What the Research Says About Class Size

Whether smaller classes lead to better student outcomes is among the most disputed questions in education research and policy. For parents, there is an intuitive belief that smaller class sizes must be better – how can a teacher truly know and support each individual student, and effectively manage classroom behavior and grading, in a large class? The research evidence, though, is less straightforward. One reason for this is the variation in findings between different studies. Another is the economic tradeoffs involved in reducing class size: with education funding a perennial challenge, determining whether implementing smaller classes is a better choice than alternatives such as increasing teacher pay is far from straightforward. Reducing class sizes can also mean hiring less-experienced teachers, leading to tradeoffs between quality and size.

The strongest research evidence on this subject does show that reducing class sizes in the early grades improves student achievement, and that the benefits are most pronounced for poor students. The most widely-cited study to support this conclusion is the Tennessee Project STAR (Student-Teacher Achievement Ratio) study, which was a randomized controlled trial of over 6,000 students spanning four years in the 1980s. Students in grades K through three were randomly assigned to classes of different sizes, with an average class size of 15 for the treatment group. The authors found that substantially reducing class size led to significant improvements in student achievement, and that the effects were strongest for children in poverty.

Other research into the relationship between class size and achievement generally confirms the Project STAR findings. The Wisconsin Student Achievement Guarantee in Education (SAGE) initiative, which included a quasi-experimental study of an early elementary class size reduction to an average of 15 students along with several other interventions, found that students in the smaller classes had higher test scores. These differences were even greater for black students than for white students.

A meta-review of 19 studies on class size conducted by the Center for Public Education concluded that small class sizes of no more than 18 students in grades K-2 can raise student achievement, and that these gains are more pronounced for poor and minority students. They note that the studies in the meta-analysis that did not show positive impacts of reduced classes either included classes that still contained 20 students or more or encountered confounding factors. An analysis of the academic literature on class size conducted by the National Education Policy Center provides further support for the benefits of small classes. In this policy brief, the author summarizes the challenges of obtaining clear research evidence on the topic. Despite these challenges, she concludes that, “All else being equal,

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increasing class sizes will harm student outcomes” – and that this harm will be greatest for low-income and minority students and will last into adulthood.

There is also evidence that smaller classes are associated with increased student engagement and student-teacher interaction\(^2\). A team of researchers conducted a longitudinal study of classroom interaction in large and small classes in England at both the elementary and secondary levels. They found that classroom engagement was lower in larger classrooms, and that this was particularly pronounced for low-achieving secondary-school students.

Several respected researchers dispute the value of reducing class sizes, however. Eric Hanushek has critiqued the STAR findings and other evidence in favor of reducing class sizes, largely on the argument that other factors such as teacher quality do not generally remain constant when implementing this policy. Richard Slavin has argued that the academic gains from smaller classes are not large enough to justify the costs. Supporting these views, evidence from a large-scale policy change in California in the 1990s mandating smaller classes in grades K-3 shows that it did not lead to improved achievement for most students and led to a decline in teacher quality, especially in more disadvantaged communities. The key question, then, is how to balance the benefits of smaller classes with the challenges and costs of implementing it effectively.

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