The Impact of America's Choice on Student Performance in Duval County, Florida

Jonathan A. Supovitz
Brooke Snyder Taylor
Henry May

Consortium for Policy Research in Education
University of Pennsylvania

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About the America's Choice Design

The America's Choice School Design is a K-12 comprehensive school reform model designed by the National Center on Education and the Economy. America's Choice focuses on raising academic achievement by providing a rigorous standards-based curriculum and safety net for all students. The goal of America's Choice is to make sure that all but the most severely handicapped students reach an internationally benchmarked standard of achievement in English/language arts and mathematics by the time that they graduate.

America's Choice does not offer schools a script or a paint-by-numbers approach to reformed instruction. America's Choice recognizes that the pace of change will vary from school to school and the model does not have a rigid implementation schedule. Rather, the core of the design contains a set of principles about the purpose of schooling and how schools should operate as well as a set of tools for building a program based on those principles. The essential principles and tools include:

- **High expectations** for student performance that specify what students should know and be able to do at certain educational junctures. These standards are explicitly expressed through the *New Standards Performance Standards* that provide a common set of expectations for students and teachers.

- **An initial focus on literacy** that features elements of phonics, oral language, shared books, guided and independent reading, daily writing, and independent writing.

- **A common core curriculum** that is aligned with the standards. Through the America's Choice *literacy workshops*, *Core Assignments*, and *Foundations of Advanced Mathematics*, school life is organized around a core curriculum.

- **Standards-based assessments**, including *the New Standards Reference Examination*, that are aligned with the standards and the core curriculum, and that provide detailed feedback to teachers and students about student skill levels in relation to standards.

- **A distributed school leadership structure**, led by the school's principal, that coordinates implementation, analyzes results and sets performance targets, implements safety net programs to provide time for students to receive additional instruction, ensures the necessary resources, and aligns schedules and other school activities with implementation of the design.

- **Safety nets** that are structured into the school day and year and that provide students with extensive support and multiple opportunities to achieve the standards.

- **A commitment** to teacher professionalism that enables teachers to function as full professionals by providing ongoing, on-site professional development and support that is aligned with the standards and in which content and pedagogy are intimately connected.

In order to become an America's Choice school, over 80% of a school's faculty must indicate their commitment to the America's Choice design and agree to implement the program over three years. Each school must assign personnel as coaches to lead the implementation of the design, and a parent/community outreach coordinator who ensures that students get needed support services.

Evaluation of America's Choice

The Consortium for Policy Research in Education (CPRE) at the University of Pennsylvania was contracted by the National Center on Education and the Economy (NCEE) to conduct the external evaluation of the America's Choice School Design in 1998. Each year CPRE designs and conducts a series of targeted studies on the implementation and impacts of the America's Choice design. The report presented here is one of this year's evaluation reports.

The purpose of CPRE's evaluation is to provide formative feedback to NCEE and America's Choice schools about emerging trends in the implementation of the design, and to seek evidence of the impacts of the design using accepted high standards of evaluation design and analysis methodologies.

CPRE's evaluation of America's Choice is guided by three overarching evaluation questions about the implementation and impact of the design. First, is America's Choice being carried out in the manner envisioned — that is, how are teachers and school administrators understanding and implementing the many facets of the America's Choice reform design? Second, as a result of their implementation of America's Choice, are the instructional practices of teachers changing in ways that would improve student learning? Third, to what degree can improvements in student achievement be attributed to the design? Within this framework, annual evaluation studies target specific aspects of the America's Choice design for more in-depth investigation.

To address these questions, the CPRE evaluation team gathers a broad array of qualitative and quantitative data to develop a rich and valid picture of the implementation process over time and to capture the impacts of the design on students and teachers. Our data sources include:

- Surveys of teachers and administrators in America's Choice schools nationwide.
- Site visits to schools across the country to observe classroom instruction, examine implementation artifacts, and interview teachers, students, and school administrators.
- Telephone interviews with NCEE staff, school faculty members, and school and district administrators.
- Document reviews.
- Observations of national, regional, and school-level professional development.
- Collection of a variety of student performance measures, including state and local tests, the New Standards Reference Examination, and more authentic samples of student work products.

After data collection, CPRE research team members analyze the data using appropriate qualitative and quantitative research techniques in order to identify patterns of intended and unintended consequences and to detect effects of the design on students, teachers, and schools. The results are reported in a series of thematic evaluation reports that are released each year.

To inquire about the evaluation reports that are available, please contact CPRE's communications office at cpre@gse.upenn.edu, visit our web site at www.cpre.org, or call us at (215) 573-0700.

Executive Summary

This study, conducted by the Consortium for Policy Research in Education (CPRE), reports on the impact of the America's Choice school design on student standardized test performance in Duval County, Florida. We present the results of the first two years of the impact of America's Choice in Duval County in elementary and middle schools in writing, reading, and mathematics using test data from 1999-2001.

To detect the effects of America's Choice on student learning, we compared the gains in performance of students in America's Choice schools to those of students in other schools in the district. We employed two statistical techniques in order to make the comparisons as fair as possible. First, we controlled for a variety of student and school demographic characteristics, including prior student achievement, in order to isolate the influences of America's Choice on student learning during a one-to-two year period. Second, we used a statistical method called multi-level modeling that allowed us to appropriately model the fact that students are nested within schools and to take into account the fact that we were looking for the effect of a school-level reform effort using individual-level student data.

The major findings are:

- Overall, the patterns in student standardized test performance indicate that students in America's Choice schools regularly outgained students in other district schools in writing, and to a lesser extent reading and mathematics, after controlling for prior student achievement, and student and school demographic characteristics. In all three subjects, in both elementary and middle schools, there were multiple examples of significantly higher learning gains of students in America's Choice schools in comparison to students in other schools in the district, while there were no cases where students in the other district schools statistically outgained students in America's Choice schools. In many cases, the differences in learning were positive in favor of students in America's Choice schools, but only approaching statistical significance, in part due to the small number of America's Choice schools in some parts of the study. By contrast, there were no cases where students in other district schools outgained students in America's Choice schools that were even approaching statistical significance. In fact, the only school-level variable that came up significant more often than America's Choice was the percentage of students in a school receiving free or reduced-price lunch — an indicator of poverty that has long been documented to be strongly associated with student performance.

- Detectable patterns of effect were strongest in writing, where students in America's Choice schools consistently demonstrated higher learning gains than students in other schools in the district. The results were most dramatic in fourth grade, where results were statistically significant in both cohorts of America's Choice schools. In eighth grade, students in America's Choice schools had higher test performance learning gains than students in other district schools. These results were promising, although not statistically significant in part due to the small number of middle schools that were implementing America's Choice in both cohorts II (four schools) and III (seven schools). The most dramatic and positive differences in writing in favor of America's Choice were visible in the first year of implementation for both cohorts, with smaller positive differences continuing in the second year of implementation.

- In reading, there were few detectable differences between the performance of students in America's Choice schools and those in other schools within the district. There were, however, a couple of grades where America's Choice students outgained their peers in other schools within the district. The largest effects in reading performance gains associated with

America's Choice were for eighth-grade students in cohort II schools, where eighth-grade students in America's Choice schools gained about 4% more than their peers in the other middle schools in the district. Given that cohort II middle schools have been implementing the America's Choice reading program the longest, this is promising. Cohort III fourth graders in America's Choice schools also significantly outperformed their peers. In no grade levels did students in other district schools statistically outperform students in America's Choice schools in reading.

- In mathematics, students in their second year of attending an America's Choice school (cohort II) significantly outperformed their peers in both fourth and eighth grade. In fourth grade, the results were particularly driven by the performance of the students in the larger America's Choice schools. In eighth grade, the students in the America's Choice cohort II middle schools had statistically larger learning gains in comparison to the students in the district's other schools by almost 10% — the widest margins for any of the analyses done for this study.

- Overall, across grades and subjects, the America's Choice design had an equal effect on White and minority students. In 22% of the grades and subjects examined, America's Choice was associated with a statistically significant reduction in the gap in performance between White and minority students by increasing the performance of minority students at a higher rate than White students. The reductions in performance gaps were particularly persistent in eighth-grade cohort II America's Choice schools in writing and reading. In no case did America's Choice significantly exacerbate the gap in performance between White and minority students. Although in most cases the differences were not statistically significant, in 80% of the grades and subjects examined, America's Choice schools had a reduction in the gap in performance between White and minority students.

Finally, it is important to understand the context within which America's Choice is being implemented in Duval County. The district leaders' initiatives contain many elements that are consistent with America's Choice. Therefore, we must consider the possibility that the district's efforts to implement standards-based reform in all schools across the district may be minimizing the effects of America's Choice. In other words, if other schools in the district are gaining in performance as a result of the district-wide reform efforts as well, then the results of America's Choice may be less detectable. CPRE is designing a future study that will allow us to test this hypothesis.

