Example of should schools decrease class sizes to improve student outcomes resear...

Psychology, Success

Should Schools Decrease Class Sizes to Improve Student Outcomes?

Introduction

The idea that by reducing class sizes the students will automatically perform better and thus achieve higher grades may seem logical; i. e. that if the student-teacher ratio is lower, then the teacher can spend more time with each individual in the class. Also, that there is less likely to be disruption with a smaller number of students in the same room. It is a topic that has long been discussed, argued, and to some extent has also been tried, and has been the subject of various research studies over a considerable number of years.

Much of the research has been conducted in the United States, although this paper also includes examples from Canada and from the United Kingdom. The paper examines several of those research results to prove that smaller class sizes are worthwhile, and that they really do benefit the students in those smaller classes, who as a consequence show increased student performance, even though some may benefit more than others.

The Research

Research studies undertaken. There has been over the years (and perhaps more so in recent times) a considerable number of studies into this topic. Just one organization – The Center for Public Education (an initiative of the National School Boards Association) – published an article reviewing previous research, entitled: Class size and student achievement: Research review (n. d.), which mentioned 19 studies that were found to be of a sufficient

standard to include in their own review.

The article also mentioned that most studies involved K-3 grades students (primary school), and that other researchers had found the smaller class sizes offered the greatest benefits to students in that age group.

An article entitled “ Class Size is important” published by Alberta Education (Canada) (n. d.) suggested that reducing the size of classes makes a major contribution towards providing a sound environment for students to learn. It also reported that in Alberta, the focus on reducing class sizes is with the K-3 grades students.

Definition of a smaller class size. The definition of a small class size varies according to the specific study undertaken. The Class size and student achievement: Research review included reference to three State research programs. These were in the states of California, Wisconsin and Tennessee. The actual student-teacher ratio varied between the programs studied, with some studies considering 13 students a small class, while others considered 20 students to be a small class. That made comparisons tricky. For example, California’s program considered 20 as a small class, Wisconsin set 15 as a small class and Tennessee’s Project STAR defined a small class as having between 13 and 17 students. Just to add further complexity, in Tennessee classes of up to 17 students were taught by one teacher, whereas classes of between 22 and 26 had a teacher plus a teaching assistant. Then, in the Wisconsin program, they used four different classroom layouts, in which the two larger types had 30 students but with two teachers. In the Tennessee project, the schools involved were obliged to commit to the four-year program and to agree to randomly-assigned class sizes ranging from small

(between 13 and 17 students) to large (22 to 26 students). To ensure compliance, the class sizes were monitored during visits to the participating schools. The Wisconsin program featured maximum class sizes of 15 students and targeted schools in the very poorest areas. California's large-scale program phased in over a four-year period, set the maximum number of K-3 students per class at 20.

In the Wilson (2002) paper, the author referred (p. 8) to classes of below 20 pupils being most beneficial; thus by inference defining 20 as a small class. The Ladegaard article (2012) referred to 14-17 pupils as being a small class. In Finn's paper (n. d.), he defined fewer than 20 students per class as appropriate (p. 2. 2).

So between these various studies, articles and papers, a small class seems to be set at somewhere between 13 and 20 students.

Program implementation. K-3 class size reduction programs were implemented in various ways. The Class size and student achievement: Research review notes that for some the criterion was student-teacher ratio, others used restructuring of classes as the method, whilst a third method used focused on professional development and policies associated with that. The Wisconsin program described in that review, started in 1996-7 and progressively introduced over five years, included additional features. Those were a strictly controlled curriculum, an associated program of teacher development and the means of ensuring accountability. The same article claims that studies have shown that they were useful enhancements and that most programs would have benefitted from them, to maximize the gains

seen from smaller class sizes.

Finn (p. 2. 4) reported that after being in a reduced size class program for four years, sixth grade pupils exhibited a full six-month advantage in reading over students who had not been in smaller classes. Finn also reported that those being taught in small classes in grades K-3 had a higher likelihood of graduating from high school and of sitting tests for admission to college. He noted that this effect was particularly evident in the case of black students, reducing the disparity between black and white students by as much as 60 percent.

Somewhat against the findings of the general body of research, the paper by Cho, Glewwe and Whitler (2010) based on research in Minnesota public schools, found that the improvements in student achievements were quite small. The paper quotes standard deviation improvements in reading and math of only 0. 04 to 0. 05 for reductions of ten students in the class size. The paper suggests therefore that factors other than class size must be involved.

