

SCHOOL CHOICE

# ISSUES

IN THE STATE



**Parent Choice for Florida:**

Many agree with the concept. Some disagree. And some simply want more information. As the public debate continues to grow louder about how best to provide a quality education to all Florida children, it is critical to know the facts about parent choice, and to have an understanding of how parent choice programs have had an impact on communities, parents and students around the country. All of this analysis is done with one goal in mind: The best possible education for all of Florida's children.

## **Lost Opportunity: An Empirical Analysis of How Vouchers Affected Florida Public Schools**

Prepared By:

**Dr. Greg Forster**

Senior Fellow

Friedman Foundation for Educational Choice

March 2008

A MESSAGE FROM THE FRIEDMAN FOUNDATION:

## OUR CHALLENGE TO YOU

Our research adheres to the highest standards of scientific rigor. We know that one reason the school choice movement has achieved such great success is because the empirical evidence really does show that school choice works. More and more people are dropping their opposition to school choice as they become familiar with the large body of high-quality scientific studies that supports it. Having racked up a steady record of success through good science, why would we sabotage our credibility with junk science?

This is our answer to those who say we can't produce credible research because we aren't neutral about school choice. Some people think that good science can only be produced by researchers who have no opinions about the things they study. Like robots, these neutral researchers are supposed to carry out their analyses without actually thinking or caring about the subjects they study.

But what's the point of doing science in the first place if we're never allowed to come to any conclusions? Why would we want to stay neutral when some policies are solidly proven to work, and others are proven to fail?

That's why it's foolish to dismiss all the studies showing that school choice works on grounds that they were conducted by researchers who think that school choice works. If we take that approach, we would have to dismiss all the studies showing that smoking causes cancer, because all of them were conducted by researchers who think that smoking causes cancer. We would end up rejecting all science across the board.

The sensible approach is to accept studies that follow sound scientific methods, and reject those that don't. Science produces reliable empirical information, not because scientists are devoid of opinions and motives, but because the rigorous procedural rules of science prevent the researchers' opinions and motives from determining their results. If research adheres to scientific standards, its results can be relied upon no matter who conducted it. If not, then the biases of the researcher do become relevant, because lack of scientific rigor opens the door for those biases to affect the results.

So if you're skeptical about our research on school choice, this is our challenge to you: prove us wrong. Judge our work by scientific standards and see how it measures up. If you can find anything in our work that doesn't follow sound empirical methods, by all means say so. We welcome any and all scientific critique of our work. But if you can't find anything scientifically wrong with it, don't complain that our findings can't be true just because we're not neutral. That may make a good sound bite, but what lurks behind it is a flat rejection of science.

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# THE FRIEDMAN FOUNDATION

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# Executive Summary

The impact of Florida's "A+" accountability program, which until 2006 included a voucher program for chronically failing schools, on public school performance has been extensively studied. The results have consistently shown a positive effect on academic outcomes in Florida public schools. However, no empirical research has been done on the impact of the program after 2002-03, the first year in which a substantial number of students were eligible for vouchers. This narrow focus has left the public with an incomplete picture of the true role of vouchers in producing the public school improvements associated with the A+ program.

This empirical study is the first to analyze the effects of vouchers in the A+ program after 2002-03. It includes a separate analysis for each year from 2001-02 to 2006-07. Thus, it is the first study to analyze how the program's effects were changed by the court-ordered removal of vouchers in January 2006. Moreover, it uses superior-quality data that track the progress of individual students over time, which have not been available to the general public until recently.

The study finds that vouchers were a key element driving improvements in public schools from the A+ program. At every step, the academic performance of failing public schools in Florida responded to changes in the status of vouchers in the A+ program. While Florida is still experiencing improvements in student performance, the removal of vouchers from the program reduced the magnitude of these improvements.

Key findings include:

- Before vouchers were widely available, the A+ program produced modest improvements in failing public schools. In 2001-02, public schools that were threatened with vouchers if they did not improve outperformed other Florida public schools by 13 points in math on the state's developmental scale.
- In the first year when substantial numbers of vouchers were available, the program produced dramatically larger improvements in failing public schools. In 2002-03, public schools whose students were offered vouchers outperformed other Florida public schools by 69 points.
- In later years, as voucher participation rates dropped due to procedural obstacles that prevented many eligible families from using vouchers, the positive effect was not so large. From 2003-04 through 2005-06, public schools whose students were offered vouchers outperformed other Florida public schools by between 20 and 27 points.
- The removal of vouchers caused the positive impact on public schools to drop well below what it had been even in 2001-02, before vouchers were widely available. Schools that would have been eligible for vouchers in 2006-07 outperformed other Florida public schools by 11 points. The statistical certainty of this result is more moderate than the certainty of the results for earlier years. And schools that would have been threatened with vouchers made no gains relative to other Florida public schools (compared to the 13 points they gained in 2001-02).

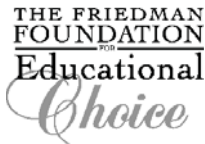
## About the Author

Greg Forster, Ph.D., is a senior fellow and the director of research at the Friedman Foundation for Educational Choice, where he conducts research and writes about school choice policy. He has conducted empirical studies on the impact of school choice programs in Milwaukee, Cleveland, Florida and Texas, as well as national empirical studies on private schooling, participation in school choice programs and the impact of charter schools. He also has conducted empirical studies of other education topics, including accountability testing, graduation rates, student demographics and special education.