Introduction

The America's Choice comprehensive school reform design was first implemented in Duval County in the 1999-2000 school year when 10 elementary schools and four middle schools, together called cohort II, adopted the design. In the 2000-2001 school year, an additional 38 elementary and seven middle schools, collectively called cohort III, became America's Choice schools.[1] In this study we compare the writing, reading, and mathematics test performance of the students in these schools to the performance of students in the other 53 district elementary schools and 16 district middle schools. Other schools within the district were used as a comparison group, even though they are also adopting elements of standards-based reform as part of the district's broader reform efforts.

It is important to understand the rollout of the America's Choice design in Duval County because implementation influences impact. The rollout of America's Choice, particularly with regard to reading and writing, differed slightly between the two cohorts. In their first year, the cohort II elementary schools implemented the America's Choice writing component, and the cohort II middle schools implemented the America's Choice reading component. In their second year, the cohort II elementary schools focused on implementing the reading component of the design, while the middle schools focused on the writing component of America's Choice. Both the elementary and middle schools in cohort III implemented writing in their first year and reading in their second year. Mathematics was initially implemented in schools' second year of the design, but the pace of mathematics implementation varied widely by school.

While America's Choice was being implemented in 59 of the 128 elementary and middle schools in Duval County in 2001, other instructional improvement efforts were underway in other district schools as well. Eighteen elementary schools were implementing other school reform models like Direct Instruction and Success for All. Additionally, all other schools in the district were being introduced to standards and selected elements of America's Choice. For example, all schools were given the New Standards Performance Standards and told that these, in addition to the Florida Sunshine Standards, were the focal point for student outcomes. The district also had an additional contract with NCEE to provide literacy institutes at all levels, where schools were asked to send one instructor or a small team of teachers to training and to implement at least one model literacy classroom in their school. Also, at the encouragement of the regional superintendents in Duval County, America's Choice schools opened their doors to faculty members of other schools, which sent teams of teachers and administrators to investigate what was going on. Because of the potential "leakage effect" to other district schools, the comparisons in this study can best be seen as a comparison between formal implementation of America's Choice and schools implementing some other elements of the design.

This report contains five sections. Following this introduction, we provide a comparison of the descriptive statistics of America's Choice schools and other district schools. Differences in these simple descriptive comparisons lay the groundwork for applying more sophisticated methods of analysis to the data that provide fairer comparisons in order to isolate the influence of America's Choice on student performance. We then describe the methods for these more sophisticated analyses. Next, we detail the results of our analyses of the effects of America's Choice on student performance in writing, reading, and mathematics. We also include an analysis of the influence of America's Choice on the gaps in performance between minority and White students. The report concludes with a discussion of the findings.

[1] These cohort designations refer to the national America's Choice cohorts with which these schools are members. There are no cohort I America's Choice schools in Duval County.

Table 1. Descriptive Statistics (Means and Standard Deviations) for America's Choice Cohort II and III Elementary Schools and Other Elementary Schools in Duval County in 1999, Prior to the Adoption of America's Choice

	America's Choice Cohort II Elementary Schools (n=10)	America's Choice Cohort III Elementary Schools (n=38)	Other District Elementary Schools (n=53)
Percent of students on free/reduced-price lunch	68.57 (23.93)	57.67 (18.27)	61.40 (23.48)
Average class size	22.22 (2.64)	23.44 (2.59)	23.13 (4.75)
Average school size	558.50 (201.18)	652.26 (247.04)	643.08 (285.66)
Percent of students absent 21 or more days	9.96 (3.09)	9.92 (3.42)	8.84 (3.67)
Fourth-grade criterion-referenced reading performance	287.95 (54.94)	295.86 (51.89)	294.28 (54.41)
Fourth-grade norm-referenced mathematics performance	712.25 (55.87)	721.37 (52.21)	720.04 (53.84)

Descriptive Comparison of America's Choice and Other District Schools

In this section, we compare demographic data on both America's Choice and other district schools. Overall, there were substantial differences in the composition of the students in the two cohorts of America's Choice schools in comparison to the district's other schools. The cohort II America's Choice schools generally appeared to have poorer and lower performing students in comparison to other schools in the district, while the cohort III schools appeared to be more similar to other district schools. Table 1 provides a detailed comparison between the two cohorts of America's Choice elementary schools and other elementary schools in the district. The data presented in this table are from 1998-1999, the year before any school in the district adopted America's Choice.

The 10 America's Choice cohort II elementary schools were among the poorest and lowest performing in the district prior to their implementation of America's Choice. As seen in Table 1, the cohort II elementary schools had a higher proportion of students receiving free or reduced-price lunch (69% compared to 61%), and were slightly smaller, on average, than other schools in the district. As shown in the last two rows of Table 1, prior to their adoption of America's Choice, the cohort II elementary schools had substantially lower reading and mathematics test scores in comparison to other district elementary schools. In fact, the cohort II school average test performance was significantly lower (reading: $t=3.07$, d.f.=5659, $p<.001$; mathematics: $t=3.85$, d.f.= 5794, $p<.001$) than it was for other elementary schools in the district.

Table 2. Descriptive Statistics (Means and Standard Deviations) for America's Choice Cohort II and III Middle Schools and Other Middle Schools in Duval County in 1999, Prior to the Adoption of America's Choice

	America's Choice Cohort II Middle Schools (n=4)	America's Choice Cohort III Middle Schools (n=7)	Other District Middle Schools (n=16)
Percent of students on free/reduced-price lunch	67.40 (17.59)	40.37 (14.52)	54.68 (22.54)
Average class size	24.58 (4.60)	26.99 (2.52)	25.05 (4.21)
Average school size	1,153.25 (319.88)	1,336.00 (200.74)	967.88 (453.96)
Percent of students absent 21 or more days	32.20 (5.23)	14.96 (7.77)	16.61 (12.32)
Eighth-grade criterion-referenced reading performance	272.67 (46.37)	299.09 (48.10)	294.61 (51.55)
Eighth-grade norm-referenced mathematics performance	268.23 (52.23)	299.52 (47.54)	291.00 (54.54)

The second group of 38 America's Choice elementary schools that adopted the design in 2000 were more demographically similar to the other 53 elementary schools in the district. They had similar percentages of students receiving free or reduced-price lunch (58% compared to 61%), and were of similar size (652 students, on average, compared to 643 students for other district elementary schools). In 1999, prior to their adoption of America's Choice, the reading and mathematics test scores in cohort III elementary schools were also similar, on average, to those of other district elementary schools.

Middle school comparisons between America's Choice schools and other middle schools in Duval County showed a similar pattern to that of elementary schools. Overall, the cohort II schools served poorer students who were lower performing than their peers in other district middle schools, while the cohort III schools were more similar to the other district middle schools. Table 2 shows the descriptive statistics for the middle schools in cohorts II and III of America's Choice as well as the other 16 middle schools in Duval County.

There were only four middle schools in cohort II of America's Choice in Duval County. In comparison to the other middle schools in the district, these four schools had a higher percentage of students receiving free or reduced-price lunch (67% compared to 55%). These were also larger schools, serving an average of 1,153 students, compared to the average of 968 for other district middle schools. They also had a serious student attendance problem: almost a third of their students had high absence rates, compared to 17% in the district's other middle schools. Prior to their adoption of America's Choice, in 1999, the cohort II schools had significantly lower test performance than that of the other district middle schools (reading: $t=14.07$, d.f.=2131, $p<.001$; mathematics: $t=12.85$, d.f.=5290, $p<.001$). In reading, this represented almost a half a standard deviation lower performance. In other words, in the America's Choice middle schools, approximately 65% of the students scored below the district average of 293, while in other district middle schools, only 44% scored below the district average.

The seven cohort III middle schools were more similar to the district's other middle schools, although they had a lower percentage of students receiving free or reduced-price lunch (40% compared to 55%) and were larger, on average, than the district's other middle schools (1,336 students compared to 968 students). In terms of achievement prior to involvement in America's Choice, the cohort III schools had higher performance in both reading (299 compared to 295) and mathematics (300 compared to 291) compared to other district middle schools. Both of these differences were statistically significant (reading: $t=3.61$, d.f.=5773, $p<.001$; mathematics: $t=6.75$, d.f.=6091, $p<.001$).

Overall, there were many differences in the demographics and test performance of the students in the two cohorts of America's Choice schools in comparison to the district's other schools. Because of the differences between the two cohorts of America's Choice schools and the other district schools, both in terms of the demographics and prior achievement of their students, it is important to adjust for these differences using statistical means. Statistical controls allow us to equalize differences between two groups, helping to produce fairer comparisons.

Methodology

In this section, we describe the data we examined in our analyses, including test scores and student and school demographic information. We also detail the methods that we used to analyze the effects of America's Choice on students' test score gains after controlling for the differences in the backgrounds of the students and demographics of the schools.

Data

In conducting these analyses, we used data from about 23,000 fourth and fifth graders enrolled in 101 elementary schools, and 20,000 seventh and eighth graders from 27 middle schools in Duval County. These students constitute the full population of students that attended Duval County schools at these grade levels between 1999 and 2001. Student demographics and district and state standardized test scores for students in third through eighth grade were collected for the 1998-1999, 1999-2000, and 2000-2001 school years. The standardized tests were administered in the spring of each school year.

