The Case for Small Classes

Class Size: The Case for Small Classes

"RESEARCH SHOWS THAT SMALLER CLASSES promote student achievement in the early grades," according to a report released by the US Department of Education. The report -- "Reducing Class Size: What Do We Know?" --concludes that...

Significant effects of class size reduction on student achievement appear when class size is reduced to a point between 15 & 20 students.
If class size is reduced from substantially more than 20 students per class to below 20 students, the related increase in student achievement moves the average student from the 50th percentile up to above the 60th percentile. For disadvantaged & minority students the effects are larger.
Students, teachers, & parents report positive effects from the impact of class size reductions on the quality of classroom activity.
The findings in this report, President Clinton said today to the Delaware State Legislature, provides further support for reducing class size in grades 1-3 to a nationwide average of 18. The President has proposed a $12 billion initiative over 7 years to help local schools provide small classes with well-prepared teachers in the early grades. The report looks at...

Why smaller classes make a difference
The importance of professional development to help teachers optimize the benefits of smaller classes
Excerpts from the report are below. The full document & related information can be found at the new Class Size Reduction & Teacher Quality Initiative homepage:
http://www.ed.gov/inits/ClassSize

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"Reducing Class Size: What Do We Know?" U.S. Department of Education (May 1998)

A National Scale Analysis of Data Related to Class Size

In 1997, Harold Wenglinsky published research findings concerning the relationship between class size & student achievement based on his analysis of data drawn from three national level databases. The study was designed to investigate the relationship between spending in education & student performance, and combined data from 3 different databases generated

by the National Center for Education Statistics. Based on an analysis of data on 4th-graders in 203 districts & 8th-graders in 182 school districts from across the United States, Wenglinsky found that class size served as an important link between school education spending & student mathematics achievement at both the 4th- & the 8th-grade levels, although in different ways:

At the 4th-grade level, lower student/teacher ratios are positively related to higher mathematics achievement.
At the 8th-grade level, lower student/teacher ratios improve the school environment, which in turn leads to higher achievement.
For purposes of the analysis, Wenglinsky divided the school districts included in the study according to whether they served above-average or below-average socioeconomic status students, & whether they had above-average or below-average teacher costs.
With respect to these 4 subgroups of districts, the largest effects for mathematics achievement gains occurred in districts where there were below-average socioeconomic status students, accompanied by above-average teacher costs.

Recent Experimental Studies of Class Size

Data from several more recent initiatives have added considerably to the research evidence concerning class size reduction in the United States in the early primary grades. Efforts in Indiana, Tennessee, North Carolina, & Wisconsin have reported important data, with the Tennessee projects currently providing the most complete & well-designed study of class size reduction effects.

Indiana

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Beginning in 1984, Indiana's Prime Time project allocated money to support the reduction of class size to 18 in 1st-, 2nd-, & then kindergarten & 3rd-grade classrooms. Implementation of Prime Time was not rigorously controlled, & the results were mixed. An evaluation of the Prime Time project analyzed achievement scores for 1st- & 2nd-grade students, comparing mean class scores in reading & mathematics from 10 school districts for tests that were administered the year immediately preceding the project with tests administered in the first year of the project. In these districts, the average 1st- grade class size was reduced from 22 to 19 students & in 2nd-grade from 21 to 20 students. Tests of student achievement found that for students in the smaller classes, the reading scores for 1st-graders showed the greatest improvement, with smaller gains in mathematics.
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Tennessee

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Tennessee's Project STAR (Student-Teacher Achievement Ratio) & two associated data collections have made important contributions to the quality of research evidence concerning the reduction of class size. STAR was a 4-year longitudinal study of kindergarten, 1st-, 2nd-, & 3rd-grade classrooms in Tennessee, which began in 1985. STAR compared classes of 13-17 students with classes of 22-26 students both with & without an additional instructional aide in the larger classes. Participating teachers did not receive any professional training focusing on teaching in reduced size classes. STAR was unusual because it possessed essential features of a controlled research experiment designed to produce reliable evidence about the effects of reducing class size:

Study size. Project STAR included 79 schools, more than 300 classrooms & 7,000 students, with students being followed through 4 years of experience in the given class size.
Random assignment. Teachers & students were randomly assigned to the three different kinds of classes in order to ensure that the study was not biased by who was in which type of class.
In-school design. All participating schools implemented at least one of each of the three types of classes in order to cancel out the possible influences coming from variations in the quality of the participating schools that might affect the quality of the classroom activity.
The evidence from student testing in STAR showed that the students in the smaller classes outperformed the students in the larger classes, whether or not the larger class teachers had an aide helping them. Project STAR found that:

