

Class Size Matters in Florida

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Abstract: In this paper, the researcher investigates the benefits of using smaller class sizes in Florida as compared to its projected costs. Six class size research studies are analyzed for experimental integrity and generalizability. There is also a discussion of the politics behind the class size movement in Florida.

Class Size Controversy

There has been a substantial amount of controversy surrounding the class size issue (Achilles, 2003; Bracey, 1995; Kronholz, 2002). Parents and teachers are on one side touting the benefits of smaller class sizes: increased academic achievement, greater student-teacher interaction, utilization of more innovative teaching strategies, and a decrease in discipline problems. Proponents believe that smaller classes will enable teachers to focus more of their attention on classroom preparation (e.g., constructing lesson plans and grading papers) and less on classroom management. Their logic is appealing and they have research studies to support their opinions. Legislators and policymakers doubt the benefits of small class size. They quote studies that show minimal results while incurring large costs. Opponents believe that funds could be more wisely spent on programs that show greater benefits.

The main part of the controversy involves the cost of lowering class size as compared to its perceived benefits. If the costs outweigh the benefits, then smaller class sizes are of little value, but if the benefits outweigh the costs, then the small class size initiative has a high value. Policy analysts generally refer to this as a cost-benefit analysis of the program (Heineman, Bluhm, Peterson, & Kearny, 2002). Another popular form of analysis, which tests the integrity of a policy, is called experimental analysis. Experimental analysis requires random assignment of subjects to an experimental and control group (Heineman et al., 2002). The experimental group receives the treatment whereas the control group does not, and then the groups are evaluated to see which performs better. The purpose of this paper is to determine the worthiness of reducing class size in Florida by using two theoretical frameworks: cost-benefit analysis and experimental analysis.

Research on Class Size

Project STAR

In 1985, the governor of Tennessee led an initiative to assess the usefulness of having small class sizes in the primary grades. He authorized funds to be set aside to conduct an experimental study of this issue, which became known as Project Student-Teacher Achievement Ratio (Project STAR). The project lasted four years with random assignment of students and teachers to one of three classes: a small class of 13-17 students, a regular class with 22-25 students, or a regular class with an aide. The program began with kindergarteners and then those same students moved up through first, second, and third grade with the same class sizes. All of the groups in the study received the same curriculum and materials with the only difference between the groups being the class size. The study was quite large with approximately 6,400 pupils participating. Results from the study showed that students in small classrooms did better than their large classroom counterparts on subject area tests (reading, math, science, social

studies, and spelling). There were also higher gains made by minority students when compared to their white peers. In addition to the academic improvements, teachers were able to give more individualized attention to students and behavior problems were diminished (Achilles, 2003; Bracey, 1995; Mosteller, 1995). This was an experimental study because there was random assignment of the subjects to a control (average class size) and an experimental group (small class size).

Lasting Benefits Study

The Lasting Benefits Study was a three-year follow-up (1989-1991) study that tracked the progress of over 4,500 students from Project STAR. Researchers monitored the progress of the experimental group of students when they returned to average class sizes. The findings from the study indicated that students who were taught in small class sizes in the early grades still did better than their peers when they returned to regular classes (Mosteller, 1995). The Lasting Benefits Study was also an experimental study because it was an evaluation of the long-term benefits from Project STAR.

Burke County Initiative

In 1991, a pilot study on the effects of reduced classroom sizes in the elementary grades was conducted in the Burke County Schools. In the first year of implementation, the superintendent reduced first grade classroom sizes in four elementary schools in the county. The class sizes were capped at 15 students per class. In preceding years, all of the first grade classrooms and some of the second and third grade classrooms were added to the study. In addition to being in small classes, the teachers participated in specialized staff development in reading, math, and science. It was believed that accompanying lower class sizes with increased teacher training would make the most difference.

The initiative was analyzed by matching the students in the experimental schools (small classes) to students in the control schools (average size classes). The students were matched on such variables as gender, socioeconomic status, teacher experience, and test scores (Egelson, Harman, & Achilles, 1996). Since the matching took place after the students received the treatment and no random assignment of students to the class sizes was done at the beginning of the study, this was a quasi-experimental study. Upon analyzing the data, the researchers found that reduced class size students significantly outperformed the control group on reading and math tests (Egelson et al., 1996).