His research has appeared in the peer-reviewed publications *Teachers College Record* and *Education Working Paper Archive*, and his articles on education policy have appeared in the *Washington Post*, the *Los Angeles Times*, the *Philadelphia Inquirer*, *Education Next*, the *Chronicle of Higher Education* and numerous other publications. He is co-author of the book *Education Myths: What Special-Interest Groups Want You to Believe about Our Schools—and Why It Isn't So*, from Rowman & Littlefield.

He received a Ph.D. with Distinction in political science from Yale University in 2002 and a B.A. summa cum laude from the University of Virginia in 1995. His book *John Locke's Politics of Moral Consensus* was published by Cambridge University Press in 2005.

## The Friedman Foundation for Educational Choice



The Friedman Foundation for Educational, dubbed “the nation’s leading voucher advocates” by the Wall Street Journal, is a nonprofit organization established in 1996. The origins of the foundation lie in the Friedmans’ long-standing concern about the serious deficiencies in America’s elementary and secondary public schools. The best way to improve the quality of education, they believe, is to enable all parents with the freedom to choose the schools that their children attend. The Friedman Foundation builds upon this vision, clarifies its meaning to the public and amplifies the national call for true education reform through school choice.

## The Foundation for Excellence in Education



The Foundation for Excellence in Education is a not-for-profit charitable organization launched in 2007 by Jeb Bush, Governor of Florida from 1999-2007. Committed to launching programs that identify, quantify, reward and foster replication of excellence in education. The Foundation believes that while success is earned, excellence can be learned. Empowering students, parents, teachers and policymakers with the information to improve can serve as a catalyst for excellence in education.

## The James Madison Institute



The James Madison Institute is a Florida-based research and educational organization engaged in the battle of ideas. The Institute’s ideas are rooted in a belief in the U.S. Constitution and such timeless ideals as limited government, economic freedom, federalism, and individual liberty coupled with individual responsibility.

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## Introduction

Florida's A+ Accountability Program has become a focal point for empirical research on the impact of school vouchers on public schools. This research has shown that the A+ program is responsible for large academic improvements in chronically failing Florida public schools, and that the gains are largely attributable to vouchers. However, no research has examined the impact of the program after 2002-03, the first year in which a substantial number of students were eligible for vouchers. This study, by analyzing results in every year from 2001-02 to 2006-07, provides an unprecedented opportunity to examine the relationship between vouchers and public school performance under a variety of conditions.

## Voucher Competition and Public Schools

Perhaps the most important concern about school vouchers is the effect they have on public schools. Many people acknowledge that vouchers help the students who use them, but are worried that they will make public schools worse by draining money or by "creaming" the best students.

However, the evidence on the real-world effect of voucher programs shows that this is not the case. No empirical study anywhere in the United States has ever found that public schools had worse outcomes when exposed to vouchers. And there is a strong body of empirical evidence showing that vouchers make public schools better, not worse.<sup>1</sup> The fears that public schools would be harmed by vouchers have simply failed to materialize. The research consistently has found that, where students can use school choice to attend any school, public or private, the public schools make bigger academic improvements.

These findings are counter-intuitive to many people, but they are not hard to explain. One reason vouchers improve public schools is because they allow parents to find the right particular school for each individual child. Every child is unique and has unique educational needs. Another reason is that vouchers do not actually have an adverse impact on school budgets, as fiscal studies have shown.<sup>2</sup>

But probably the most important reason school vouchers improve public schools is because they put parents in charge. Vouchers give parents a meaningful way to hold schools accountable for teaching their students.

Under the current system, it is difficult for families to leave if a school isn't doing a good job. In other service areas, from grocery stores to health care, if a service provider isn't getting the job done people can switch to another provider simply by making the decision to do so. With schools, however, the only way to change is to move - an extremely cumbersome and disruptive step.

Thus, to a large degree schools can take students for granted. They lack the positive incentive for better performance that, say, hospitals have because they know they must do a good job or lose patients. This is especially true for schools that serve low-income and disadvantaged students. These populations are less able to move in order to find a better school.

With school vouchers, if a public school is providing adequate services, parents can leave their children there and be no worse off. But if a public school is not doing an adequate job, parents can go find a private school that will serve their children better. And whichever school a family chooses, parents will have the power to hold that school accountable for teaching their children, because they have the power to leave if they aren't being served.

Where parents are empowered with school choice, schools that don't adequately teach their students will lose them. This provides a competitive incentive for better performance.

## Florida's A+ Accountability Program

Under the A+ Accountability Program, Florida students are tested in reading and math in grades 3 through 10. Writing and science tests also are given in some grades. The test results form the basis of a variety of accountability measures. For example, students must pass the exam, known as Florida's Comprehensive Assessment Test (FCAT), to be promoted from grade 3 to grade 4 and to graduate from high school.

Florida gives each public school an annual grade based on its academic performance, primarily measured by the results of the FCAT. Until 2006, if a school got two failing grades in any four-year period, its students could apply for school vouchers that would pay for their tuition at a private school of their choice, up to a fixed dollar limit.

In January 2006, the Florida Supreme Court ruled that school vouchers could no longer be offered under the A+ program. The rest of the accountability program remained in place, but the voucher component was shut down.

### REACTIONS TO THE FLORIDA SUPREME COURT DECISION STRIKING DOWN A+ VOUCHERS

In *Bush v. Holmes*, the Florida Supreme Court ruled that the Opportunity Scholarship Program, the school voucher component of the A+ program, violated the state constitution's requirement that the state provide a "uniform" system of education. Wisconsin and Ohio courts had both previously rejected nearly identical challenges to their voucher programs. Commentators were quick to point out that the Florida decision contained numerous false assumptions, internal inconsistencies, factually inaccurate assertions and logical fallacies.

