

The Importance of Class Size

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Summarises his study of class size research published in the latest
Professional Voice.

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Class size research has a protracted and controversial history, especially in the USA, England, and Australia. Is there evidence that pupils taught in smaller classes do better in academic and other non-cognitive outcomes than pupils in larger classes?

Many policymakers and political commentators suggest that funding isn't the problem in Australian education. They claim that much of Australia's increased expenditure on education in the last 20 to 30 years has been 'wasted' on efforts to reduce class sizes, arguing that this extra funding does not lead to better academic results.

Most of this policy advice and commentary relies heavily on Jensen's report (2010) on Australian education and teacher quality. Jensen suggests that the majority of studies around the world have shown that class size reductions do not significantly improve student outcomes, and that the funds should have been redirected toward enhancing teacher quality. Although the results of individual studies are always questionable, a range of newer peer reviewed studies on the effects of small classes have now emerged, and they throw into doubt this advice.

In Australia commentators and politicians alike point to high performing systems such as Shanghai, Hong Kong, South Korea, Taiwan and Singapore, where large class sizes are the norm, as evidence that reducing class sizes is a futile exercise. But research indicates that students from Confucian heritage cultures are socialised in ways that make them amenable to work in large classes, so that management problems are minimal and teachers can focus on meaningful learning using whole-class methods. An educational system forms a working whole, each component interacting with all other components. Isolating any one component (such as class size) and transplanting it into a different system shows a deep misunderstanding of how educational systems work.

Reducing class size to increase student achievement is an approach that has been tried, debated, and analysed for many decades. The premise seems logical: with fewer students to teach, teachers should achieve better academic outcomes for all students. For those who choose private education for their children in Australia, it is often cited as a major consideration. However, for policymakers there are three major questions to answer with the adoption of any change or new program: how effective will the change be; how much will it cost; and what are the problems of implementation, including the support or opposition of the stakeholders – in this case principals, teachers and parents – and those who implement it

An accurate determination of actual class sizes in Australia is problematic. Moreover, different States and territories collect data on class sizes at different times of the year; students and teachers come and go; and teaching groups change. Student-teacher ratios (STRs) are calculated by dividing the full-time equivalent students on a school's roll by the full-time equivalent number of qualified teachers. STRs are different from class sizes because they also count teachers who are not at the 'chalk-face', such as library, welfare, careers teachers and principals. All the enrolled students are divided by all the teachers in the school, yet it should not be assumed that teachers entered into the ratio are teaching for all of the time. Past research has too often conflated STR with class size.

In 2010 Australia's average public primary class size (not STR) was 23.2 – above the OECD average of 21.3 and EU average of 20. This compares to 15 in Korea; 17 in Germany and the Russian Federation; 19 in Finland; 20 in the UK, Poland and Luxembourg; and 26 in India (OECD 2013). Class sizes are also smaller in both the Independent and Catholic sectors in Australia.

Policy makers, politicians and media too often discuss data about class sizes and their impact on student learning without an evidence base, relying largely on second-hand research or anecdotes. Too frequently, advocates for particular positions select their evidence, conveniently ignoring research that raises questions about their favoured position.

Advocates for and against class-size reduction have engaged in or been accused of engaging in such cherry picking for as long as there has been research on this issue (Whitehurst and Chingos 2011, 3).

I found only two authors during my research study who supported the notion that smaller class sizes do not produce better outcomes to justify the expenditure on them. Hanushek and Hoxby seem to stand alone in their findings that class size reduction has little or no impact on student academic outcomes – yet they are disproportionately referred to for evidence here in Australia. In a 2011 court case in the USA about school funding the Judge commented on Hanushek's evidence submitted to that trial:

Dr. Hanushek's analysis that there is not much relationship in Colorado between spending and achievement contradicts testimony and documentary evidence from dozens of well-respected educators in the State, defies logics, and is statistically flawed. ... The data underlying Dr. Hanushek's opinions [are] questionable or problematic and I found him to lack credibility.

Education researchers have refuted the work of Hanushek and Hoxby. They point out that Hanushek (and Jensen) do not examine class size directly, but rather through a proxy measure intended to represent it (student-teacher ratio). While teacher quality (and the quality of teacher preparation) is at the heart of the effectiveness of almost any reform, conflating STR with class size reduction fails to focus on the mechanisms thought to be at work in smaller classes.

Hanushek has not responded well to such criticisms; rather, he has found reasons to quarrel with their details and to continue publishing reviews, based on methods that others find questionable, claiming that the level of school funding and the things those funds can buy, such as smaller classes, have few discernible effects. Political conservatives have extolled his conclusions, complimented his efforts, and asked him to testify in various forums where class-size issues are debated. And in return, Hanushek has embedded his conclusion about the lack of class-size effects in a broader endorsement of a conservative educational agenda.

The highly selective nature of the evidence supporting current policy advice to both state and federal ministers of education in Australia is based on flawed research. The class size debate should now be more about weighing up the cost-benefit of class size reductions (CSR), and how best to achieve the desired outcomes of improved academic achievement for all children, regardless of their background. Further analysis of the cost-benefit of targeted CSR is therefore essential.