Our analyses consisted of a series of models that controlled for each students' achievement in the previous year, as well as student and school demographic characteristics, in order to predict the current year's achievement. Thus, for example, we predicted fourth-grade achievement controlling for third-grade achievement. We typically did analyses that predicted the achievement of fourth and fifth graders in elementary schools, and sixth, seventh, and eighth graders in middle schools. The 1998-1999 school year served as the baseline (i.e., prior to their adoption of America's Choice) year for the cohort II analysis, and the 1999-2000 school year served as the baseline year for the cohort III analysis. By the end of the 2000-2001 school year, the cohort II schools had implemented the America's Choice design for two years and the America's Choice cohort III schools for one year. School demographics were garnered from the Florida School Indicators Report for the 1998-1999 school year. Student and school variables are described below.

We considered two general methods for constructing appropriate comparison groups for the two cohorts of America's Choice schools. We first considered drawing a matched comparison group for each of the America's Choice cohorts. There were two problems with this approach. First, since the America's Choice schools were some of the lowest performing schools in the district, it was difficult to find matched comparisons for many of them. Second, the strategy of matched comparisons reduced our sample sizes such that we had less likelihood of detecting differences in the test performance of the students in the two groups of schools. Therefore, we decided to use the entire population of schools in the district, relying on statistical techniques to adjust for differences in student and school demographic characteristics.

Cases with missing data were removed by listwise deletion. Almost all students who were

Table 3. Test Data Used for Analyses of the Impact of America's Choice on Student Performance in Duval County from 1999 to 2001

	Grade Level					
	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Reading						
2001	SAT-9	SSS	SAT-9	SAT-9	SAT-9	SSS
2000	SAT-9	SSS	SAT-9	SAT-9	SAT-9	SSS
1999	CTBS/TNT	SSS	CTBS/TNT	CTBS/TNT	CTBS/TNT	SSS
Writing						
2001		SSS				SSS
2000		SSS				SSS
1999		SSS				SSS
Math						
2001	SAT-9	SAT-9	SSS	SAT-9	SAT-9	SSS
2000	SAT-9	SAT-9	SSS	SAT-9	SAT-9	SSS
1999	CTBS/TNT	CTBS/TNT	SSS	CTBS/TNT	CTBS/TNT	SSS

SAT-9 = Stanford Achievement Test, Version 9, a norm-referenced assessment
SSS = Sunshine State Standards test, a criterion-referenced assessment
CTBS/TNT = California Test of Basic Skills/TerraNova Test, norm-referenced assessments

removed from the study were omitted either due to missing pre-test or post-test scores. Overall, 22-30% of elementary school students and 28-38% of middle school students were excluded from the analyses, depending on the grade and year. These high missing data rates were largely due to student mobility. Patterns within the missing data were explored for potential biases in the missing data of students in America's Choice schools and those in other district schools. Comparisons of the available pre- or post-test scores for those removed did not indicate any substantial differences in the proportion of students removed from either of the comparison groups of interest.

Test Scores

Florida uses a mixture of norm-referenced and criterion-referenced assessment measures to assess student performance at different grade levels. Norm-referenced assessments depict the performance of students in relation to other students, while criterion-referenced assessments are intended to determine how well a student has mastered a set of standards representing an entire curriculum. In grades where students took a norm-referenced and a criterion-referenced assessment, we chose to use the criterion-referenced measure in our analysis because it is closer to the standards-based philosophy of America's Choice.

Table 3 shows the test data used in CPRE's analyses for each grade level, subject, and year. The norm-referenced assessments at grade three were only used to control for the prior achievement of fourth graders. The fourth-grade analyses used writing and reading scores on the criterion-referenced Sunshine State Standards (SSS) portion of the Florida Comprehensive Assessment Test (FCAT), and mathematics scores on the SAT-9, the norm-referenced portion of the FCAT. The fifth-grade analyses used mathematics scores on the criterion-referenced portion of the FCAT, and reading and mathematics scores on the norm-referenced portion of the FCAT. The sixth- and seventh-grade analyses used reading and mathematics scores on the norm-referenced portion of the FCAT. Eighth-grade analyses used reading, writing, and mathematics scores on the criterion-referenced portion of the FCAT, and reading and mathematics scores on the norm-referenced portion of the FCAT.

Our basic analytic strategy in using these test score data was to examine student gain scores by predicting a particular year's student performance and controlling for the students' prior year test score. Therefore, our models at times controlled for a norm-referenced assessment and predicted a criterion-referenced assessment. Achievement scores were transformed into z-score units for the analyses so that we could compare the magnitude of effects, regardless of the test and subject area.

Student and School Demographic Characteristics

Six individual student variables and six school-level variables were used as predictors in the models. Student predictor variables included prior standardized achievement score; number of days absent in the current school year; and dummy indicators for free or reduced-price lunch, minority student, male student, and disability classification. School-level predictor variables included school size, average class size, school grade (A-F) assigned under the state accountability system,[2] percentage of students eligible for free or reduced-price lunch, percentage of students absent 21 or more days, and a dummy variable for schools that implemented the America's Choice design. Many of the descriptive statistics for these variables were provided in Tables 1 and 2.

Models

Multi-level models were used to estimate the effects of America's Choice on student achievement in reading, writing, and mathematics after adjusting for selected student and school characteristics. Models were estimated separately for each cohort and grade level. Each model comprised two levels where individual students (Level 1) were nested within schools (Level 2). The basic random intercept model equation follows.

Student-level model (Level 1):

$$Yij = \beta_{0j} + \beta_1(\text{PRIOR ACHIEVEMENT})_{ij} + \beta_2(\text{LUNCH ASSISTANCE})_{ij} + \beta_3(\text{MINORITY})_{ij} + \beta_4(\text{MALE})_{ij} + \beta_5(\text{DISABILITY})_{ij} + \beta_6(\text{ABSENCES})_{ij} + r_{ij}$$

School-level model (Level 2):

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{SCHOOL GRADE})_j + \gamma_{02}(\text{LUNCH ASSISTANCE})_j + \gamma_{03}(\text{SCHOOL SIZE})_j + \gamma_{04}(\text{CLASS SIZE})_j + \gamma_{05}(\text{ABSENT 21+ Days})_j + \gamma_{06}(\text{AMERICA'S CHOICE})_j + u_{0j}$$

In the Level 1 model, Yij is the student achievement outcome for student i in school j, β_{0j} is the mean student achievement in school j, β_1 through β_6 are the fixed effects coefficients for the student-level predictors, and r_{ij} is the individual student-level random effect, or error term. In the Level 2 model, γ_{00} is the mean student achievement gain (i.e., the residualized achievement gain after controlling for prior achievement) across all schools. γ_{01} through γ_{05} are the fixed effects coefficients for the school-level predictors after controlling for the Level 1 student characteristics, γ_{06} is the effect of America's Choice on school mean achievement gain after controlling for the student and other school-level characteristics, and u_{0j} is the school-level random effect, or error term. Student-level sample sizes varied in the analyses due to listwise deletion of cases with missing demographics or test data.

In follow-up analyses, interactions between the America's Choice predictor and each of the school-level predictors were also explored. The minority achievement gap was also explored by adding a random slope to the above two level models.

$$\beta_{3j} = \gamma_{30} + \gamma_{31}(\text{AMERICA'S CHOICE})_j + u_{3j}$$

Where γ_{30} is the average minority gap after controlling for prior achievement score, lunch assistance, gender, disability, and absences; γ_{31} is the effect of America's Choice on the minority achievement gap after controlling for the five student characteristics; and u_{3j} is the school-level random slope effect.

[2] The school grades were converted to a numerical scale so that A=1, B=2, and so on.

Table 4. Differences in Standardized Units, by Grade and Cohort, Between the Writing Performance of Students in America's Choice Schools and Students in Other District Schools (with Standard Errors in Parentheses)

Cohort and Grade	1999-2000	2000-2001	1999-2001
Cohort II			
Fourth Grade (n_{AC} = 10)	.18*	.14	
	(.09)	(.10)	
Eighth Grade (n_{AC} = 4)	.07	.09	.09
	(.14)	(.13)	(.12)
Cohort III			
Fourth Grade (n_{AC} = 38)		.14*	
		(.06)	
Eighth Grade (n_{AC} = 7)		.10	
		(.10)	

˜ p < .10, * p < .05, ** p < .01

Results

In this section, we report the findings of our analyses comparing the performance of students in America's Choice schools to that of students in other district schools in three subjects: writing, reading, and mathematics. We also report on a series of analyses that looked at the relative performance of White and minority students to investigate whether school-level differences in the performance gains of students of different ethnicities was associated with attending an America's Choice school.

Impact of America's Choice on Student Writing Performance

Students in America's Choice schools consistently outperformed students in other district schools in writing after controlling for differences in students' prior achievement and differences in the demographic characteristics of students and schools. Table 4 shows the results, by grade and cohort, of a series of multi-level models that compared the performance of students on the FCAT criterion-referenced assessment in writing after controlling for student demographic characteristics, student prior achievement (as measured by third- and seventh-grade norm-referenced reading scores), and school demographic characteristics.[3] Writing assessments are only administered in fourth and eighth grades in Duval County.