In a barely coherent 5-2 decision, Florida's Supreme Court used recklessly broad language to overturn the state's private school voucher program. . . . Regardless of what one thinks about school vouchers, this decision is a serious step backwards for school improvement. More than anything else, it is an educational bridge back to the 20th century. While the majority in the court decision seems not to have thought of it, any effort to honestly or faithfully apply their decision spells a death sentence for a number of popular reforms in Florida and sets an unfortunate precedent for elsewhere. Public charter schooling? Certainly not uniform in provision or operations. Specialty schools and tutoring programs? Neither uniformly available nor operationally standard. Programs for gifted students? Hardly uniform. Efforts by some districts to promote collaborative management, reward outstanding teachers, or adopt new curricular models? None of this is uniform either.

—Frederick Hess and Andrew Rotherham  
*Tech Central Station, Jan. 24, 2006*

Despite stating that public schools were the "sole means" for providing education with public funds and that they "make no distinction between a small violation of the constitution and a large one," the majority ruled that private [school] placements of students with disabilities was just fine under the constitution. Why? Perhaps because ending this practice would have angered a larger political constituency than the few hundred largely minority and poor students using the Opportunity Scholarship vouchers? . . . The majority found that the voucher program violated the requirement that schools be "uniform." They observed that . . . private schools are "not 'uniform' when compared with each other or the public system". . . If "uniform" means all schools must be governed by identical rules for operating procedures and pedagogical techniques, then school districts themselves, with their various boards and procedures, are not uniform and should also be held in violation. But if "uniform" means that all schools are expected to help students meet the same state standards for academic achievement, then the private schools in the voucher program satisfy that definition.

—Jay Greene and Marcus Winters  
*Philadelphia Inquirer, Jan. 13, 2006*

The last feature of *Bush v. Holmes* that is so distressing is its ready embrace of the story that the use of voucher programs necessary diverts needed resources from the public school system. That view of the world is hopelessly static, especially in connection with a constitutional provision that actually cares about efficiency and high quality education. Viewed dynamically, the removal of children from public schools has at least two effects above and beyond the simple diversion of resources. The first of these is that it reduces the [financial] obligations of the public school systems, especially when the per-pupil cost of education within the state system is higher than the cost of education within the public system, as I suspect it is in Florida. What is so horrible about a higher level of funds on a per-capita basis for the students left behind? In addition, the private school options, secular or religious, inject a measure of competition. The public school teachers and their unions now realize that they are in competition with . . . versatile institutions that they cannot control with the drop of a hat. The only way they can maintain their market share is to provide, as the Florida Constitution requires, a high quality education in an efficient fashion.

—Richard Epstein

*University of Chicago Law School Faculty Blog, Jan. 16, 2006*

The court . . . argued that the word “uniform” means that the state must utilize only public schools in providing “high quality education.” This even though many public schools are providing nothing of the sort; the public school that Octavia [Lopez] would have to attend were she not at Archbishop Curley has been rated a failing school for three consecutive years *by the state*. And even though the state can continue to utilize private schools for educating some disabled students. And even though, by the court’s reasoning, it is unconstitutional for the state to use the OSP [vouchers] to help Octavia receive a fine education at Archbishop Curley, the constitutional mandate about “high quality education” requires consigning her to a failing school. And even though there is no evidence that the drafters of the constitution’s language or the public that ratified it thought it meant what the Supreme Court now says it means – that in providing quality education, the state must enforce a public school monopoly on state funds.

—George Will

*Washington Post, March 23, 2006*

The Florida Supreme Court struck down one of Florida’s three choice programs on the grounds that it created competition for public schools—the very competition that research shows helps drive improvement in Florida’s schools. . . . Taking away an alternative for students and parents to choose, there is no incentive for schools to make improvements, and it is the children, the future of our state, who suffer.

—Governor Jeb Bush

*School Choice Advocate, August 2006*

## Obstacles to Voucher Participation in the A+ Program

There were a number of unusual obstacles, not present in most voucher programs, that kept participation rates for A+ vouchers unusually low. A certain amount of this kind of difficulty is inherent in the “failing schools” model of vouchers, where students’ eligibility for vouchers is determined by the academic performance of their public schools. Every year, a new set of parents need to be reached with the message of what vouchers are and that they are eligible for them; there can be no gradual building up of information about the program among a fixed population that is always eligible. However, in the A+ program the worst obstacles were not inherent in the program design, but were imposed by the Florida Department of Education as part of its implementation.

If a school got an F, and also had at least one F in any of the three previous years, students who were enrolled in that school the previous spring could apply for a voucher. They could begin using the voucher the following fall. Students were eligible only if they were enrolled in the school in the spring of the year in which the second (or subsequent) F was assigned. Students enrolled at that school in future years were not eligible, unless of course the school got yet another F.

School grades were (and still are) announced in the summer. The timing of the announcement does not follow a set schedule every year and thus is unpredictable. Once the state announced school grades, determining which schools were eligible for vouchers, parents had only two weeks to apply for the program. If they missed this fleeting application window, they could not apply later.

The extremely short two-week eligibility window was a major obstacle to participation. This difficulty was greatly compounded because parents did not know whether they were eligible until school grades came out, at which point the two-week clock began ticking. Moreover, parents did not even know when the announcement of the grades might be coming.

This combination of factors made it extremely difficult to keep parents informed. Nobody knew in advance of the application window which parents would be eligible, and nobody knew in advance when the announcement would come. And once the announcement came, there were only two weeks to get from a starting point of zero information to an ending point of parents submitting their applications for vouchers. Many—possibly even most—parents probably would not even have known that their children were eligible for the program until it was too late to apply.

