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May 3, 2011

Class Size and Student Achievement

Educators across the country continue to investigate the influence of class size on student achievement. Much of the common thought revolves around the premise that the smaller the class size, the better the chance for student achievement as well as student discipline. (Sykes, Schneider, & Plank, 2009) Research provides ample information but no definitive ground for decisions.

Description

Educators face challenges in the classroom from working with new curriculum to maintaining productive relationships with parents. As research surrounding educational practices continues to expand, the discussion regarding the impact of class size on student achievement expands as well. Advocates for smaller class size refer to benefits gained by students and teachers in having more individualized instruction, better classroom discipline and greater student achievement. Opponents cite concerns over the cost of such reform as well as an apparent lack of specific findings to suggest a correlation between class size and student achievement.

Policy makers face the challenge of determining which of the previous viewpoints to support. They must decide if the commitment to smaller class sizes is worth the risk and investment. Community members readily support any effort to improve the learning of students, but reducing class sizes requires a tremendous investment in both fiscal and human resources (Sykes et al., 2009).

The discussion of student achievement is inherently an emotional issue and opinions are strong regarding what helps children learn. Research seeking the answer to questions about class size has continued for decades.

Differing Perspectives

Does Class Size Really Matter?

- Although numerous studies on the topic exist, many opponents would say that research provides little evidence to substantiate that smaller classes are related better achievement across all grade levels and at all schools. Studies do not indicate a consistent relationship, and most do not take into consideration other educational factors such as student demographics or teacher experience and professional training (Blatchford, Bassett, Goldstein, & Martin, 2003; Milesi & Gamoran, 2006).

- In a study of the effects of class size and instruction on kindergarten achievement, Milesi and Gamoran (2006) conducted a statistical analysis of the Early Childhood Longitudinal Study-Kindergarten Class of 1998-1999. This study was sponsored by the National Center for Educational Statistics and the authors found that classroom instruction had more of an effect on student achievement than simple class size alone. This was the case not only in smaller classes but larger classes as well.
- Class size reduction efforts are very expensive for school districts and often require an increase in the allocation of resources (Shin & Chung, 2009).

Why Smaller Classes Really Matter?

- Teachers in classrooms across the country continue to educate students and prepare them for the future to the best of their abilities. In many schools, particularly inner city schools with increasing populations, classrooms are filled beyond capacity. In situations like these, the opportunity for teachers to connect with students on an individualized level becomes increasingly more difficult as class size increases. In large classes, teaching comes to focus more on classroom management than on instructional excellence and higher levels of learning (Zahorik, 1999).
- Teachers and students both have more time to connect closely when schools have smaller class sizes. The teacher has a better chance to know and understand the needs of the children and make better plans for intervention (Graue, Rauscher, & Sherfinski, 2009).
- If teachers are more effective at educating their students, morale will increase, which leads to increased retention of quality teachers (Zahorik, 1999).
- The challenges of finding the resources needed to make class size reduction work far outweigh the challenges we face if students are not successful. The costs of implementing an effective class size reduction program depend on when and how implementation begins. Districts can balance the costs by better utilizing existing resources. Many districts redefine staffing guidelines in order to ensure the most effective allocation of staff (Barnett, Schulman, & Shore, 2004).

Snapshot of Research

- The Tennessee Class Size Experiment that began in 1985 was the first large scale study conducted to determine the effects of class size on student achievement. This study was designed in three-phases and supported by the Tennessee legislature at the time. Phase one was the Student Teacher Achievement Ratio (STAR) and lasted for four years. The classroom sizes were predetermined to be either 13-17 students, 22-26 students or 22-26 students with

a teacher and a teacher aide. Students were randomly assigned to one of the three classroom sizes. Additionally, teachers were randomly assigned to the classes. In his review of the Tennessee project, Mosteller explains “After four years, it was clear that smaller classes did produce substantial improvement in early learning and cognitive studies and that the effect of small class size on the achievement of minority children was initially about double that observed for majority children, but in later years, it was about the same” (p 113).

Phase two, the Lasting Benefits Study, began in 1989 with a goal of determining if the students who were in smaller classes during Project STAR maintained the benefits. Findings illustrated that students enrolled in Project STAR had, in fact, continued to perform better than students not enrolled in the smaller classes.

Phase three, Project Challenge, sought to extend the experiment to more economically disadvantaged schools. Findings illustrated gains in achievement in these campuses after having students in smaller classes.

