school where the average SES of the student body is high [Alegre & Ferrer 2010, Borman & Dowling 2010, Palardy 2008, 2013, Rangvid 2007, Rumberger & Palady 2005, van Ewijk & Slegers 2010]. There is a compounding effect for students from low SES and minority families in that they tend to be disadvantaged because of their circumstances at home, but when they are also segregated into low SES and/or predominantly minority schools their school outcomes are likely to be even worse [Willms 2006, 2010].

There is also some evidence, albeit weak, of a further effect whereby the effect of concentration in low SES schools is stronger for low SES than high SES students [Borman & Dowling 2010, Rumberger & Palardy 2005]. This may occur because high SES families with children in low SES schools are more able to draw on other resources to help their children.

There is strong evidence of such effects in Australian schools. Academic studies based on the 2003 and 2006 PISA results for Australia show that students who attend a higher SES school achieve higher educational outcomes compared to students from a similar social background who attend a lower SES school (McConney & Perry 2010, Perry & McConney 2010a, 2010b, 2013). They show that students from low SES families in low SES schools were nearly four years behind students from high SES families in high SES schools in reading, mathematics and science.

The 2009 PISA results indicate that the school compositional effect is much greater than the individual family effect [Thomson et.al. 2010, pp. 288-289, OECD 2010]. In Australia, an increase of one unit on the PISA SES index at the school level gave an advantage of 66 points for a student. In contrast, an increase of one unit on the student-level SES index led to an increase of 30 points. In the majority of countries participating in PISA, the effect of the average socio-economic background of the students in a school on performance variation far outweighs the effects of the individual student's own socio-economic background.

Other research based on NAPLAN data also shows that concentrations of disadvantage and advantage have a strong impact on school results. An analysis by the NSW Department of Education found that while an individual student's SES has an impact on their outcomes, this varies depending on the average SES of the other students in the school. The performance of low SES students is, on average, lower if they also attend a school with a large number of other low SES students, but they achieve higher test scores in higher SES schools [NSW Department of Education 2011]. It also found that the effect of school SES on student performance increases from Year 3 to 5 to 7 to 9. On the other hand, the performance of students with high SES scores will, on average, be higher if they attend a school with a large number of other high SES

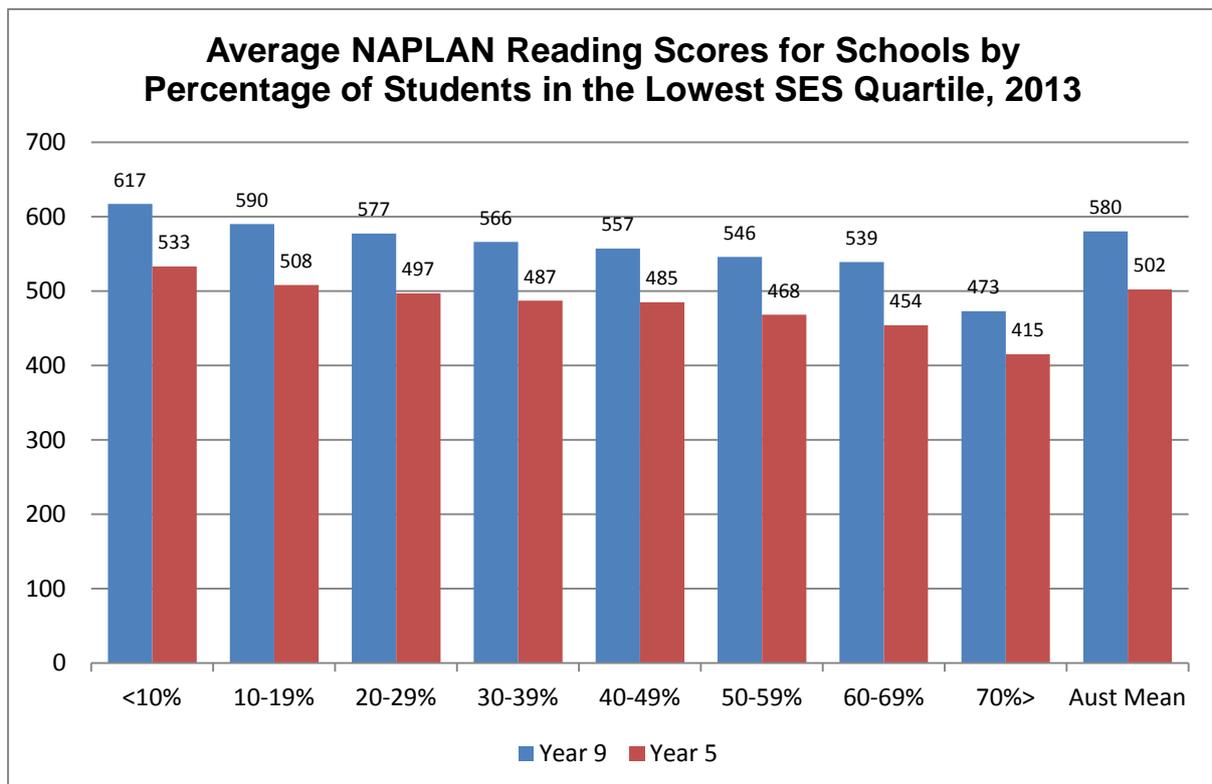
students. Irrespective of a student’s SES, their performance will, on average, improve if they attend higher SES schools.