Smaller class students substantially outperformed larger class students on both standardized (Stanford Achievement Tests) & curriculum-based tests (Basic Skills First). This was true for white & minority students in smaller classes & for smaller class students from inner-city, urban, suburban, & rural schools.
The positive achievement effect of smaller classes on minority students was double that for majority students initially & then was about the same.
Smaller proportions of students in the smaller classes were retained in-grade, & there was more early identification of students' special educational needs. There were no significant differences in academic achievement for students in the larger classes with or without an additional instructional aide.
Subsequent efforts provided important additional evidence on the positive effects of class size reduction. In 1989, the Lasting Benefits Study began a follow-up study to examine whether the effects of the smaller class size experience persisted when students were returned to normal size classes. The study is still ongoing. To date, the research findings include:

In 4th grade, students from the smaller classes still outperformed the students from the larger classes in all academic subjects.
In 4th grade, students from the smaller classes were better behaved than students from the larger classes (i.e., student classroom effort, initiative, & disruptiveness).At least through 8th
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grade, a decreasing but still significant higher academic achievement level for the students from the smaller classes persists.
In Project Challenge, Tennessee sought to put the Project STAR findings to use by implementing smaller class sizes in 16 of the state's poorest school districts. Beginning in 1990, the state phased in smaller classes at the kindergarten through 3rd-grade levels in districts with the lowest per capita income & highest proportion of students in the subsidized school lunch program. The results of this effort were evaluated by examining the effect on the ranking of the school districts according to student performance on a statewide achievement test. The Project Challenge districts moved from near the bottom of school district performance in Tennessee to near the middle in both reading & mathematics for 2nd grade.

In addition, in-grade retention of students was reduced in the Project Challenge districts when smaller classes were implemented.

Taken together, the Tennessee studies have been viewed as landmark research. Finn concluded that "this research leaves no doubt that small classes have an advantage over larger classes in school performance in the early primary grades." Mosteller, Light, & Sachs called it "one of the great experiments in education in U.S. History."

Burke County, North Carolina

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A recent initiative to reduce class size in Burke County, North Carolina, has also produced noteworthy data. Beginning in 1990, Burke County pilot-tested & then phased in a class size reduction project in the county school district. In 1995-96, 1,193 1st-graders & 1,125 2nd-graders participated in the initiative. The program's goal has been to reduce class size to 15 students in all 1st, 2nd, & 3rd-grade classes. The Burke County project also included professional development activities covering instruction & assessment, & so the effects are not necessarily simply a function of reducing class size. Evaluation of the initiative has produced the following findings:

Compared to a matched group of students in classes that had not been phased into the smaller class initiative, students in the smaller classes outperformed the comparison group in 1st-, 2nd, & 3rd grade on both reading & mathematics achievement tests.
Based on independent observations of classroom activity, the percentage of classroom time devoted to instruction in the smaller classes increased from 80% to 86% compared to the larger classes, while the percentage of time devoted to non-instructional activities such as discipline decreased from 20% to 14%.
Wisconsin

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Beginning in 1996 - 97, Wisconsin began a class size reduction program called the Student Achievement Guarantee in Education (SAGE) Program. The SAGE Program's objective is to phase in class size reduction in kindergarten through third grade in school districts serving students from low-income families. The SAGE Program is being implemented in stages, & its aim is to reduce the class size in the appropriate grade levels to a student/teacher ratio of 15 to 1 or less. In the first annual evaluation of the program, SAGE students' academic learning in first grade classrooms was measured in October 1996 & again in May 1997. The students' scores were compared to those of students in matching comparison schools serving similar populations of students with the following results:

SAGE students consistently performed better than comparison students on various areas of the Comprehensive Test of Basic Skills.
*The gap between white & African-American students in achievement did not widen, in contrast to a widening of the gap between white & African-American students in the comparison student groups.
These findings are consistent with the findings in Project STAR, but there are two important qualifications to make regarding the SAGE project data: first, these are preliminary first year evaluation data, & so the findings of this research may change substantially as the program is phased in & students experience more than 1 year in a smaller class. Second, the SAGE project class size reductions were accompanied by other initiatives: participating schools were also required to implement a rigorous academic curriculum, provide before & after school activities for students & community members, & implement professional development & accountability programs. The first year evaluation of SAGE reported uneven implementation of these other components of the SAGE Program, but it is obviously possible that some of the positive results reported for SAGE are at least in part due to the other SAGE program components.

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