CampbellCollaboration

Plain language summary
Education Coordinating Group

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Small class size has at best a small effect on academic achievement

Evidence suggests that reducing class size has a very small effect on students' reading achievement

What is the aim of this review?
This Campbell systematic review examines the impact of class size on academic achievement. The review summarises findings from 148 reports from 41 countries. Ten studies were included in the meta-analysis.

Reducing class size is seen as a way of improving student performance. But larger class sizes help control education budgets. The evidence suggests at best a small effect on reading achievement. There is a negative, but statistically insignificant, effect on mathematics, so it cannot be ruled out that some children may be adversely affected.

What is this review about?

Increasing class size is one of the key variables that policy makers can use to control spending on education.

But the consensus among many in education research is that smaller classes are effective in improving student achievement which has led to a policy of class size reductions in a number of US states, the UK, and the Netherlands. This policy is disputed by those who argue that the effects of class size reduction are only modest and that there are other more cost-effective strategies for improving educational standards.

Despite the important policy and practice implications of the topic, the research literature on the educational effects of class-size differences has not been clear.

This review systematically reports findings from relevant studies that measure the effects of class size on academic achievement.

What studies are included?

Included studies concerned children in grades kindergarten to 12 (or the equivalent in European countries) in general education. The primary focus was on measures of academic achievement. All study designs that used a well-defined control group were eligible for inclusion.

A total of 127 studies, consisting of 148 papers, met the inclusion criteria. These 127 studies analysed 55 different populations from 41

How up-to-date is this review?
The review authors searched for studies published up to February 2017. This Campbell Systematic Review was published in October 2018.

What is the Campbell Collaboration?
The Campbell Collaboration is an international, voluntary, non-profit research network that publishes systematic reviews. We summarise and evaluate the quality of evidence about programmes in the social and behavioural sciences. Our aim is to help people make better choices and better policy decisions.

About this summary
This summary was prepared by Howard White (Campbell Collaboration) based on the Campbell Systematic Review 2018:10 "Small class sizes for improving student achievement in primary and secondary schools" by Trine Filges, Christoffer Scavenius Sonne-Schmidt, and Bjørn Christian Viinholt Nielsen (DOI 10.4073/csr.2018:10). The summary was designed, edited and produced by Tanya Kristiansen (Campbell Collaboration). Financial support from the American Institutes for Research for the production of this summary is gratefully acknowledged.

different countries. A large number of studies (45) analysed data from the Student Teacher Achievement Ratio (STAR) experiment which was for class size reduction in grade K-3 in the US in the eighties. However only ten studies, including four of the STAR programme, could be included in the meta-analysis.

What are the main results in this review?
For the non-STAR studies the primary study effect sizes for reading were close to zero but the weighted average was positive and statistically significant. There was some inconsistency in the direction of the primary study effect sizes for mathematics and the weighted average effect was negative and statistically non-significant.

The STAR results are more positive, but do not change the overall finding. All reported results from the studies analysing STAR data indicated a positive effect of smaller class sizes for both reading and maths, but the average effects are small.

What do the findings in this review mean?
There is some evidence to suggest that there is an effect of reducing class size on reading achievement, although the effect is very small. There is no significant effect on mathematics achievement, though the average is negative meaning a possible adverse impact on some students cannot be ruled out.

The overall reading effect corresponds to a 53 per cent chance that a randomly selected score of a student from the treated population of small classes is greater than the score of a randomly selected student from the comparison population of larger classes. This is a very small effect.

Class size reduction is costly. The available evidence points to no or only very small effect sizes of small classes in comparison to larger classes. Moreover, we cannot rule out the possibility that small classes may be counterproductive for some students. It is therefore crucial to know more about the relationship between class size and achievement in order to determine where money is best allocated.