For cohort II, which had been implementing America's Choice for two years when these data were made available, the results are depicted in three ways: the first column shows the effects after the first year of implementation, 1999-2000; the second column shows the effects after the second year of implementation, 2000-2001, examining a different group of students; and the third column shows the effects over two years of implementation, 1999-2001, for the same group of students. Thus, using eighth graders as an example, the first column shows the results for eighth graders in 1999-2000, controlling for their seventh-grade test scores. The second column shows the results for the 2000-2001 eighth graders. The third column shows the results for the 2000-2001 eighth graders (the same students as in the second column) controlling for their sixth-grade test scores (i.e., performance over two years). The reason that there are no 1999-2001 analyses for fourth graders is because we would need a second-grade test as a control for prior achievement and students are not assessed until the end of the

[3] See Appendix A for a full set of the multi-level model results for writing.

third grade. For cohort III, which had been implementing America's Choice for just one year when these data were made available, the results are shown just for the 2000-2001 school year.

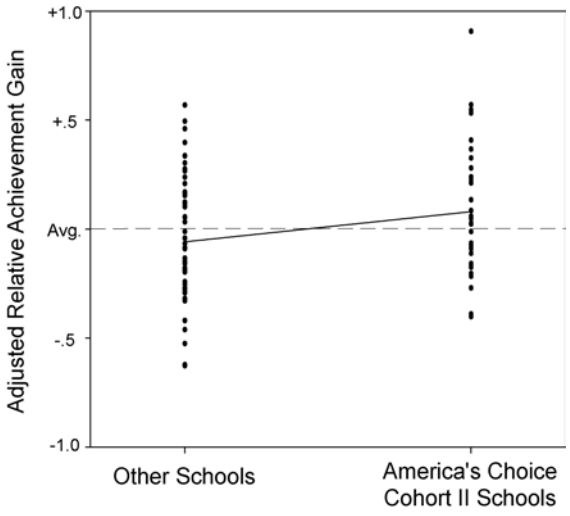
All the numbers represented in Table 4, as well as all following tables, show the differences, in standard deviation units, between students in America's Choice schools and those in other Duval County schools, for different subjects and grade levels, after controlling for both individual student characteristics and school characteristics. Reporting the scores in standardized units is commonly accepted as it allows for comparisons of effect sizes across years and subjects.

After the first year of implementation of America's Choice (1999-2000), the fourth-grade students in the 10 America's Choice cohort II schools statistically significantly outgained fourth-grade students in the 53 other district elementary schools by about a fifth of a standard deviation. In non-technical terms, think of two students who performed similarly in writing in the year prior to the adoption of America's Choice. They both attended similar schools, but one was an America's Choice school and the other was not. At the end of the year, the student in the America's Choice school gained about 5% more on the test than their peer in the other district elementary school.[4]

In 2000-2001, on average, the fourth-grade students in the cohort II America's Choice schools again outgained those in the other district schools, although this difference was only approaching statistical significance. For eighth-grade cohort II writing performance, the students in the America's Choice schools had test score gains that were, on average, larger than their peers in the other district middle schools, as represented by the positive coefficients, but these differences were not statistically significant. Thus, the differences between the two groups of students may be due to chance. This may be due to the fact that there are only four middle schools in cohort II of America's Choice, which decreases the precision of the estimates of difference.

The results for cohort III America's Choice schools show a similar pattern. After their first year in America's Choice schools, fourth-grade students had statistically significantly higher performance gains in writing than did students in other standards-based schools in the district. After controlling for student background characteristics and prior achievement, fourth-grade students in cohort III America's Choice schools outperformed fourth graders in other district schools by .14 of a standard deviation. This represents about a 4% difference in students' learning gains in writing that are associated with America's Choice, as measured by the Sunshine State Standard writing test.[5]

Figure 1. Predicted Writing Performance of Cohort III Fourth-grade Students in America's Choice and Other District Schools



[4] This amounted to a 1.5-point difference on the 2000 Sunshine State Standards Writing Test where 90% of the students scored between 15 and 45.

[5] This amounted to a 1.25-point difference in test score gains, where 90% of the students scored between 20 and 50 points.

This result is shown graphically in Figure 1, which portrays the predicted performance of fourth-grade students in America's Choice and other district schools. The regression line shows that the predicted gains of the other district schools is .14 of a standard deviation below the predicted gains of students in America's Choice schools. In other words, students in America's Choice schools were predicted to gain .09 of a standard deviation more than the average gain of students in the district. By contrast, the students in the other district elementary schools were predicted to gain .05 of a standard deviation less than the average gain in the district.

Finally, the eighth-grade students in the seven cohort III America's Choice schools performed a tenth of a standard deviation higher, on average, than did students in the other 16 middle schools in the district after controlling for prior achievement and individual student and school demographic characteristics. While this difference was promising, we cannot rule out the possibility that this difference was due to chance.

Table 5. Differences, by Grade and Cohort, Between the Reading Performance of Students in America's Choice Schools and Students in Other District Schools (with Standard Errors in Parentheses)

Cohort and Grade	1999-2000	2000-2001	1999-2001
Cohort II			
Fourth Grade (n_{AC} = 10)	-.04 (.06)	.02 (.04)	
Fifth Grade (n_{AC} = 10)	-.04 (.05)	-.01 (.04)	-.02 (.05)
Sixth Grade (n_{AC} = 4)	.02 (.04)	.02 (.06)	.00 (.06)
Seventh Grade (n_{AC} = 4)	-.03 (.04)	-.04 (.10)	-.01 (.06)
Eighth Grade (n_{AC} = 4)	.13~ (.07)	.11 (.08)	.11* (.05)
Cohort III			
Fourth Grade (n_{AC} = 38)		.05~ (.03)	
Fifth Grade (n_{AC} = 38)		.02 (.02)	
Sixth Grade (n_{AC} = 7)		.01 (.04)	
Seventh Grade (n_{AC} = 7)		-.08 (.08)	
Eighth Grade (n_{AC} = 7)		.02 (.07)	

~ $p < .10$, * $p < .05$, ** $p < .01$

Impact of America's Choice on Student Reading Performance

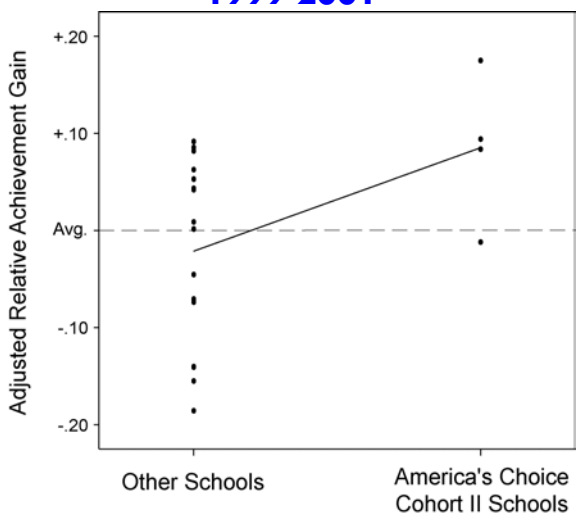
Overall, there were few detectable differences between the standardized reading performance of either elementary or middle school students in America's Choice schools and those in the other schools in the district. Table 5 shows the results of student performance, by grade level and cohort, in America's Choice schools and those in other standards-based schools in the district.[6]

For cohort II, as seen in Table 5, there were no statistically significant differences between students in the America's Choice schools and students in the district's other schools with the exception of eighth graders. Most of these results show, on average, slightly higher performance for the students in the district's other schools, but the differences are so small (in all cases smaller than the surrounding error) that the performance of the two groups is virtually indistinguishable.

The one exception to this pattern of negligible differences in reading performance between students in America's Choice cohort II schools and students in other district schools was eighth grade. In both 1999-2000 and 1999-2001 (which represents different groups of students), eighth-grade students in America's Choice schools statistically outperformed other district eighth graders in reading after controlling for prior reading achievement and both individual and school demographic characteristics. In 1999-2000, the gains in achievement associated with America's Choice amounted to .13 of a standard deviation, which translates into about eight test score points, or 4% higher performance for eighth graders in America's Choice schools after controlling for differences in student and school demographic characteristics.[7] This statistically significant difference is particularly noteworthy given the fact that there are only four cohort II America's Choice middle schools, which means that the differences would have to be substantial to be statistically detectable.

Table 5 also shows the reading results for cohort III students after their first year in America's Choice schools, the 2000-2001 school year. Fourth-grade students in cohort III America's Choice schools statistically significantly outgained fourth graders in other district elementary schools by one-twentieth of a standard deviation. These differences after one year, however, were fairly small, amounting to about a 2% difference in gains in performance between fourth graders in America's Choice schools and fourth graders in other district elementary schools.[8] The results in the fifth, sixth, seventh, and eighth grades indicated that there were no detectable differences in reading performance gains on the standardized tests between students in the cohort III America's Choice middle schools and students in the other district middle schools.

Figure 2. Cohort II Eighth-grade Adjusted Reading Achievement Gains for America's Choice and Other District Middle Schools from 1999-2001



[6] See Appendices B and C for a full set of the multi-level model results for reading.

