University Of Pittsburgh

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Children, Youth & Families

background

Report # 64 | **Class Size Issues** | **July 2004**

Class Size & Learning

Going Smaller

How Small And What It Costs Are Key Questions

Reducing class size remains a hot policy issue. The most thorough studies suggest that when classes are small, children do better academically and tend to be better behaved – the kind of potential that is likely to keep class size on the table for some time as schools scramble for ways to meet federal and state school performance standards.

But how small is small enough? Which grades do better when classes are small? How much will reducing class sizes cost? Are there enough teachers to fill the increase in classes? Nearly two decades of experience and study of class size provides many of the answers.

More than 20 states have programs reducing class sizes in certain schools and grades and among certain student populations. Nearly all states have at least considered such programs. U.S. public schools received more than $1.2 billion to help reduce class size under 1999 federal legislation. After the first year, 1.7 million children in the early grades receive instruction in smaller classes and about one-third of the nation's elementary schools had hired one or more new teachers, according to the Department of Education.

Some of the larger, more rigorously-studied class size experiments report evidence of improvements in student performance and behavior.

Students taught in smaller classes have outperformed larger class students on Stanford Achievement Tests. Fewer of them have been held back a grade. Smaller class size has narrowed the achievement gaps between African American and white students. And children in smaller classes during the early grades tend to do well after they returned to normal-sized classes, outperforming their peers from larger classes in all academic subjects and generally being better behaved.

How Small Is Small Enough?

Although successful experiments drop class size below a certain threshold, no "magic number" has emerged.

Studies do suggest that class size must be lowered to fewer than 20 students if schools are to expect to see improvements in student performance. Reducing class size from 30 to 25, for example, will likely produce little or no improvement. In Tennessee's Project STAR, for example, students in classes with fewer than 18 students did better than students in larger classes.

Lower students-to-teacher ratios do not always result in smaller classes. Some initiatives, for example, allow officials to include education staff other than teachers when calculating the ratio, such as resource teachers in special education, music, and physical education. In such cases, class size may not actually be reduced. In Project STAR, larger classes with instructional aides did not produce the same benefits as the smaller classes.

Early Grades Critical

Most studies that report benefits from reducing class size suggest that small classes in the critical early grades, particularly kindergarten through third grade, lead to higher student achievement.

Project STAR and other class size experiments focus on those early grades and have produced immediate improvement in student outcomes and long-lasting benefits.

It is less clear whether smaller classes in later grades produce significant

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Related Reports

A growing body of research-based evidence suggests the academic performance and behavior of students tend to improve in smaller classes.

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improvements in performance.

Small Classes Raise Costs

How much more expensive are smaller classes?

The answer depends on a number of factors. An analysis of a simulation of class size reduction in seven Florida school districts offers a "rule of thumb" estimate of the costs involved. At a classroom cost of $53,000, the per student cost for reducing class size from 24 to 20 students is $435. The cost doubles when the class enrollment is dropped to 17 and triples when the class size is reduced from 24 to 15 students.

Studies warn that policymakers need to carefully devise their reimbursement strategies for lowering class size. Certain reimbursement strategies have led to widespread inefficiencies.

In California, schools received a flat per student reimbursement, regardless of the effort and expense required to reduce class sizes. For some, it was a financial boon. Districts that already had relatively small classes were reimbursed $650 per student when their actual costs were minimal.

But districts with large class sizes and fewer resources to accommodate more classrooms strained their finances to cover the $1,000 per student cost of reducing class sizes.[1]

Are There Enough Teachers?

Reducing class size may affect the availability of teachers, particularly quality teachers.

Some states already face serious shortages of teachers.

Pennsylvania, at the moment, does not report a shortage of teachers overall, but is experiencing spot shortages. Across the state, there is a need for teachers of certain subjects, such as the sciences and higher mathematics. Some rural and urban school districts struggle to find qualified teachers. And minority teachers are underrepresented in the classrooms.[2]

If teacher supply remains the same, smaller classes could exacerbate existing shortages by raising the demand for teachers. Such circumstances could result in the hiring of less qualified teachers to meet the demand.

In California, the implementation of class reduction policies led to the rapid hiring of 29,000 teachers in three years – and a decline in the overall experience, education, and credentials of K-3 teachers.

Even so, smaller classes in California resulted in gains in student performance.

But teacher supply and quality might not be diluted if teachers who now leave the classroom after a few years find teaching smaller classes more rewarding and decide to stay on.

More Achievement-Minded

Class size will likely continue to attract attention as school officials work to comply with the federal No Child Left Behind legislation, which requires districts to improve student performance in graduated steps.

"School districts are going to be compelled to do some things they had not considered necessary to do in the past," said Ronald R. Cowell, President of The Education Policy and Leadership Center in Harrisburg, PA. "If school officials are faced with a significant learning gap with low-income children being at the bottom of that gap, and research says those children can make significant improvement in achievement in smaller classes, particularly in the early grades, I think school officials will look at that very seriously. In some instances, they will be desperately searching for something that works."

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references

This report is based on the following publications:

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[1] Hill, E.G., Policy Brief, *Class Size Reductio*n. (February 12, 1997). Sacramento, CA: California Legislative Analyst's Office, http://www.lao.ca.gov/class_size_297.html

[2] *Head of the Class: A Quality Teacher In Every Pennsylvania Classroom, The Education Policy and Leadership Center Teacher Quality and Supply Project*. Harrisburg, PA: The Education Policy and Leadership Center. 2003. (Available online at www.eplc.org/teacherquality.html).

other sources

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