California's Initiative

Californians wanted to improve student achievement and upon hearing about the results of Project STAR, the legislature passed an initiative to commit more than one billion a year to reduce class size. The legislature allocated monies to schools that decreased their K-3 classes to a maximum of 20 students. Within six weeks of the passage of the 1996 initiative, most of the California school districts had begun to reduce their class sizes so they could get the extra funding. This was a large-scale endeavor with approximately 1.8 million students placed in small class sizes by the end of the third year. These students did show small academic gains, yet there were some concerns with the program design. As a result of the large-scale endeavor, California did not have enough qualified teachers to instruct the children in the small classes. Consequently, teacher qualifications declined within the three-year time period of the initiative. Also, California's curriculum standards were still being developed when the initiative took full effect, so there was some question about which curriculum to use (Stetcher, Bohrnstedt, Kirst, McRobbie, & Williams, 2001). This was not an experiment since there was no random assignment to a control or an experimental group. This initiative was a pre-experimental study

because it merely compared the Stanford Achievement Test scores of students in the small classes to students in the large classes.

Teacher Training

A two-year study was conducted to investigate teachers' expectations and opinions of small class sizes as compared to student academic achievement (Shapson, Wright, Eason, & Fitzgerald, 1980). Fourth and fifth grade students and their teachers were randomly assigned to one of four class sizes (16, 23, 30, and 37). Results from the study revealed that teachers rarely changed their teaching strategies when placed in smaller class sizes. Teachers believed that students in smaller classrooms would outperform their peers on measures of academic achievement, but little or no difference was found in either achievement or instructional methods. The study revealed that teacher training was a necessary precursor for placing teachers in smaller classroom settings. This was an experimental study since there was random assignment of students to small and large class sizes.

Cost Effectiveness Study on Class Size

A study that projected the costs of government-funded inputs to raise Florida's Comprehensive Assessment Test (FCAT) scores (Normore & Ilon, 2006). The researchers used all 1700+ Florida elementary schools in their data set. First, they predicted which government-funded inputs predicted FCAT scores. Some of the government-funded inputs that had strong predictability were as follows: (a) teachers per aide in kindergarten through 3rd grade, (b) average class size, (c) teachers' average years of experience, (d) percent of administration, (e) percent of instructional staff, and (f) percent of teachers with advanced degrees. Then they "measured the quantity of each input needed to raise test scores by a fixed amount" (Normore & Ilon, 2006, p. 9). Finally, they "calculated the cost for each of these quantities by first calculating the unit cost and then weighted that unit cost by the quantity required for the two percent rise in test scores" (Normore & Ilon, 2006, p. 9). The researchers found that class size reduction in Florida is one of the most expensive government-funded inputs to increase test scores and that increasing teacher quality would be more cost-effective. Although this study is a well thought out and intensive, it is not an experimental study since there was no random assignment of classrooms to small and large sizes.

Class Size in Florida

In 1995, the Florida legislature allocated a \$40 million incentive to districts to reduce their class sizes to one teacher per twenty students in 1st-3rd grades. Schools were eligible for funds if the classes had 30 students with 2 teachers since there would still be a 20:1 student-teacher ratio. Yet, many districts interpreted this to mean one teacher, one aide, and thirty students with the aides being pulled out of the classrooms most of the day for other duties. In 1996, extra funds were added to the initial \$40 million to include kindergarten in the reduction efforts. This allocation of funds was merely an incentive for school districts to reduce their K-3rd grade classes and not a mandated law. Additionally, the funds were not adequate enough to fully cover class size reduction. Consequently, by 1997, most of the K-3rd grade classes in Florida did not have a 20:1 teacher ratio (*Class Size for Grades K to 3*).

The people of Florida, with the help of the former state senator Kendrick Meek, collected 500,000 signatures to put Amendment #9 on the November 2002 ballot. The amendment required that by 2010, there would be a cap of 18 students in all kindergarten through third grade classes, 22 in fourth through eighth grade, and 25 in high school. The school districts were required to lower the average class sizes by two students each year until the standard was met.

To the surprise and dismay of the Florida's Governor, Jeb Bush, Constitutional Amendment #9 was put on the 2002 ballot and was passed by 52% of the Florida voters (Kronholz, 2002).

Governor Bush and the former speaker of the House of Representatives, John Thrasher, calculated that the amendment would cost between \$20-\$27.5 billion to implement over the eight year time span. Meek and his followers estimated the cost to be between \$4-\$12 billion over eight years. Governor Bush believed the costs were too high, so he tried to repeal the amendment in 2003 and again in 2005. In his most recent efforts, Bush has spent over \$18 million for a special election to revise the class size amendment (Kronholz, 2002; Maseman, 2005). The revision called for "flexibility in meeting the constitutional requirements for meeting class size" (Winn, 2005, p. 1). This flexibility included having districts calculate class size by using pupil-teacher ratio instead of actual class size. Pupil-teacher ratio divides the total number of students in a district by the total number of educators. These educators could include curriculum specialists, administrators, reading resource teachers, and other adults who have no direct class to teach on a daily basis (Achilles, 2003). For example, the true class sizes for a district may be 30 students per class but once these extra adults are calculated into the equation, it could lower it to 23. Consequently, class sizes would appear small on paper, but be quite large in reality.