Another disadvantage is the dynamic of media coverage, which is where most parents get their information about programs of this type, especially when there is no opportunity for a long-term building of knowledge in a fixed population by word of mouth. When two schools were designated as eligible for vouchers in 1999-2000, naturally media attention focused on those two schools. This would have helped parents in those neighborhoods find out about the program. Or again, in 2002-03, when a substantial number of schools became eligible for vouchers after two straight years with no schools eligible, that was a big news story.

These two years are both instances of how a failing schools voucher program can create “shock value,” but thing about shock value is that it doesn’t stay shocking forever. In years after 2002-03, A+ vouchers were no longer the news story they were in that year. This would have made it less likely that parents would hear that they were eligible for vouchers.

Another factor was the presence of the court challenge to the program. Uncertainty over a program’s future is a barrier to participation. Where there is a reasonable chance that a program might be cancelled at the whim of a judge, possibly even in the middle of a school year, parents likely will take into consideration the disruption that might cause their children and the problems they might have dealing with their local schools after being forced to return there.

The Florida lawsuit was probably not a major factor in earlier years, because Florida has a constitutional provision that allows government programs to continue to operate after being struck down by lower courts if the state is appealing to a higher court. This sensible rule prevents programs from being haphazardly eliminated and reincarnated as dueling judges play tug-of-war over public policy. Thus there was no actual prospect for the program to be shut down until it reached the Florida Supreme Court in the summer of 2005.

These obstacles help explain why, as a previous analysis has found, the A+ voucher program is the only voucher program ever to see long-term declines in its participation rate.<sup>3</sup> Figure 1 provides the number of voucher participants and an estimate of the participation rate in each year of the program. The figure shows that even as the number of students using vouchers went up, the participation rate mostly went down. In other words, the number of eligible students expanded much more rapidly than the number of students actually using vouchers.<sup>4</sup>

Since the A+ program is the only voucher program ever to see a long-term decline in participation rates, it is reasonable to attribute this decline to the unique obstacles to participation that were imposed on the program by the Florida Department of Education.

## Previous Research on the A+ Program

The effects of the A+ program on public schools have been well studied. In several cases, the same researchers have conducted multiple studies over time, using similar methods but refining them to improve the scientific quality of the analysis. So far there are a total of four studies or study “lines” examining the impact of the A+ program on Florida public schools.

The first of these studies was published in 2001 by Jay Greene, then of Harvard University and the Manhattan Institute (Greene has subsequently joined the faculty of the University of Arkansas as head of the Department of Education Reform in its education school; he retains his Manhattan Institute affiliation). At that point there were only two schools that had ever been eligible for vouchers, too few to provide a basis for analysis, but the impact of the threat of vouchers on schools that might become eligible for them could be studied. Greene found that schools that had received one F grade, and were thus threatened with vouchers if they received another one, made gains relative to other Florida public schools.<sup>5</sup>

In subsequent studies, along with Marcus Winters of the Manhattan Institute, Greene divided schools into four categories; see the Method section below for details on these classifications. Greene and Winters found that the positive impact of the A+ program closely tracked the schools’ distance from vouchers—Voucher Eligible schools made the biggest academic gains, followed by smaller gains in Voucher Threatened schools, followed by two categories of schools that had received Ds but no Fs. These later studies looked at the one-year gain in test scores made in 2002-03.

Greene and Winters also addressed the claims that the improvements by failing schools could be attributed to a “stigma effect” or to “regression to the mean.” The stigma hypothesis is that F schools improve in order to remove the stigma of being labeled as failing, rather than responding to voucher competition. Greene and Winters examined schools that had received an F five years previously, but no Fs in the preceding four years. These schools had once been threatened with vouchers if they got another F, but now were no longer so directly threatened. Greene and Winters found that, far from seeing gains from the stigma effect, these schools actually backslid a little, relinquishing some of the gains associated with being a Voucher Threatened school. Meanwhile, the regression to the mean hypothesis is that failing schools are more likely to improve simply because they can’t much worse—as a variable approaches zero it becomes more likely to go up rather than down, because there’s less room to go down. However, Greene and Winters compared F schools to other schools that had very similar test scores but had not received Fs because the school grades are not exclusively based on test scores. They found that the F schools made greater gains.<sup>6</sup>

When Greene and Winters’ most recent analysis was published in the journal *Education Next* in the summer of 2004, it was accompanied by an analysis conducted by Rajashri Chakrabarti, then of Cornell University and now an economist at the Federal Reserve Bank of New York. Chakrabarti addressed the stigma hypothesis by comparing the improvements made by F schools under the A+ program with improvements made by schools in the lowest performance category (out of four) under the state’s earlier accountability program, which had no voucher component. She found that under the earlier program, putting a school in the lowest-performing category did not improve its performance relative to schools in the next-lowest category, while F schools did outperform D schools under the A+ program. Like Greene and Winters’ studies, this analysis only examined scores through 2002-03.<sup>7</sup>

Chakrabarti has subsequently conducted another analysis of the A+ program, comparing its impact on public schools to that of the Milwaukee voucher program. In the most recent version of the study, first circulated in 2006, she found that the A+ program had a larger impact on public schools. She proposed that this might be attributable to the A+ program being a failing schools program, which applies “shock value” by concentrating the exposure to competitive incentives on schools most in need of them.<sup>8</sup> This analysis also examines scores only through 2002-03.<sup>9</sup>

David Figlio of the University of Florida and Cecelia Rouse of Princeton University have also studied the A+ program to examine its impact on public schools. In their initial analysis, circulated in 2004, they examined data up through 2000-01 (that is, before vouchers became widely available in 2002-03) and found that the A+ program improved public schools. By comparing

results under the A+ program and the state's previous accountability program, they find that some of the improvement was attributable to competitive incentives from vouchers, but not a majority of the effect.<sup>10</sup>