- Building on the findings from the Tennessee project, Wisconsin conducted the Student Achievement Guarantee in Education (SAGE) program starting in 1996. This five-year study examined the effects of reducing the class size ratios to 15:1. Alternative classroom arrangements were also used. SAGE differed from Project STAR in that it was specifically targeting low-income students (Sykes et al., 2009). Findings from the SAGE project indicated growth among first grade students and, more specifically, African American students.
- Shin and Chung (2009) conducted a meta-analysis of 17 studies to review the effect of class size on student achievement. Authors used specific criteria when choosing studies to analyze including whether the study was published or not, the grades of the students, the subjects taught and location of the states within the study (Shin & Chung, 2009). Looking at standardized test scores as the measure of student achievement, the authors analyzed the data from the different studies and found that smaller class sizes did raise student achievement and that this was more the case in elementary compared to secondary schools. The authors suggest that individuals writing policy should focus more on the early grades with such initiatives as this would be the best opportunity to make a positive impact on learning (Shin & Chung, 2009). Findings did not illustrate, however, what the best class size should be because the studies included in the meta analysis did not provide enough information.
- The American Federation of Teachers offers an opinion on the benefits of class size and provides several suggestions on their website. They believe that smaller class sizes lead to greater achievement particularly for younger students. Lowering class size enables teachers to better attend to individual student needs.
- The AFT explains on its website that the organizations supports class size reduction plans that have the following objectives:

- Aim for classes between 15 and 19 students. School wide or district wide averages mean that some students remain in classes far exceeding the optimal size.
- Target schools with low-achieving and low-income students. "One size fits all" class size plans neglect staffing problems and overcrowding in low-achieving schools, which gain the most from class size reduction.
- Have a thoughtful implementation plan so that districts have the time and money to provide adequate classroom space and hire highly qualified teachers.

Issue in practice

- Organizations supporting smaller class continue to be a voice in educational reform. These groups advocate for this reform across every state in the country. The American Federation of Teachers provides information on their website supporting the issue. Texas State Teachers Association, an NEA affiliate, also advocates for this change in the educational system. Both groups cite research findings and provide resources for interested individuals.
- The non-profit, non-partisan national group Class Size Matters supports the need to decrease class size particularly in the primary grades.
- Texas school districts follow the current law of having the maximum student teacher ratio at no more than 22:1. If a grade level enrolls a 23rd student the school and district must obtain a class size waiver from the state education agency. This process requires the school to complete a form specifying the reason for the district or school's not being able to accommodate the student without going over the cap. In most cases, the district reports that it did not anticipate the increase in enrollment. After receiving the waiver, the school is asked to address how this increase in enrollment can be accommodated within the policy the following year.
- Although the cap is currently 22:1 in the state of Texas, some classrooms have far fewer students. The ratio does not always accurately reflect the number of students in the actual classrooms across the state. Texas legislators are currently considering moving to a 22:1 average across a district.

Legislative History

State

The 82nd Texas State Legislature is currently reviewing several bills that would have an impact on class size limits in elementary grade levels. House Bill 400 looks to give

schools flexibility to administer educational effectively. This bill could have a substantial impact on classrooms across the State of Texas. If passed, there would be “a district-wide average of 22 students in [a] kindergarten, first, second, third, and [or] fourth grade classes...” and there would be no more than 25 students in any class in those respective grade levels.

Related issues

- Budgetary constraints play a large role in achieving smaller class sizes. Simply put, smaller class sizes cost more money and resources. Economic challenges place the charge for smaller class sizes at an unfortunate disadvantage. The timing of such innovations must be perfectly placed if momentum is to build. While many studies support the need to provide smaller class sizes, they also support the need for a number of resources to be in place (Shin & Chung, 2009; Sykes et al., 2009)
- If class sizes were to be reduced as part of a district-wide initiative, consideration would have to be directed towards the facilities needed. If the staffing standards are adjusted based on smaller classes, then more staff will be needed and more space will be needed, as well.

Summary

The impact of class size on student achievement will continue to be an important topic of discussion. Parents, educators and legislators will have to decide if there is adequate research to support the adoption of such an expensive innovation. Ultimately that decision must be as well-informed as possible.

Researchers should continue to study other important influences on student achievement in addition to class size including teacher preparation and professional development, teacher experience, consistency of curricular implementation, and teacher motivation.

By considering more of the factors that influence classroom instruction in addition to class size, more credence can be given to the notion that smaller class sizes directly lead to greater student achievement and more productive teachers. Advocates believe that when teachers have smaller numbers of students in their class, they are better able to connect with children, which in turn increases teacher enthusiasm and commitment (Zahorik, 1999). Smaller class sizes would also lead to more individualized instruction (AFT, 2011).

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