Governor Bush tried to persuade the Florida House and Senate to approve this revision and then put it on the 2005 Florida ballot. He needed three-fifths of the vote in each chamber for the amendment to reach the voters, but only the Florida House agreed to the revision. Several of the Republican members of the Florida Senate voted against the revision and consequently ruined Bush's plans (Fineout, 2005). All three of the Republican senators from Miami voted against the revision because they said that they wanted to do something to stop the overcrowded classrooms in Miami.

Implications

Floridians have been in an acrimonious debate over the class size issue for the past three years. Governor Bush, John Thrasher, and other education leaders have claimed to be fighting against smaller class sizes because of its perceived enormous cost. When one conducts a cost-benefit analysis of the effects of Amendment #9, the picture is quite different. While the Governor estimated the cost of the amendment to be between \$20-\$27.5 billion, the actual cost of implementation over the past three years has been \$3.7 billion (Florida's e-Budget, 2006). The three-year total can be broken down further into \$3 billion for hiring extra teachers and \$7 million for creating new classrooms and schools to accommodate the smaller classes. If it continues at this rate, it should cost no more than \$9 billion dollars upon full implementation.

Governor Bush's website, Florida's e-Budget, mentions that in 2005-2006, the schools in the state of Florida have already met the requirements of Amendment #9. The average class size for kindergarten through third grade classes is eighteen, exactly at the state mandated average. In fourth through eighth grades, the state's average is twenty, which is below the mandated level of twenty-two. The high school state average is presently twenty-three, which is also below the state mandated average of twenty-four. Consequently, it is not a matter of paying increasing costs to implement the amendment, but an issue of maintaining our present classroom sizes.

There seems to be other reasons for the governor's opposition to smaller class sizes. Possibly, it will remove funds from his state mandated A+ grading program. Florida began assigning school grades based on FCAT scores in 1999 (Hirschman & Marlernee, 2003). A school's letter grade (A, B, C, D, or F) is based upon its students' scores on the FCAT and the percentage of students it has taking the test. The FCAT tests students' abilities in reading,

writing, math, and science. All students in grades 3-10 take the reading, math, and science portions of the FCAT in the spring of each year. Only students in grades 4, 8, and 10 take the FCAT writing exam. The scores on these one-day tests weigh heavily on the students and schools, not to mention the costs associated with test preparation and administration.

Several Florida legislators are becoming disenchanted with Bush's A+ Plan. They feel that Bush fervently campaigns for his own educational agenda without taking into consideration the voters' views. Senate President Tom Lee, a Brandon Republican, said "Democrat and Republican senators alike have grown weary of the governor's arrogance and his willingness to stretch the authority the Legislature gives his administration" (as cited in Hollis, 2005). Apparently, Bush is beginning to lose support within his own political party.

The benefits from smaller class sizes can be seen in the experimental and quasi-experimental studies of Project Star, the Lasting Benefits study, and the Burke County Initiative. All three have shown that smaller class sizes help students learn more and achieve more, especially in reading. Additionally, the Lasting Benefits study proved that gains children made in the early grades, while being taught in smaller class sizes, stayed with them in later years. Also, the results from Project Star indicated that minorities had the greatest achievement gains in smaller class sizes when compared to their peers (Achilles, 2003). Although Californians have argued that the class size initiative in their state was too costly for the small academic gains, this initiative was not an experimental study nor was the implementation gradual (Stetcher et al., 2001). The results could have been better if the class sizes were gradually decreased over a long period of time, as is being done in Florida with Amendment #9. Additionally, while Florida is in the process of reducing class sizes, it is also investing quite a bit of money in teacher training (e.g., No Child Left Behind and Reading First). Teacher training coupled with smaller classes has shown to have positive results (Egelson, Harman, & Achilles, 1996; Normore & Ilon, 2006).

Floridians have petitioned to put smaller class sizes into law and keep it there. The cost of reducing class size is relatively low when you look at the benefits. The initiative will cost no more than \$9 billion upon full implementation in Florida, which is considerably less than Bush's projected costs of \$20 billion. Additionally, according to Jeb Bush's website, the state of Florida has already met the mandated class size levels. Empirical studies on class size have revealed benefits for both minority and non-minority students. Maintaining small class sizes in Florida over the next four years coupled with increased teacher training should reap long-term benefits for Florida students. Consequently, a cost-benefit analysis of class size and a review of the experimental studies have shown that continuing to reduce class size in Florida is a wise fiscal policy.

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