[7] These eight points on the state's criterion-referenced assessment were on a test where 90% of the students scored between 174 and 367.

[8] There was a three-point difference on a test where the range of scores was 192 for students in the fifth percentile and 389 for students in the 95th percentile.

These differences in cohort II eighth-grade reading performance for students in America's Choice schools in comparison to students in other district middle schools are shown graphically in Figure 2. Each dot in Figure 2 represents the adjusted school-average achievement gain for an individual school. The array of schools on the left of the figure show the distribution of adjusted performance gains for the non-America's Choice middle schools in Duval County. The four dots on the right show the adjusted gains of the four cohort II America's Choice middle schools. The solid line bisecting each of the two arrays represents the statistically significant difference in average performance gains between the two groups of schools.

Impact of America's Choice on Student Mathematics Performance

We sought to examine the influence of America's Choice on student standardized test performance in mathematics in order to explore both direct and indirect effects. Mathematics is

Table 6. Differences, by Grade and Cohort, Between the Mathematics Performance of Students in America's Choice Schools and Students in Other District Schools (With Standard Errors in Parentheses)

Cohort and Grade	1999-2000	2000-2001	1999-2001
Cohort II			
Fourth Grade (n_{AC} = 10)	-.07	.00	
Main Effect	(.05)	(.05)	
Fourth Grade		.11~	
School Size Interaction		(.06)	
Fifth Grade (n_{AC} = 10)	.00	.09	.09
	(.06)	(.07)	(.08)
Sixth Grade (n_{AC} = 4)	-.03	.00	.00
	(.05)	(.09)	(.08)
Seventh Grade (n_{AC} = 4)	-.06	.02	-.03
	(.04)	(.14)	(.10)
Eighth Grade (n_{AC} = 4)	.28**	.15	.16*
	(.09)	(.11)	(.07)
Cohort III			
Fourth Grade (n_{AC} = 38)		.04	
		(.03)	
Fifth Grade (n_{AC} = 38)		.03	
		(.05)	
Sixth Grade (n_{AC} = 7)		.01	
		(.05)	
Seventh Grade (n_{AC} = 7)		.02	
		(.11)	
Eighth Grade (n_{AC} = 7)		.05	
		(.09)	

~ $p < .10$, * $p < .05$, ** $p < .01$

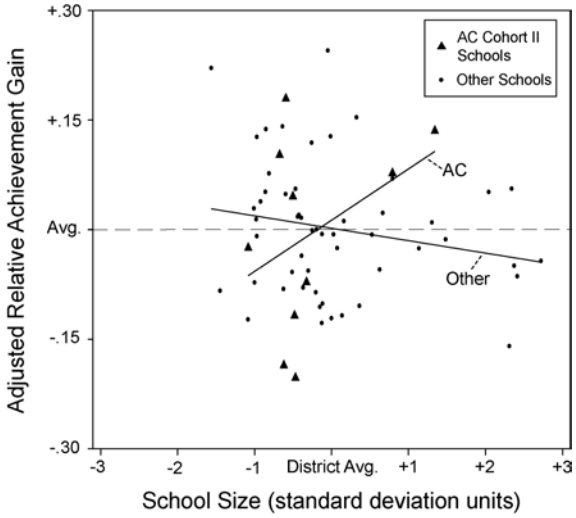
introduced in America's Choice schools in the second year of the design. Therefore, at least some of the teachers in cohort II America's Choice schools had received mathematics training by NCEE and most others had received administered they had not yet received training specific to mathematics. We also sought to examine indirect effects of America's Choice on training on delivering standards-based instruction at the time of the 2001 mathematics assessment. Teachers in cohort III schools had received training on delivering standards-based instruction, but at the time the tests were students' mathematics performance because some researchers, as well as other CPRE research, have suggested that student literacy skills have an influence on students' mathematics test performance. It makes sense that students' reading and writing skills would influence their mathematics performance, particularly on today's assessments that often include word problems and require higher-order thinking skills.

Table 6 shows the results of our examination of the influence of America's Choice on student performance in mathematics after controlling for student prior achievement and student and school demographic characteristics.[9] For cohort II, there were three analyses that showed statistically significant differences that favored students in America's Choice schools, while there were no cases where students in other district schools significantly outperformed students in America's Choice schools.

The first statistically significant result was found in the performance of fourth graders in mathematics in schools that were in their second year of implementation of America's Choice (cohort II). But this result was not found consistently across all cohort II fourth-grade mathematics performance. Rather, there was an interaction in fourth-grade mathematics between students who were in America's Choice schools and the size of their school. This indicates that students in *large* America's Choice schools performed significantly better than students in other district schools, while students in other America's Choice schools performed no differently in mathematics, on average, than students in other district schools. These differences were essentially driven by the strong performance of the two larger than average America's Choice elementary schools in cohort II.

This relationship between attendance in an America's Choice elementary school and school size is depicted graphically in Figure 3. In Figure 3, school-average performance gains, after controlling for both student and school demographic characteristics, are shown arrayed by school size. School size is represented in standard deviation units, with those with smaller than average school size on the left side of the figure, and those with larger than average school size on the right side of the figure.

Figure 3. Fourth-grade Adjusted Mathematics Achievement Gains for America's Choice and Other District Elementary Schools in 2000-2001, Arrayed by School Size



Several things can be seen in Figure 3. First, the distribution is skewed to the right, indicating that there are a number of particularly large elementary schools, virtually all of which are not America's Choice schools. Second, the two regression lines show the predicted performance of the two groups of schools (America's Choice and other district schools). The fact that the two lines are not parallel merely demonstrates that

[9] See Appendices C and D for a full set of the multi-level model results for mathematics.

the relationship between the performance of the two groups is not consistent at all levels of school size. Two particular schools were about one standard deviation larger than the average school, and their students' mathematics achievement gains were larger than the average student achievement gains. The strong performance of these two schools appear to be driving the differences in fourth-grade mathematics performance between America's Choice cohort II schools and other district elementary schools.

The other particularly noteworthy results were found in the differences in mathematics performance between eighth graders in cohort II America's Choice schools and the performance of eighth graders in other district middle schools. In 1999-2000, at the end of their first year of America's Choice, there was a statistically significant (.28 of a standard deviation) and educationally substantial difference between the performance gains of eighth graders in America's Choice schools and those of their peers in other district middle schools. This effect translates to 9% higher performance gains for students in America's Choice schools in comparison eighth graders in other district middle schools.[10] While this result can be considered an indirect effect because it occurred before America's Choice provided training for teachers in mathematics, it is particularly notable because it was the largest effect of all the analyses done in this study.

A result that can be argued to be more directly related to America's Choice mathematics training can be seen for cohort II eighth-grade students' performance gains beginning in 2000-2001, the year that teachers began receiving America's Choice mathematics professional development. The 2000-2001 results show a higher, on average, gain in performance for the eighth graders in America's Choice schools in comparison to their eighth-grade counterparts in other district middle schools. This difference, however, was not statistically significant. The results for 1999-2001, however, do show a statistically significant higher mathematics performance gain for eighth-grade students in comparison to their peers in other district middle schools. There were no differences in either elementary or middle schools in mathematics performance for students in cohort III America's Choice schools and students in other district schools after their first year in the design.

Impact of America's Choice on the Differences in Performance Between White and Minority Students

Educators have long been concerned about the large and persistent differences in performance between White and minority students. Many efforts have sought to make education more equitable by reducing these gaps in performance.

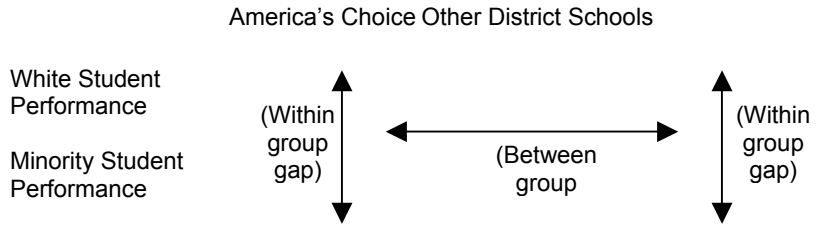
America's Choice sets an explicit goal of having all but the most severely handicapped students meet high standards of performance. Our final set of analyses explored the differential performance of White and minority students in Duval County's America's Choice schools. We sought to explore whether America's Choice was influencing the gaps in performance between minority and White students in America's Choice schools relative to the gaps in performance in other district schools. Our expectation was that, at best, America's Choice would be reducing gaps in performance between White and minority students, and, at the very least, having no influence on the already existing differences in performance.

To test the relative influence of America's Choice on the gaps in majority/minority student performance, we conducted a series of analyses that explored interactions between student attendance in an America's Choice school and the differences in minority/White student test performance.[11] The analyses essentially compared the relative gains of minority and

[10] This represents a 16-point difference on the eighth-grade state test for which students at the fifth percentile scored 188 points and those at the 95th percentile scored 376 points.

[11] "Minority" includes African American and Hispanic students.