In a subsequent study released in 2007, in which they are joined by Jane Hannaway of the Urban Institute and Dan Goldhaber of the University of Washington, they do not differentiate between the impact of vouchers and other factors associated with getting an F grade. They still find that under the A+ program the F grade produced significant improvements in public schools. This study collected data through 2004-05, but it used these data only to track the continuing effects on schools that had received Fs in 2002-03. It found that the academic improvements brought about by receiving an F grade in 2002-03 were sustained in future years. However, this does not provide any information on whether the impact of getting an F grade in 2002-03 was different than the impact of getting an F grade in other years.<sup>11</sup>

Finally, in 2005 Martin West and Paul Peterson of Harvard University released an analysis that found the A+ program produced academic gains in failing schools. This study did not differentiate between the impact of vouchers and the impact of other aspects of the program, such as the stigma effect. It examined the impact of the A+ program in 2002-03.<sup>12</sup>

## Method

This study examines the impact of A+ vouchers on Florida public schools in each year from 2001-02 through 2006-07. Since no previous study has examined the impact of the program after 2002-03, this study provides the first opportunity to examine in greater detail the long-term role of vouchers in improving public schools through a school accountability program.

The analysis uses Greene and Winters' school classification system. Schools are designated as Voucher Eligible, Voucher Threatened, Always D or Ever D, as follows:

- Voucher Eligible schools received two or more Fs in the four preceding school years. These schools are already exposed to competitive incentives from vouchers.
- Voucher Threatened schools received exactly one F in the preceding four years. These schools will be made eligible for vouchers if they receive another F.
- Always D schools received only Ds in the preceding four years. These schools are not yet directly threatened with vouchers, but there is a serious prospect that they will become so.
- Ever D schools received at least one D but no Fs in the preceding four years. These schools are not close to the voucher threat, but they are nonetheless towards the lower end of the accountability system. (Always D schools are included in both the Always D and Ever D categories.)

This study uses developmental scale scores that track the academic progress of students over time on a single scale that stretches from grades 3 to 10. Florida has recently made available separate test score results, measured in terms of year-to-year gains in developmental scale scores, for students in each grade level at each school whose scores are matched from one year to the next. Thus, each grade level at each school is a separate case in the analysis.

Tracking individual students over time is a much better way to measure academic progress, because it removes most of the impact of confounding variables such as demographic factors and unobserved characteristics. While the data in this study are school-level, they represent the school average for test score results that are individually tracked.

This study uses math scores on the Sunshine State Standards portion of the FCAT, the portion that is aligned with the state's achievement criteria and is used for the A+ program. It uses math scores because it is statistically easier to discern the effects of policy changes with math scores than with reading scores—a phenomenon that is probably due to the greater

influence of confounding variables on reading scores. It uses the Sunshine State Standards portion because developmental scale scores tracked from year to year are only available on this portion of the test; previous research has found that results on the Sunshine State Standards correlate closely with the other portion of the FCAT, the Norm-Referenced Test portion.<sup>13</sup>

Using these data, a linear regression analysis is performed. The year-to-year gain in developmental scale scores is the dependent variable. The independent variables are the percentage of students at each school who are white, the percentage of students who are qualified for free and reduced-price lunch, the percentage of students who are Limited English Proficient, dummy variables (0 or 1) for whether the school is Voucher Eligible, Voucher Threatened, Always D or Ever D, and dummy variables for each grade level. Results are weighted by the number of students in each school.

All data were obtained from the website of the Florida Department of Education. For the three demographic variables and the weights, data from the state's Adequate Yearly Progress reports are used, because this was the only up-to-date data source that included data on the percentage of Limited English Proficient students.

Adequate Yearly Progress data are not available before 2003-04, so for 2001-02 and 2002-03 the analysis uses data from 2003-04. The only alternative to this approach would be to go without data on Limited English Proficient students, an especially important demographic variable for analyzing Florida schools.

Files containing school grades are not available before 2002-03. While newer school grade files do include grades from older years, they do not include schools that are no longer operating. Since some schools that were eligible for vouchers at some point during the period of this analysis were subsequently closed, it is important to use contemporary reports of school grades rather than using the latest school grade files, which lack these schools. For 2001-02, however, a contemporary file is not available and the analysis has to rely on the file for 2002-03. Any schools that closed in 2001-02, and are therefore not in the 2002-03 school grade file, will be excluded from the analysis.

## **Results**

The results of the analysis are listed in Table 1. Results for Voucher Eligible and Voucher Threatened schools are also presented in Figures 2 and 3.

The results indicate that vouchers were a key element driving the A+ program's positive effect on Florida public schools. Over multiple years, the impact of the A+ program on the academic performance of failing public schools changed, sometimes dramatically, in ways that corresponded to the status of A+ vouchers. Such substantial changes should not be occurring if vouchers were not an important contributor to the program's positive effect. The stigma of the F grade, regression to the mean and other F factors did not change much from year to year between 2001-02 and 2006-07, so if they are the only things driving the results we should not see large changes in those results from year to year. While the stigma of an F grade or other factors may contribute to the impact of the A+ program, it is difficult to avoid the conclusion that competitive incentives due to vouchers were an important influence.

In 2001-02, before vouchers were widely available, the A+ program produced modest improvements in failing public schools. Voucher Threatened schools outperformed other Florida public schools by 13 developmental scale points in math on the state's developmental scale. Always D schools made improvements of 8 points over other Florida public schools, while Ever D schools made no improvements relative to other public schools. There were no Voucher Eligible schools in this year.