Similar results were obtained from an analysis of Victorian data which showed that achievement is lowest for all groups in the most segregated low-SES settings [Teese 2011: 65].

Analysis conducted by a strategic policy working group of the national education ministers’ council found that the socio-economic status of a school affects the student performance irrespective of their own socio-economic status. These results held across Years 3, 5, 7 & 9. The study concluded:

...school concentrations of high socioeconomic status students appear to be a valuable resource in terms of individual student performance, while concentrations of low socioeconomic status students are a disadvantage. [cited in Review of School Funding 2011: 125]

Data derived from the My School website for 2013 confirms these analyses (see Chart). It shows a clear trend for schools with greater concentrations of students in the lowest SES quartile to have lower average NAPLAN results. For example, the average Year 9 reading score of schools with less than 10 per cent of students in the lowest SES quartile was 144 points higher than schools with more than 70 per cent in that quartile. This gap is equivalent to about seven years of learning (one year of learning at Year 9 is equivalent to approximately 20 points on the NAPLAN scale).



Source: My School

The achievement gap compared to the average score for schools with the smallest proportion of students in lowest SES quartile increases as the level of concentration increases. For example, Year 9 students in schools with 20-29 per cent of students in the lowest SES quartile are, on average, about two years behind students in schools with less than 10 per cent

in this quartile. Students in schools with 40 to 49 per cent of students in the lowest quartile are about three years behind and students in schools with 60 to 69 per cent in the lowest quartile are about four years behind.

A similar pattern is apparent for Year 5, although the gaps are smaller. The average Year 5 score of students in schools with more than 70 per cent of students in the lowest SES quartile was 118 points below that of schools with less than 10 per cent in this quartile. This is equivalent to about three years of learning (one year of learning at Year 5 is equivalent to approximately 40 points on the NAPLAN scale). Students in schools with 20 to 29 per cent of students in the lowest SES quartile are about one year behind.

The new data also confirm the previous analysis of NAPLAN results by the NSW Department of Education that the impact of school SES concentration on student performance increases from Year 5 to Year 9. The achievement gaps between schools with less than 10 per cent of students from the lowest SES quartile and schools with greater concentrations are much larger in Year 9 than in Year 5. For example, Year 9 students in schools with 40 to 49 per cent of students in the lowest quartile are about three years behind those with less than 10 per cent in the lowest quartile while in Year 5 the learning gap is a little over one year.

Clearly, Independent Schools Victoria has got it badly wrong on the evidence base for low SES concentration loadings for schools. The evidence for such loadings is overwhelming.

Moreover, the evidence indicates that the current concentration loadings should be increased. There is impressive research evidence that the current loading for each student from a low SES family is far too low and should be increased to about 1.0, that is, double the funding for a non-disadvantaged student [Cobbold 2014]. Given the research evidence that student achievement declines with greater concentration of low SES students, this evidence implies that loadings higher than 1.0 should be applied for schools with different proportions of low SES students. However, at this stage, there is little research evidence to guide what the actual loadings should be.

### **Additional funding makes a difference for low SES students**

There is substantial evidence that additional funding makes a difference in reducing education disadvantage. Many studies in the UK, the US and Europe have found that increased school funding for disadvantaged students leads to better school results [Ooghe 2011; Henry et.al. 2010; Jacob & Ludwig 2008; Papke 2008, Levacic et. al. 2005, Card & Payne 2002].

A recent review of research studies on the relationship between expenditure on schools and education outcomes published by the UK Office for Standards in Education shows that numerous international studies conducted since the early 2000s show a positive impact of increased expenditure in schools, especially for disadvantaged students [Gibbons & McNally 2013]. Its strong conclusion is that increases in resourcing are usually more effective in disadvantaged schools and/or on disadvantaged students: “it is more efficient (as well as equitable) to target resources at these students” [27].

Another review of some UK studies found evidence that increasing school resources improves results and that more targeted spending benefits students from disadvantaged backgrounds.

.....this research suggests that increasing school expenditure improves attainment and that it is more beneficial for disadvantaged groups (at least on average). It suggests that targeting resources on disadvantaged groups might be beneficial for helping to reduce inequality in educational outcomes. [Machin, McNally & Wyness 2013: 157]

A recent US study found that increases in per student spending, induced by court-mandated school finance reforms, led to significant increases in the likelihood of graduating from high school and educational attainment for low income students [Jackson et.al. 2014]. The spending increases thereby narrowed adult socio-economic attainment differences between those raised in low income and affluent families. The study found that a 20 per cent increase in per-student spending each year for all 12 years of school is associated with nearly one more year of schooling, 25 per cent higher earnings, and a 20 percentage-point reduction in the annual incidence of poverty in adulthood. The magnitude of these effects is large enough to eliminate the high-school completion gap and years of educational attainment gap between children from low and high income families.