Figure 4. Graphic Depiction of Both Within and Between Group Gaps in Student Performance Gains



White students in America's Choice schools (the within-America's Choice gap in performance) to the relative gains of minority and White students in other district schools (the within-non-America's Choice schools gap in performance) and compared these two gaps. If the gap in the gains in America's Choice schools was smaller than the gap in the gains of students in other district schools, then we can say that America's Choice was associated with a reduction in the gaps in performance relative to other district schools (the between-school gap in performance).

These relationships are described graphically in Figure 4 to assist the reader in understanding the basic underlying concepts. Within the America's Choice group of schools there exists a gap in performance gains between White and minority students (the within-group gap). This same gap in performance gains exists between White and minority students in the other district schools. Our analyses explore whether the gaps in performance between the America's Choice gains of students in America's Choice schools are reduced relative to the gaps in performance if they become smaller, then the gaps in the performance gains of students in America's Choice schools are reduced relative to the gaps in performance gains of students in the other district schools. If they become larger, then the gaps in the performance gains of students in America's Choice schools are exacerbated relative to the gaps in performance gains of students in other district schools.

Table 7 provides a summary of the results of our analyses. The full set of numbers are provided in appendices E, F, and G. In Table 7, a minus sign (-) indicates that the gaps in the performance gains of students in America's Choice schools are reduced relative to the gaps in performance gains of students in the other district schools. A plus sign (+) indicates that the gaps in the performance gains of students in America's Choice schools are increased relative to the gaps in performance gains of students in other district schools.

Several patterns are evident from Table 7. The overall pattern indicates that in most cases there were no differences between the performance gaps in America's Choice schools and the performance gaps of other district schools. Ten of the 45 analyses, or 22%, were statistically significant. All of these statistically significant results show that the gaps in the performance gains were significantly smaller in America's Choice schools in comparison to other district schools. There were no cases where America's Choice significantly increased the gaps in performance in comparison to other district schools. Further, except for one other case, all of the reductions in the gaps in performance gains that were statistically significant occurred in the eighth grade of cohort II schools in reading and writing. For that group of eighth graders, America's Choice appeared to have a persistent and positive influence on reducing the gaps in performance between minority and majority students.

Table 7. Impact of America's Choice on the Gaps in Performance Gains Between White and Minority Students in Duval County, 1999-2001

	Writing			Reading			Mathematics		
Cohort and Grade	1999-2000	2000-2001	1999-2001	1999-2000	2000-2001	1999-2001	1999-2000	2000-2001	1999-2001
Cohort II									
Fourth Grade (n=10)	-	+		-	-		-	-	
Fifth Grade (n=10)				+	-	-	+	-	-
Sixth Grade (n=10)				-	-	-*	-	-*	-*
Seventh Grade (n=4)				-	+	+	-	-	-
Eighth Grade (n=4)	-*	-**	-**	-	-~	-*	-	-	-
Cohort III									
Fourth Grade (n=38)		-			+			-	
Fifth Grade (n=38)					-			-*	
Sixth Grade (n=10)					-			-*	
Seventh Grade (n=7)					+			+	
Eighth Grade (n=7)		+			-			-	

~ p < .10, * p < .05, ** p < .01

Summary

The results from this study indicate that America's Choice is having a positive influence on student standardized test performance, most notably in writing and to a lesser extent in reading and mathematics. In writing, in both elementary and middle schools, the performance gains of America's Choice students were persistently higher than they were for similar students in other district schools. In reading, there were some examples of differences, but the patterns were erratic. The most distinct effects in favor of America's Choice in reading were eighth grade in cohort II and fourth grade in cohort III. In mathematics, fourth and eighth graders in cohort II America's Choice schools significantly outgained their counterparts in other district schools. Thus, while the patterns of statistically significant effects favoring America's Choice were not overwhelming in reading and mathematics, there was not a single counterfactual case where students in other district schools significantly outgained students in America's Choice schools.

What might explain why there were stronger patterns of difference in student writing performance, but less so in reading? One possible explanation may be found in the America's Choice rollout strategy for reading. The design calls for elementary schools to implement reading in their second year, while middle schools implement reading in their first year. This explains, in part, the pattern of effect for cohort II reading performance, where eighth-grade students in America's Choice schools significantly outperformed their peers in other district schools, while there were no differences in the performance of America's Choice elementary students in comparison to students in other district elementary schools. This argument is undermined somewhat by the lack of differences in performance in the seventh-grade cohort II schools.

Another plausible hypothesis, well documented in the literature on teaching reading, is that reading instruction is more difficult for teachers to master than writing instruction, and therefore takes longer to implement. While writing produces actual products that teachers can examine at any time, reading is a more individualized activity, occurring in real time. Effective teachers must know multiple developmental strategies and understand how to monitor students more carefully to develop their reading skills. If it takes longer for teachers to acquire the expertise to deliver effective reading instruction, then it follows that the effects on student reading performance would take longer to manifest themselves in student test performance. Finally, we cannot ignore the possibility that the America's Choice instructional approach to reading is less effective than its writing counterpart.

While this study contributes to the knowledge base of the influence of the America's Choice program on student performance, many questions remain to be answered in upcoming CPRE studies both in Duval County and other districts across the United States. First, we seek to duplicate the Duval analyses in other districts across the country to seek replicable evidence of the impact of America's Choice on student learning.

Second, in Duval County we intend to explore whether the effects of America's Choice on student performance are being minimized by the district's system-wide standards-based reform efforts. Some advocates of America's Choice hypothesize that the implementation of elements of the America's Choice design in other schools in Duval County through the district's standards-based reform efforts are reducing the differences between the performance of America's Choice schools and other district schools because other district schools are also improving in performance. CPRE plans to explore this hypothesis by conducting an analysis of gains in student performance using another Florida district that is demographically similar to Duval County as a comparison site.

Third, we plan to investigate the influences of implementation on schools' gains in student test performance. CPRE's national study of the implementation of readers and writers workshop found that implementation is variable both within and between schools. It seems logical that differential implementation rates would influence school-average gains in student learning, and CPRE plans to contribute empirical evidence to test the relationship between implementation and student learning within America's Choice schools. These and other questions of interest will be the focus of CPRE's ongoing exploration of the impact of America's Choice on student learning.

Appendix A. Writing Results by Year, Grade, and Cohort

	1999-2000		2000-2001				1999-2001
Variable	Gr. 4	Gr. 8	Gr. 4 Cohort II	Gr. 4 Cohort III	Gr. 8 Cohort II	Gr. 8 Cohort III	Gr. 8
Intercept	-.02 (.03)	-.06 (.05)	-.02 (.04)	-.05 (.04)	-.05 (.05)	-.06 (.05)	-.01 (.05)
Student Level							
Pre-test Score	.31** (.01)	.30** (.01)	.33** (.01)	.32** (.01)	.00 (.01)	.01 (.01)	.26** (.01)
Male	-.20** (.02)	-.22** (.02)	-.19** (.02)	-.21** (.02)	-.22** (.03)	-.24** (.02)	-.19** (.02)
Minority	-.09** (.03)	-.05* (.03)	-.04 (.03)	-.00 (.02)	-.11** (.03)	-.15** (.03)	-.03 (.03)
Special Ed.	-.46** (.03)	-.65** (.04)	-.39** (.03)	-.39** (.03)	-1.0** (.04)	-.90** (.04)	-.74** (.04)
F/R Lunch	-.02 (.03)	-.11** (.03)	-.08** (.03)	-.11** (.02)	-.15** (.03)	-.18** (.03)	-.09** (.03)
Absent CY	-.01** (.00)	-.01** (.00)	-.01** (.00)	-.01** (.00)	-.01** (.00)	-.01** (.00)	-.01** (.00)

~ p < .10, * p < .05, ** p < .01

Appendix A. Writing Results by Year, Grade, and Cohort (continued)

	1999-2000		2000-2001				1999-2001
Variable	Gr. 4	Gr. 8	Gr. 4 Cohort II	Gr. 4 Cohort III	Gr. 8 Cohort II	Gr. 8 Cohort III	Gr. 8
School Level							
School Grade	.04	.32**	.04	.06	.17*	.14~	.14~
	(.05)	(.08)	(.06)	(.04)	(.08)	(.07)	(.07)
F/R Lunch	.13*	.03	.03	-.03	-.20~	-.17~	-.16~
	(.06)	(.10)	(.07)	(.05)	(.09)	(.08)	(.08)
Absent 21+ Days	-.08~	.05	-.04	-.01	.09	.06	.08
	(.04)	(.07)	(.05)	(.04)	(.06)	(.05)	(.06)
Class Size	.00	.05	-.06	-.07~	-.05	-.02	-.05
	(.04)	(.07)	(.05)	(.04)	(.06)	(.05)	(.06)
School Size	.01	-.14~	.03	-.01	-.17*	-.16*	-.16*
	(.04)	(.07)	(.05)	(.04)	(.07)	(.06)	(.06)
America's Choice	.18*	.07	.14	.14*	+.09	.10	.09
	(.09)	(.14)	(.10)	(.06)	(.13)	(.10)	(.12)