Wilson’s paper (p. v) noted that the American studies have shown that class sizes below 20 pupils per teacher seem to increase student performance, but that some British studies have produced results that conflicts with those findings. Wilson suggested that the difference in results may be the consequences of different teaching methods and the grouping within classes.

In contrast to the “ Class Size is important” (n. d.) article that describes the success of smaller class sizes in Alberta (Canada), another Canadian article by Bennett (March 2012) suggests that there is little to be gained in terms of

student achievement by having smaller class sizes in Canadian schools. His article claims that direct links between smaller class sizes and improved student achievements have not been proven and that the associated costs cannot be justified. However, Bennett’s article also quotes a report which claims that the great majority of international research shows that on balance there is no direct relationship between smaller class sizes and gain in student achievement.

That is not the picture as seen by this researcher; the opposite is nearer the mark, especially from the extensive amount of research studies undertaken within the U. S. For example, Finn’s paper noted that the very positive results of the Tennessee STAR project were validated by analysts at three universities, each using different statistical methods, but all arriving at the same conclusions.

Do all students benefit from smaller classes? In the age range that was the subject of most of the studies researched (K-3 grades), many found that some students showed much better improvements than others. Typically, ethnic minority / poorer students showed the greatest gains in small classes. In a study described in Ladegaard’s article (2012) it was found that the children from broken homes or who had poorly-educated parents showed definite and significant improvement, whereas there was on average no positive gain by other students in the same classes. His article goes on to suggest that for schools where there is a high proportion of so-called disadvantaged students, the smaller class size concept might very well be a good idea, especially in those initial school years.

The Class size and student achievement: Research review mentioned some

studies reviewed where there had been no evidence of improved student performance even though they were in smaller-sized classes. However, the review noted that in many such cases the classes contained 20 or more students, and/or the programs were of short duration or not consistently implemented. There were also instances where the research methods were considered unsound, thus making the results invalid. Another factor mentioned in that review was that in California, the speed of introduction of the program (reducing average class size from 29 students to 20 or fewer), meant that in order to find 46 percent more teachers in a hurry. Many teachers recruited lacked full qualifications, especially in schools having high numbers of disadvantaged students. It was estimated that as many as 20 percent of K-3 teachers recruited for such schools were not fully qualified. To summarize, many class size reduction programs did not succeed because they were badly implemented or were mismanaged in one way or another.

Are smaller class sizes worth the additional costs? Many studies cited increased achievements by students taught in smaller school classes, but dissenting voices claimed that the small gains achieved on average did not justify the costs, including additional salaries for teachers. For example, to teach 300 students in classes of 25 requires 12 teachers; if the classes are then reduced to 15 students each, 20 teachers are needed.

In the “ Class Size is important” article mentioned earlier, the writer noted that since initiating class size reductions in the school year 2004-2005, the government of Alberta had invested over $1. 4 billion into the program. Similarly, Finn’s paper reported (pp. 2-10 to 2-11) that the large-scale Californian class size reduction program required 28, 000 new teachers to

teach those classes of 20 students or fewer.

Also the Cho et al paper (2010) commented (pp. 2-3) that the Californian program cost $11 billion and the Wisconsin program $463 million over 9-10 years. The same paper suggested that gains in student achievement from reducing class sizes need to be cost-effective; i. e. more return per dollar spent, than other actions or policies that could be implemented instead.

Finn's paper noted (p. 2. 5) that the Project STAR class size reduction program showed that such programs also bring benefits other than better student academic performance. He cited improved teacher morale, more hours actually teaching, and less classroom disruption. He claimed there is also evidence of fewer students (especially black students) being retained in-grade, which helps reduce the disparity in achievement between whites and blacks.

Conclusions

Research studies were in agreement that disadvantaged children (ethnic minorities, from poor families or broken homes, etc) gained much more than their white peers from stable family backgrounds. Finn reported (pp. 2. 3-2. 4) that the gains for African-American students were as much as double or triple those experienced by their white classmates.

It is natural that the costs and cost-effectiveness of these programs should be called into question, especially in the presently prevailing climate of austerity. However, it must be concluded that on balance the many research programs and studies have demonstrated that the reductions in class size programs have been / are worthwhile and should be continued, especially for

K-3 grade students and particularly for those disadvantaged children among them, who are probably in the most need of whatever help they can get, as a consequence putting them more on an equal footing with their peers.

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