Findings from the OECD's PISA studies show that the most successful education systems target resources to disadvantaged students.

Allocating resources to where they can make the greatest difference is key. PISA finds that the degree of equity with which resources are allocated to socio-economically disadvantaged and advantaged schools is closely related to the performance of education systems. [Schleicher 2014: 22]

Even studies that found a weak impact of funding increases on general student outcomes have found much larger effects on the outcomes of disadvantaged students. Some show that the effect for disadvantaged students is two to four times that for other students [for example, Heinesen & Graverson 2005].

### **Little incentive for schools to recruit more low SES students**

Independent Schools Victoria also claims that higher funding loadings for schools with greater concentrations of low SES students create incentives for schools to 'game' the system. It says that the funding current model "actively encourages this concentration of disadvantage, because a disadvantaged student is more attractive to a school with a higher existing concentration of disadvantage" [Independent Schools Victoria 2014: 9]. As a result, it says, schools will become more socially segregated.

This claim is without foundation.

First, there is no evidence from other countries that apply low SES concentration loadings for have experienced a significant switch of enrolments of low SES students from higher SES to lower SES schools. For example, New Zealand introduced a funding system designed to target schools with higher proportions of low SES students in the 1990s. It has not led to a flow of low SES students to low SES schools. In fact, quite the opposite has occurred as schools try to attract higher achieving students because of the incentives created by the publication of school results (see below).

A new funding formula was introduced in California last year which include a funding loading for low income students and a further "concentration" grant for school districts with greater proportions of low income families. In the extensive research conducted in the lead-up to this new scheme, there was no hint of concerns that the scheme will lead to even greater

social segregation [for example, see Rose et.al. 2012, Rose & Weston 2013, Snell 2013]. A similar weighted school funding formula was also introduced in Colorado last year without any concerns that it will lead to greater segregation [Colorado Legislative Council 2012]. Academic reviews of the advantages and disadvantages of such funding models also do not raise this as an issue [Ladd 2008].

Second, there is little incentive for schools to chase low SES enrolments and thereby compound the concentration of low SES students in some schools. The claim ignores other incentives and pressures facing schools arising from the publication of school results on the My School website and league tables of school results in newspapers. Rather than chase more low SES students, the current arrangements provide strong incentives for schools to chase high achieving students, who tend to come from higher SES backgrounds, because they are lower cost (in more ways than financial), and boost school rankings and reputations. For example, many private schools now ask for NAPLAN results before accepting enrolment applications.

This is what has happened in New Zealand. Social segregation has increased but it has been driven by school rankings not the concentration loadings. A recent study found that many affluent schools are manipulating their enrolment zones to limit access by children from disadvantaged backgrounds [Lubienski 2013, see also Shuttleworth 2013]. It found that schools are doing this in order to protect or enhance their market positions. In fact, the measure of low SES concentration in schools is being used by higher SES schools as a marketing tool to attract parents because parents think that it is a measure of school quality [Thrupp 2012, PPTA 2013]. That is, schools with few low SES students are considered to be higher quality schools. Thus, despite the concentration loadings for low SES students in New Zealand schools continue to give preference to enrolling higher SES students and actively seek to recruit them.

The concern expressed by Independent Schools Victoria that low SES concentration loadings will lead to greater social segregation between schools is thus entirely misplaced. It is astonishing that the organisation that represents the wealthiest schools in the state is suddenly deeply concerned about segregation between schools when many of its affiliates self-segregate by setting school fees of up to \$30,000 a year. The hypocrisy is all the more glaring given that its chairman is also the chair of one of the most expensive and exclusive schools in the country – Geelong Grammar – with Year 12 school fees for 2014 of over \$34,000 and assets of over \$200 million.

## **Conclusion**

Independent Schools Victoria has continuously opposed funding loadings for low SES students despite a large corpus of research that demonstrates that low SES is a significant factor in poor educational achievement. Its proposal that the higher loadings for greater concentrations of low SES students should be removed because there is no evidence base for the loadings is similarly without foundation. There is overwhelming research evidence to support low SES concentration loadings. This evidence shows that school results decline with greater concentrations of low SES students.

The claim that the low SES concentration loadings could lead to greater social segregation between schools is not supported by the experience of other schools systems that have applied concentration loadings. It is highly unlikely that the loadings will encourage schools to recruit more low SES students to maximise their funding because the publication of school

results and league tables provide a greater incentive for schools to reduce enrolments of low SES students and recruit higher SES students. The New Zealand experience supports this conclusion.

There is also a strong element of hypocrisy to this claim. Independent Schools Victoria represents the wealthiest schools in the state. These schools have largely self-segregated by setting high fees and selecting their students.

The reasons advanced by Independent Schools Victoria to remove the concentration loadings are disingenuous. They appear more designed to further undermine the Gonski funding model because the loadings will provide a substantial benefit to government schools as they enrol the vast majority of these students. Independent schools will gain little from these loadings because of their higher SES student composition.

If the proposal to remove the concentration loadings for low SES students were to be adopted it would further undermine the Gonski funding model, reduce opportunities for low SES students and serve to maintain the large achievement gaps between rich and poor.

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