In 2002-03, the first year when substantial numbers of vouchers were available, the program produced dramatically larger improvements in failing public schools. Voucher Eligible schools outperformed other Florida public schools by 69 developmental scale points. Voucher Threatened schools outpaced other Florida public schools by 15 points, Always D schools by 8 points, and Ever D schools by 3 points.

From 2003-04 through 2005-06, as voucher participation rates dropped—a change attributable to the procedural obstacles discussed above, which would have prevented many eligible families from using vouchers—the positive effect was not so large. Voucher Eligible schools outperformed other Florida public schools by between 20 and 27 developmental scale points. Voucher Threatened schools improved relative to other schools by 10 points in 2003-04 and 9 points in 2004-05, but did not outperform other schools in 2005-06. Always D schools did not outperform other public schools in any year; in 2003-04 they actually underperformed other Florida public schools. Ever D schools fluctuated between making no improvements relative to other public schools and outpacing them by 6 points.

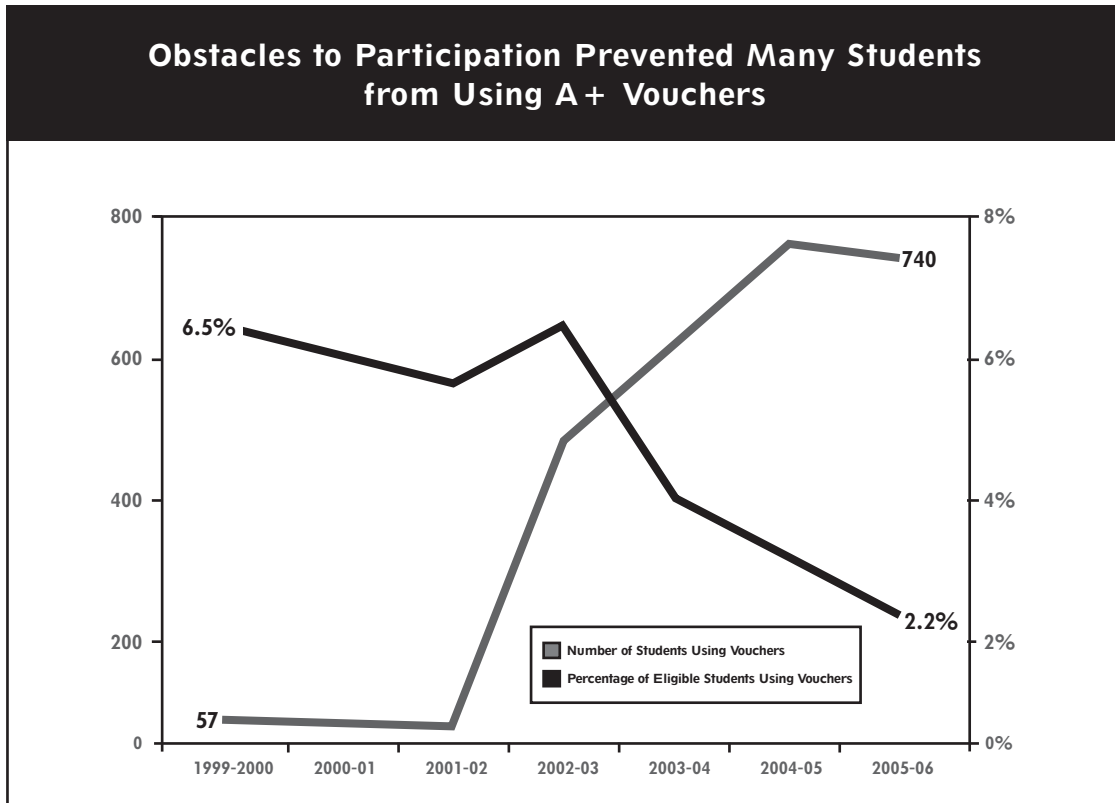
In 2006-07, the removal of vouchers caused the positive impact on public schools to drop well below what it had been even in 2001-02, before vouchers were widely available. Schools that would have been Voucher Eligible in 2006-07 outperformed other Florida public schools by 11 points. And schools that would have been Voucher Threatened made no gains relative to other Florida public schools (compared to the 13 developmental scale points they gained in 2001-02). Always D and Ever D schools also did not outperform other public schools.

The statistical certainty of the result for Voucher Eligible schools in 2006-07 is more moderate than the certainty of the results for earlier years. The significance value of the result is 0.085, which means, roughly speaking, that we can be 91.5 percent certain that the 11-point improvement is attributable to vouchers and not a statistical fluke. The conventional significance value required for the full acceptance of a result is 0.05, or 95 percent certainty. However, it is an accepted practice to report results with significance between 0.1 and 0.05 (that is, 90 to 95 percent certainty) as moderately significant. Thus, we can say that it is likely that the A+ program produced an 11-point gain in schools that would have been Voucher Eligible in 2006-07, but we cannot be as certain of this as we can of the other positive results.

