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Is small beautiful? Evaluating classroom size

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A perennial fad in education policy is the idea that smaller class size improves student achievement. In 2002, Florida went so far as to write a class-size program into its constitution. Earlier this year, governors in states as politically diverse as New York and Utah embraced smaller class sizes in their state-of-the-state speeches.

School districts, meanwhile, warn that the public's failure to endorse larger tax bills will lead to larger classes. The logic is simple enough. Teachers are important. A smaller class lets a teacher pay more attention to each student. Ergo, students in small classes do better.

There's one problem, though. We know less than we should about the effects of class-size reduction, given its financial and opportunity costs.

Perhaps the most well-known study of smaller classes was Project STAR, conducted in Tennessee during the late 1980s. More than 6,000 students in 79 schools from rural, suburban and urban schools were involved. They were placed into one of three types of classrooms: a smaller class (on average, 15 students), a larger class (22 to 25 students), and a larger class with a full-time teacher's aide. The experiment continued for several years, though only one-third of students continued in the same kind of classroom for three or more years. The students, who entered the project as kindergarteners, were given two different tests, and the numbers were crunched in various ways.

The researchers concluded that students benefited from being in smaller classes. Inner-city children gained the most. For students overall, most of the gains came in a student's first year in smaller classes; by the eighth grade—long after students had left the experiment—the gains over other students were minimal.

The National Education Association, the nation's largest teachers' union, applauded the findings. (As well it should: a smaller workload is in essence a pay raise.) "The results: At every grade level, in every subject, at rural, suburban, and urban schools, children in small classes outperformed their peers on standardized tests every time."

Doubters

As far back as 1996, though, doubts have crept in. The California Research Bureau warned that "since other recent demonstrations around the country have *not* shown results as dramatic as those found in Tennessee, any evaluation regarding the effects of class size reduction on student performance should be viewed with caution."

Chief among the critics has been Eric A. Hanushek, an economics professor who has worked at Yale University, the University of Rochester in New York and Stanford University (and as deputy director of the Congressional Budget Office during the 1980s). Hanushek has lodged several complaints about the methodology of Project STAR, including its lack of a pre-test. It's hard to know how well a treatment works (in this case, smaller classes) if you don't have a benchmark to start with. He has also argued that lower-achieving students tended to drop out of the project, thus inflating the results.

Ludger Woessmann, of the Institute for Economic Research, a German organization, and Martin B. West, a research fellow at Harvard, took a cross-national approach to the question. In 2006, the European Economic Review published findings from a study of theirs that examined countries

including the U.S., several in eastern and western Europe and Asian countries like Japan, Singapore and Korea. Their work found that important “class-size effects are observed only in countries with relatively low teacher salaries.” (The U.S. is not considered a low-salary country.)

Carolina Milesi and Adam Gamoran, both sociologists at the University of Wisconsin, concluded in one of their studies that there was “no evidence of class-size effects on student achievement in either reading or mathematics.” Further, they found this was true across several demographic categories, including socioeconomic status.

Practical Questions

Even if we brush off criticisms of Project STAR, there are serious questions about its merit as a guide to policy. For one, it’s very expensive. According to the Education Commission of the States (<http://www.ecs.org>), the federal government’s Class Size Reduction Program spent \$3.5 billion on class-size efforts in a single school year, 1999-2000. In addition, the program, established in 1998, is providing roughly \$1.2 billion a year to help states hire and train new teachers as part of an overall goal of lowering class size in grades one to three to at most 18 students per classroom nationwide—still higher than the Project STAR number.

But finding money to hire more teachers is just the beginning. Smaller classes work only if they are taught by quality teachers. Reducing class size by diluting the quality of the teacher pool—which a rapid expansion in the number of teachers could easily bring—is a self-defeating measure.

Class-size reduction efforts can reduce the quality of teachers in another way. Smaller classes mean more classrooms, which means significant one-time capital costs and increased and ongoing maintenance costs. Where will those funds come from? It would likely come from money that could be used for increasing teacher pay, increasing teacher training and purchasing additional technological tools, to start with.

If there's one reform idea that seems to have nearly universal support, it's that teacher quality must be improved. There are of course competing ideas of how that can be done. Merely ramping up the number of teachers, though, favors quantity over quality.