Many credible and peer reviewed research projects have concluded that:

- The extra gains found for long-term attendance in small classes (in the early grades) continued to appear when students were returned to standard classes in the upper grades;
- Extra gains associated with long-term attendance in small classes (in the early grades) appeared not only for tests of measured achievement, but also for other measures of success in education;
- The greater gains experienced by students from groups that are traditionally disadvantaged in education were retained when those students were returned to standard classes;
- When it is planned thoughtfully and funded adequately, long-term exposure to small classes in the early grades generates substantial advantages for students, and those extra gains are greater the longer students are exposed to those classes;
- Extra gains from small classes in the early grades are larger when class size is reduced to fewer than 20 students;
- Evidence for the possible advantages of small classes in the upper grades and high school is so far inconclusive.

Reducing class sizes or adding extra teachers requires a new approach to teaching – without adequate professional development, the innovative 21st century teaching spaces provided as part of the Building the Education Revolution can do more harm than good. As Hattie explains, the problem is that teachers in smaller classes are adopting the same teaching methods as in their previously larger classes. Many of the more powerful influences Hattie identifies clearly show that teachers would be even more effective with smaller classes.

Class size reduction and equity

It is evident that for certain groups of children (indigenous, low SES and culturally, linguistically and economically disenfranchised (CLEd) students in the early years, and children with learning and behavioural difficulties), smaller class sizes and increased STRs are very beneficial. This holds for student learning outcomes, behavioural modification, and teacher satisfaction. As Lamb, Teese and Polesel have shown, with the increasing residualisation of public schools caused by the flight of cultural capital – itself a result of years of federal and state neglect and artificial choice programs promoting private schools – public schools have a larger proportion of problematic learners, disadvantaged and refugee families, and students at risk of school failure, but have larger class sizes than ever before in comparison with most private schools.

CSR is about equity – any policy debate must start with the basic inequality of schooling, and aim to ameliorate the damage that poverty, violence, inadequate child care and other factors do to our children's learning outcomes. It must look at the strategies, pedagogies and practices that could mediate those differences, and 'the investments that we are willing to make as a society to put success in reach of all children' (Graue et al. 2005, 31).

If CSR is introduced in the current policy context of high-stakes testing, together with the inadequate funding highlighted by the Gonski Review, we can expect minimal achievement outcomes. Additional resources to support class size reduction acknowledge the deep-seated inequities at the core of Australian schooling, but would not be enough.

CSR is part of a system of reforms and problems that need to be considered in a coordinated manner, in relation to both the practice and research of schooling. It necessitates implementation that 'connects the utilisation of the resources for class size reduction with all curricular, administrative, and institutional efforts that shape teaching and learning' (Graue et al. 2005, 32).

Recommendations for policy change

The strongest hypothesis about why small classes work concerns students' classroom behaviour. Evidence is mounting that students in small classes are more engaged in learning activities, and exhibit less disruptive behaviour.

The following policy recommendations and principles are therefore suggested:

- Class size is an important determinant of student outcomes, and one that can be directly determined by policy. Any attempts to increase class sizes will harm student outcomes. (Schanzenbach 2014)
- The evidence suggests that increasing class size will harm not only children's academic results in the short run, but also their long-term success at school and beyond. Money saved by not decreasing class sizes may result in substantial social and educational costs in the future. (Schanzenbach 2014)
- The impact of class-size reduction is greater for low-income and minority children;
- While lower class size has a demonstrable cost, it may prove the more cost-effective policy overall in closing the widening gap between the lowest and highest achievers, even in tight budgetary conditions;
- Professional development for all staff involved will increase their knowledge of, and preparedness to use, techniques that are particularly suited to small class environments;
- Targeting of specific classes and specific year levels for CSR;
- Further research into the exact cost of targeted CSR for CLED communities and other disadvantaged learners;
- Further research into the specific teacher pedagogies that are more appropriate for smaller classes.

Schools should look at ways to produce the class size effect by lowering class size specifically for certain periods of instruction in numeracy and literacy classes. If class size could be reduced just for these lessons, using a combination of redeployment of existing staff with the addition of special literacy and numeracy teachers, it would be theoretically possible to have small classes (average of 15 pupils) with a much lower additional cost. While this approach is used by some principals to deliver smaller class sizes in literacy and numeracy, it is not yet a general practice for disadvantaged groups and learners with higher needs. Targeted class size reductions combined with other proven methods of improving achievement would be a more cost-effective means of increasing student achievement.

Writing about the USA, Haimson concludes:

"many of the individuals who are driving education policy in this country ... sent their own children to abundantly financed private schools where class sizes were 16 or less, and yet continue to insist that resources, equitable funding, and class size don't matter — when all the evidence points to the contrary" (Haimson, 2009).

The same might be said of Australia.

This is a summary of a major review published in April 2014 and available free online in the ANZSOG Journal *Evidence Base*:

<http://journal.anzsog.edu.au/publications/9/EvidenceBase2014Issue1.pdf> All references are to be found there.

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