## **Conclusion**

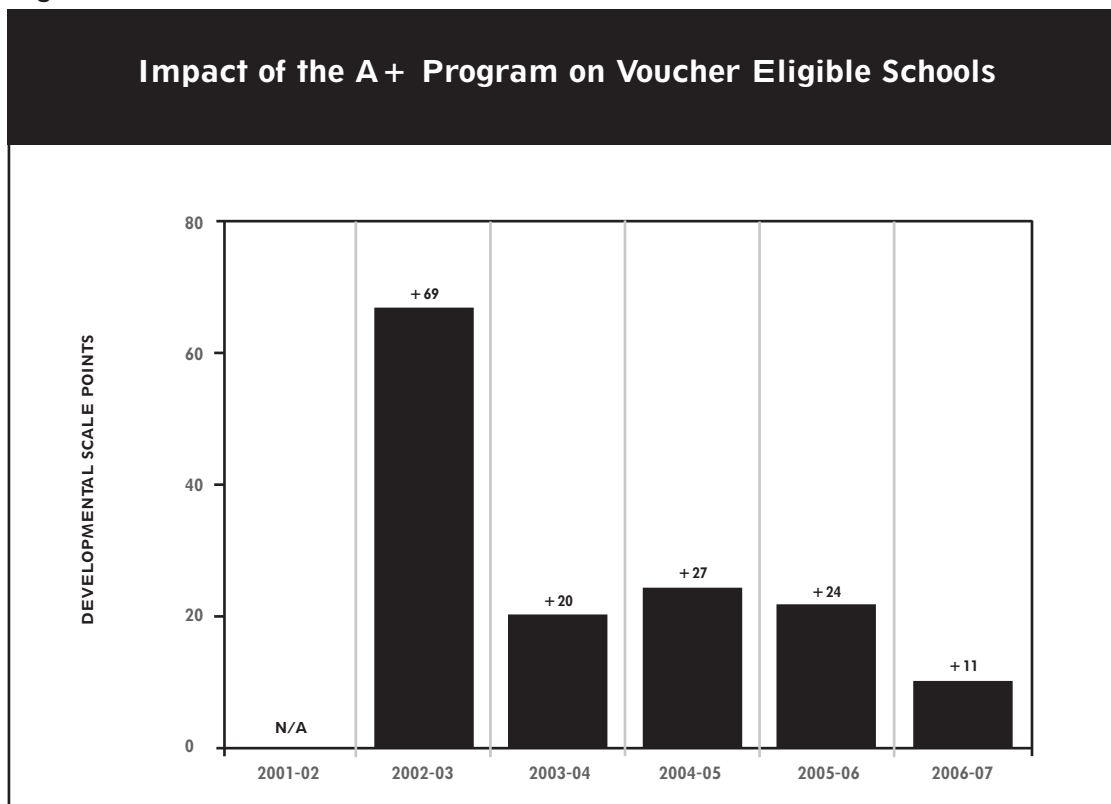
The empirical evidence shows that the loss of vouchers in the A+ program has struck a shocking blow to students in Florida's failing public schools. A+ vouchers were a powerful policy tool for improving the public schools most in need of help. This loss only redoubles the urgency of establishing and expanding other school choice programs that will apply the healthy incentives that public schools need to improve.

Figure 1



Note: In each year, the number of students eligible for vouchers was calculated by taking the highest annual enrollment in a voucher-eligible year at each public school that had been eligible for vouchers.

Figure 2



Note: Result in 2006-07 is moderately significant, meaning we cannot be quite as sure that the program produced the observed improvement, rather than a statistical fluke. Results in other years are fully significant, meaning we can be certain the program did produce the improvements.