~ p < .10, * p < .05, ** p < .01

Appendix B. Reading Results by Year and Grade for Cohort II

	1999-2000					2000-2001					1999-2001			
Variable	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8	Gr. 5	Gr. 6	Gr. 7	Gr. 8
Intercept	.01	.01	-.01	-.00	-.05~	.01	-.00	-.01	-.06	-.10**	.01	.07*	-.03	-.08**
	(.02)	(.02)	(.02)	(.02)	(.03)	(.02)	(.02)	(.02)	(.04)	(.03)	(.02)	(.03)	(.02)	(.02)
Student Level														
Pre-test Score	.65**	.71**	.05**	.02	.55**	.64**	.72**	.56**	.02~	.01	.60**	.63**	.52**	.45**
	(.01)	(.01)	(.02)	(.02)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
Male	.04*	-.11**	.04	.05	-.03	.08**	-.07**	-.04*	-.05*	-.05*	-.08**	-.07**	-.03	.01
	(.02)	(.02)	(.03)	(.03)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)
Minority	-.22**	-.10**	-.00	-.10**	-.20**	-.13**	-.15**	-.17**	-.36**	-.40**	-.23**	-.11**	-.19**	-.26**
	(.02)	(.02)	(.03)	(.03)	(.02)	(.02)	(.02)	(.02)	(.03)	(.03)	(.03)	(.02)	(.02)	(.02)
Special Ed.	-.33**	-.09**	-.02	-.06	-.46**	-.26**	-.12**	-.33**	-.75**	-1.01**	-.21**	-.14**	-.37**	-.60**
	(.02)	(.02)	(.04)	(.04)	(.03)	(.02)	(.02)	(.02)	(.03)	(.04)	(.03)	(.03)	(.03)	(.03)
F/R Lunch	-.11**	-.07**	-.09**	-.11**	-.13**	-.11**	-.11**	-.13**	-.24**	-.21**	-.14**	-.10**	-.14**	-.11**
	(.02)	(.02)	(.03)	(.03)	(.02)	(.02)	(.02)	(.02)	(.03)	(.03)	(.02)	(.02)	(.02)	(.02)
Absent CY	-.00**	-.00*	-.00~	.00	-.01**	-.00**	-.00**	-.01**	-.01**	-.00**	-.01**	-.01**	-.00**	-.00
	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)

~ p < .10, * p < .05, ** p < .01

Appendix B. Reading Results by Year and Grade for Cohort II (continued)

	1999-2000					2000-2001					1999-2001			
Variable	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8	Gr. 5	Gr. 6	Gr. 7	Gr. 8
School Level														
School Grade	.00	.02	-.02	-.02	.15**	.02	.03	.05	.20**	.15*	.02	.07	.12**	.10**
	(.03)	(.03)	(.03)	(.03)	(.05)	(.03)	(.02)	(.04)	(.06)	(.05)	(.03)	(.04)	(.04)	(.03)
F/R Lunch	-.08**	-.07*	-.11*	-.00	-.10~	-.04	-.02	-.06	-.14~	-.19*	-.07~	-.02	-.07	-.12**
	(.04)	(.03)	(.04)	(.04)	(.05)	(.02)	(.03)	(.04)	(.07)	(.06)	(.03)	(.05)	(.04)	(.04)
Absent 21+ Days	.02	-.01	.00	-.02	.06	.00	-.01	.02	.05	.02	-.02	.01	.02	-.01
	(.03)	(.02)	(.02)	(.03)	(.04)	(.02)	(.02)	(.03)	(.05)	(.04)	(.02)	(.03)	(.03)	(.02)
Class Size	-.01	-.02	-.06*	.01	-.00	-.00	-.01	.05	.04	.03	-.00	.06~	.02	.01
	(.03)	(.02)	(.02)	(.02)	(.04)	(.02)	(.02)	(.03)	(.05)	(.04)	(.02)	(.03)	(.03)	(.02)
School Size	-.03	-.00	.00	.04	-.08~	-.02	-.00	-.00	-.08	-.07	-.02	-.04	-.05	-.04
	(.03)	(.02)	(.02)	(.02)	(.04)	(.04)	(.02)	(.03)	(.05)	(.04)	(.02)	(.03)	(.03)	(.03)
America's Choice	-.04	-.04	.02	-.03	.13~	.02	-.01	.02	-.04	.11	-.02	.00	-.01	.11*
	(.06)	(.05)	(.04)	(.04)	(.07)	(.04)	(.04)	(.06)	(.10)	(.08)	(.05)	(.06)	(.06)	(.05)

~ p < .10, * p < .05, ** p < .01

Appendix C. Reading and Mathematics Results by Year and Grade for Cohort III

	2000-2001 Reading					2000-2001 Mathematics				
Variable	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8
Intercept	.00 (.02)	-.00 (.01)	-.02 (.02)	-.06 (.04)	-.08* (.03)	-.00 (.02)	-.01 (.03)	.03 (.03)	-.09~ (.05)	-.09* (.04)
Student Level										
Pre-test Score	.63** (.01)	.73** (.01)	.59** (.01)	.03** (.01)	.01 (.01)	.66** (.01)	.59** (.01)	.64** (.01)	.05** (.01)	.01 (.01)
Male	.08** (.01)	-.06** (.01)	-.05** (.02)	-.07** (.02)	-.01 (.02)	.03~ (.01)	.10** (.01)	.00 (.02)	.12** (.02)	.16** (.02)
Minority	-.15** (.02)	-.13** (.02)	-.18** (.02)	-.37** (.03)	-.41** (.03)	-.17** (.02)	-.26** (.02)	-.15** (.02)	-.42** (.02)	-.41** (.02)
Special Ed.	-.26** (.02)	-.15** (.02)	-.31** (.02)	-.78** (.03)	-.95** (.03)	-.21** (.02)	-.33** (.02)	-.24** (.02)	-.68** (.03)	-1.13** (.03)
F/R Lunch	-.12** (.02)	-.10** (.02)	-.08** (.02)	-.26** (.03)	-.25** (.03)	-.09** (.02)	-.10** (.02)	-.06** (.02)	-.22** (.02)	-.20** (.02)
Absent CY	-.00** (.00)	-.00** (.00)	-.01** (.00)	-.01** (.00)	-.01** (.00)	-.00** (.00)	-.01** (.00)	-.01** (.00)	-.01** (.00)	-.01** (.00)

~ p < .10, * p < .05, ** p < .01

Appendix C. Reading and Mathematics Results by Year and Grade for Cohort III (continued)

	2000-2001 Reading					2000-2001 Mathematics				
Variable	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8
School Level										
School Grade	.02 (.02)	.04* (.02)	.03 (.03)	.11~ (.06)	.11* (.05)	.00 (.02)	.04 (.03)	.07~ (.04)	.18* (.08)	.11~ (.06)
F/R Lunch	-.04~ (.02)	-.02 (.02)	-.07* (.03)	-.17* (.06)	-.19** (.06)	-.05* (.02)	.00 (.04)	-.02 (.04)	-.12 (.09)	-.19* (.07)
Absent 21+ Days	-.00 (.02)	-.00 (.01)	.02 (.02)	.05 (.04)	.02 (.03)	-.02 (.02)	-.01 (.03)	.01 (.02)	.04 (.05)	.06 (.04)
Class Size	-.01 (.02)	-.00 (.01)	.05* (.02)	.09* (.04)	.04 (.04)	-.00 (.02)	-.01 (.03)	.05 (.03)	.10~ (.06)	.07 (.04)
School Size	-.03~ (.02)	-.02 (.01)	.00 (.03)	-.05 (.05)	-.06 (.04)	-.02 (.02)	.02 (.03)	-.01 (.03)	-.08 (.06)	-.06 (.05)
America's Choice	.05~ (.03)	.02 (.02)	.01 (.04)	-.08 (.08)	.02 (.07)	.04 (.03)	.03 (.05)	.01 (.05)	.02 (.11)	.05 (.09)

~ p < .10, * p < .05, ** p < .01

Appendix D. Mathematics Results by Year and Grade for Cohort II

	1999-2000					2000-2001					1999-2001			
Variable	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8	Gr. 5	Gr. 6	Gr. 7	Gr. 8
Intercept	-.01	-.00	-.02	.01	-.08*	.00	-.01	.04	-.08	-.11*	-.02	.06~	.05	-.07*
	(.02)	(.02)	(.02)	(.02)	(.04)	(.02)	(.03)	(.03)	(.06)	(.04)	(.03)	(.03)	(.04)	(.03)
Student Level														
Pre-test Score	.53**	.67**	.06**	.03	.64**	.67**	.59**	.61**	.03**	.00	.48**	.55**	.60**	.46**
	(.01)	(.01)	(.02)	(.02)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
Male	-.02	.06**	.01	.01	-.01	.02	.06**	-.01	.12**	.14**	.06**	.01	.02	.12**
	(.02)	(.02)	(.03)	(.03)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)
Minority	-.23**	-.27**	.01	-.09*	-.11**	-.15**	-.25**	-.18**	-.42**	-.42**	-.31**	-.26**	-.14**	-.24**
	(.03)	(.02)	(.04)	(.04)	(.02)	(.02)	(.02)	(.02)	(.03)	(.03)	(.03)	(.02)	(.02)	(.02)
Special Ed.	-.29**	-.25**	-.02	-.03	-.55**	-.17**	-.30**	-.21**	-.64**	-1.20**	-.41**	-.27**	-.18**	-.75**
	(.02)	(.02)	(.04)	(.05)	(.03)	(.02)	(.02)	(.02)	(.03)	(.03)	(.02)	(.03)	(.03)	(.03)
F/R Lunch	-.16**	-.07**	-.11**	-.07*	-.04*	-.10**	-.10**	-.08**	-.19**	-.16**	-.14**	-.06**	-.07**	-.08**
	(.02)	(.02)	(.04)	(.03)	(.02)	(.02)	(.02)	(.02)	(.03)	(.03)	(.02)	(.02)	(.02)	(.02)
Absent CY	-.01**	-.01**	-.00~	-.00	-.01**	-.00**	-.01**	-.01**	-.01**	-.01**	-.01**	-.01**	-.01**	-.00
	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)