Figure 3

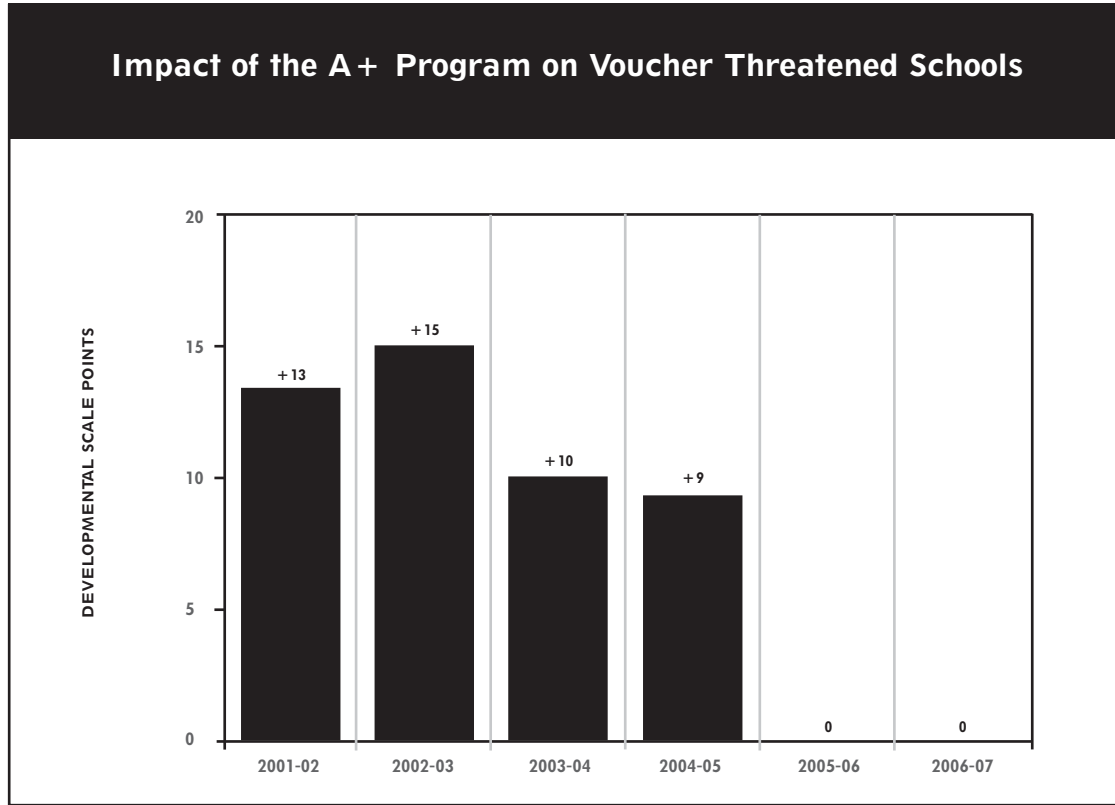


Table 1

The Impact of Vouchers on Florida Public Schools						
Year	School Type	Size of Effect	Significance	Number of Schools	Students Using Vouchers	
					Number	% of Eligible
2001-02	Voucher Eligible	N/A	N/A	0	47	5.4%
	Voucher Threatened	+ 13 developmental scale points	0.000***	75		
	Always D	+ 8 developmental scale points	0.000***	172		
	Ever D	( + 0 developmental scale points)	0.769	634		
2002-03	Voucher Eligible	+ 69 developmental scale points	0.000***	9	556	6.9%
	Voucher Threatened	+ 15 developmental scale points	0.000***	119		
	Always D	+ 8 developmental scale points	0.009**	66		
	Ever D	+ 3 developmental scale points	0.021*	622		
2003-04	Voucher Eligible	+ 20 developmental scale points	0.014*	6	640	3.8%
	Voucher Threatened	+ 10 developmental scale points	0.008**	77		
	Always D	- 7 developmental scale points	0.041*	34		
	Ever D	( + 2 developmental scale points)	0.190	457		
2004-05	Voucher Eligible	+ 27 developmental scale points	0.000***	18	763	2.9%
	Voucher Threatened	+ 9 developmental scale points	0.005**	80		
	Always D	( - 2 developmental scale points)	0.701	16		
	Ever D	+ 6 developmental scale points	0.000***	405		
2005-06	Voucher Eligible	+ 24 developmental scale points	0.000***	24	740	2.2%
	Voucher Threatened	( + 2 developmental scale points)	0.577	122		
	Always D	( - 3 developmental scale points)	0.524	13		
	Ever D	+ 3 developmental scale points	0.035*	380		
2006-07	Voucher Eligible	+ 11 developmental scale points	0.097†	12	N/A	N/A
	Voucher Threatened	( - 5 developmental scale points)	0.110	90		
	Always D	( + 3 developmental scale points)	0.495	16		
	Ever D	( + 1 developmental scale point)	0.467	346		

Note: Results are for the average annual change in developmental scale scores in each grade level of each school, for scores individually matched to students across years, on the FCAT-SSS math test. "Voucher Eligible" schools are Florida public schools that received at least two F grades in the preceding four years; "Voucher Threatened" schools are Florida public schools that received exactly one F grade in the preceding four years; "Always D" schools are Florida public schools that received four D grades in the preceding four years; and "Ever D" schools are Florida public schools that received at least one D and no Fs in the preceding four years (including Always D schools). The "Significance" column gives the p-value for each result; † = p <= 0.1; \* = p <= 0.05; \*\* = p <= 0.01; \*\*\* = p <= 0.001. Control variables were included for the percentage of students in each school who are white, low-income, and limited English proficient, as well as dummy variables for each grade level other than 4.

# Endnotes

<sup>1</sup> See Greg Forster, "Monopoly versus Markets: The Empirical Evidence on Private Schools and School Choice," Friedman Foundation for Educational Choice, September 2007.

<sup>2</sup> The most important of these is Susan Aud, "School Choice by the Numbers: The Fiscal Effect of School Choice Programs, 1990-2006," Friedman Foundation for Educational Choice, April 2007.

<sup>3</sup> Greg Forster, "Using School Choice: Analyzing How Parents Access Educational Freedom," Friedman Foundation for Educational Choice, October 2005.

<sup>4</sup> The eligible population in each year was estimated by making a list of every school that had ever been eligible for vouchers up to and including that year, and determining the highest annual enrollment in a voucher-eligible year for each of those schools. The total of these enrollment figures is the estimate of the eligible population in that year. This will underestimate the eligible population somewhat, as some schools were eligible in multiple years and turnover in the student population will increase the number of students who were ever eligible for the program in a way that our method will not pick up.

<sup>5</sup> Jay Greene, "An Evaluation of the Florida A-Plus Accountability and School Choice Program," Manhattan Institute, February 2001.

<sup>6</sup> Jay Greene and Marcus Winters, "Competition Passes the Test," *Education Next*, Summer 2004.

<sup>7</sup> Rajashri Chakrabarti, "Closing the Gap," *Education Next*, Summer 2004.

<sup>8</sup> Rajashri Chakrabarti, "Impact of Voucher Design on Public School Performance: Evidence from Florida and Milwaukee Voucher Programs," unpublished manuscript, 2006; available on the author's website at the Federal Reserve Bank of New York.

<sup>9</sup> I am assuming that the year Chakrabarti labels "2002" is actually the 2002-03 school year.

<sup>10</sup> David Figlio and Cecelia Rouse, "Do Accountability and Voucher Threats Improve Low-Performing Schools?" National Bureau of Economic Research, August 2004.

<sup>11</sup> Cecilia Rouse, Jane Hannaway, Dan Goldhaber and David Figlio, "Feeling the Florida Heat? How Low-Performing Schools Respond to Voucher and Accountability Pressure," National Center for Analysis of Longitudinal Data in Education Research, November 2007.

<sup>12</sup> Martin West and Paul Peterson, "The Efficacy of Choice Threats within School Accountability Systems: Results from Legislatively Induced Experiments," presented to the Royal Economic Society, March 23, 2005.

<sup>13</sup> Jay Greene, Marcus Winters and Greg Forster, "Testing High Stakes Tests: Can We Believe the Results of Accountability Tests?" *Teachers College Record*, June 2004.

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