~ p < .10, * p < .05, ** p < .01

Appendix D. Mathematics Results by Year and Grade for Cohort II (continued)

	1999-2000					2000-2001					1999-2001			
Variable	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8	Gr. 5	Gr. 6	Gr. 7	Gr. 8
School Level														
School Grade	.01	.01	-.01	-.01	.18**	-.02	.06	.11~	.26**	.17*	.05	.08	.13~	.11*
	(.03)	(.04)	(.03)	(.03)	(.06)	(.03)	(.04)	(.05)	(.09)	(.07)	(.05)	(.05)	(.06)	(.04)
F/R Lunch	-.13**	-.00	-.11*	-.04	.06	-.05~	-.01	-.02	-.13	-.17*	-.08	-.11~	-.05	-.07
	(.03)	(.04)	(.04)	(.04)	(.07)	(.03)	(.05)	(.06)	(.10)	(.08)	(.05)	(.06)	(.07)	(.05)
Absent 21+ Days	.02	-.04	.01	-.00	-.06	-.02	.01	.01	.03	.07	.01	.03	.02	.02
	(.02)	(.03)	(.02)	(.03)	(.04)	(.02)	(.03)	(.04)	(.07)	(.05)	(.04)	(.04)	(.05)	(.03)
Class Size	-.01	-.03	-.06*	-.02	.02	.02	-.01	.05	.03	.06	-.02	.01	.00	.05
	(.02)	(.03)	(.02)	(.02)	(.05)	(.02)	(.04)	(.04)	(.07)	(.05)	(.04)	(.04)	(.05)	(.03)
School Size	-.04	.05	.03	.03	-.02	-.02	.02	-.02	-.10	-.09	-.01	-.05	-.05	-.04
	(.02)	(.03)	(.02)	(.02)	(.05)	(.02)	(.03)	(.04)	(.07)	(.06)	(.04)	(.04)	(.05)	(.03)
America's Choice	-.07	.00	-.03	-.07	.28**	-.01	.09	.00	.02	.15	.09	.00	-.03	.16*
	(.05)	(.06)	(.05)	(.04)	(.09)	(.05)	(.07)	(.09)	(.14)	(.11)	(.08)	(.08)	(.10)	(.07)

~ p < .10, * p < .05, ** p < .01

Appendix E. Predicted Writing Performance Gains for White and Minority Students[a] in America's Choice and Other District Schools

	1999-2000				2000-2001				1999-2001			
Cohort and Grade	Other White	Other Min.	AC White	AC Min.	Other White	Other Min.	AC White	AC Min.	Other White	Other Min.	AC White	AC Min.
Cohort II												
Fourth Grade (n_{AC} = 10)	-.04	-.13	.14	.06	-.10	-.14	.04	-.00				
Fifth Grade (n_{AC} = 10)												
Sixth Grade (n_{AC} = 4)												
Seventh Grade (n_{AC} = 4)												
Eighth Grade (n_{AC} = 4)	-.15	-.23	-.18	-.10*	-.20	-.34	-.17	.11**	-.10	-.17	-.11	.05**
Cohort III												
Fourth Grade (n_{AC} = 38)					-.16	-.17	-.02	-.01				
Fifth Grade (n_{AC} = 38)												
Sixth Grade (n_{AC} = 7)												
Seventh Grade (n_{AC} = 7)												
Eighth Grade (n_{AC} = 7)					-.24	-.38	-.14	-.29				

˜ p < .10, * p < .05, ** p < .01 (indicates the significance level of the interaction between minority and America's Choice)

[a] Predicted gains for female, non-special education students with average absenteeism who receive lunch assistance and attend an average school in the district.

Note: Other White = White students attending a non-America's Choice school; Other Min. = minority students attending a non-America's Choice school; AC White = White students attending an America's Choice school; AC Min. = minority students attending an America's Choice school.

Appendix F. Predicted Reading Performance Gains for White and Minority Students[a] in America's Choice and Other District Schools

Cohort and Grade	1999-2000 Other White	1999-2000 Other Min.	1999-2000 AC White	1999-2000 AC Min.	2000-2001 Other White	2000-2001 Other Min.	2000-2001 AC White	2000-2001 AC Min.	1999-2001 Other White	1999-2001 Other Min.	1999-2001 AC White	1999-2001 AC Min.
Cohort II												
Fourth Grade (n_{AC} = 10)	-.10	-.32	-.07	-.27	-.10	-.23	-.09	-.18				
Fifth Grade (n_{AC} = 10)	-.06	-.15	-.09	-.19	-.10	-.26	-.11	-.24	-.13	-.36	-.15	-.35
Sixth Grade (n_{AC} = 4)	-.10	-.12	-.09	-.02	-.13	-.32	-.13	-.23	-.03	-.15	-.05	-.05*
Seventh Grade (n_{AC} = 4)	-.11	-.21	-.14	-.23	-.30	-.66	-.35	-.73	-.17	-.35	-.18	-.38
Eighth Grade (n_{AC} = 4)	-.18	-.39	-.08	-.19	-.31	-.74	-.23	-.50~	-.18	-.46	-.10	-.25*
Cohort II												
Fourth Grade (n_{AC} = 38)					-.12	-.26	-.07	-.23				
Fifth Grade (n_{AC} = 38)					-.08	-.25	-.07	-.17				
Sixth Grade (n_{AC} = 7)					-.10	-.29	-.09	-.24				
Seventh Grade (n_{AC} = 7)					-.31	-.67	-.39	-.77				
Eighth Grade (n_{AC} = 7)					-.32	-.76	-.30	-.68				

~ $p < .10$, * $p < .05$, ** $p < .01$ (indicates the significance level of the interaction between minority and America's Choice)

[a] Predicted gains for female, non-special education students with average absenteeism who receive lunch assistance and attend an average school in the district.

Note: Other White = White students attending a non-America's Choice school; Other Min. = minority students attending a non-America's Choice school; AC White = White students attending an America's Choice school; AC Min. = minority students attending an America's Choice school.

Appendix G. Predicted Mathematics Performance Gains for White and Minority Students[a] in America's Choice and Other District Schools

Cohort and Grade	1999-2000 Other White	1999-2000 Other Min.	1999-2000 AC White	1999-2000 AC Min.	2000-2001 Other White	2000-2001 Other Min.	2000-2001 AC White	2000-2001 AC Min.	1999-2001 Other White	1999-2001 Other Min.	1999-2001 AC White	1999-2001 AC Min.
Cohort II												
Fourth Grade (n_{AC} = 10)	-.16	-.40	-.24	-.44	-.09	-.25	-.11	-.22				
Fifth Grade (n_{AC} = 10)	-.05	-.32	-.05	-.39	-.11	-.38	-.03	-.23	-.16	-.49	-.07	-.33
Sixth Grade (n_{AC} = 4)	-.13	-.13	-.18	-.12	-.04	-.24	-.06	-.13**	-.00	-.28	-.03	-.17*
Seventh Grade (n_{AC} = 4)	-.07	-.16	-.14	-.21	-.26	-.68	-.33	-.65	-.02	-.16	-.09	-.16
Eighth Grade (n_{AC} = 4)	-.13	-.25	.15	.06	-.27	-.69	-.14	-.50	-.16	-.41	-.01	-.20
Cohort III												
Fourth Grade (n_{AC} = 38)					-.09	-.27	-.05	-.22				
Fifth Grade (n_{AC} = 38)					-.06	-.30	-.06	-.23*				
Sixth Grade (n_{AC} = 7)					-.03	-.21	-.02	-.14~				
Seventh Grade (n_{AC} = 7)					-.31	-.72	-.31	-.75				
Eighth Grade (n_{AC} = 7)					-.29	-.73	-.24	-.60				

~ p < .10, * p < .05, ** p < .01 (indicates the significance level of the interaction between minority and America's Choice)

[a] Predicted gains for female, non-special education students with average absenteeism who receive lunch assistance and attend an average school in the district.

Note: Other White = White students attending a non-America's Choice school; Other Min. = minority students attending a non-America's Choice school; AC White = White students attending an America's Choice school; AC Min. = minority students attending an America's Choice school.