

The Performance of Elementary Schools in AHA's Revitalized Mixed-Income Communities

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Table of Contents

Abstract	i
Part I.	Introduction and Purpose	1
Part II.	Background on Neighborhood Conditions of Schools	3
Part III.	Construction of Mixed-Income Communities and Schools	7
Part IV.	Literature Review on Factors Influencing Student Performance	9
Part V.	Centennial Place Elementary	19
Part VI.	Drew Charter School	39
Part VII.	Centennial and Drew in Comparison to Two Other Schools	59
Bibliography	70

List of Figures

Chart 1.	Rank of APS Elementary Schools by Performance on 5th Grade Writing Assessment.....	viii
Figure 1.	East Lake Meadows Housing Project Before and After Revitalization	5
Figure 2.	Characteristics of Housing Projects, 1995.....	6
Figure 3	Factors that Influence Student Performance	10
Figure 4.	Student Enrollment Each Academic Year.....	21
Figure 5.	Percentage of Students Qualifying for Free or Reduced Lunch	22
Figure 6.	Demographics of Fowler Elementary School, 1995-1998	23
Figure 7.	Demographics of Fowler Elementary School, 2000-2003	24
Figure 8.	Writing Assessment Fowler and Centennial Place	26
Figure 9.	3 rd Grade IOWA Reading Test Results for Fowler Elementary and APS	28
Figure 10.	3 rd Grade IOWA Reading Test Results for Centennial Place and APS	28
Figure 11.	3 rd Grade IOWA Math Test Results for Fowler Elementary and APS.....	29
Figure 12.	3 rd Grade IOWA Math Test Results for Centennial Place and APS	30
Figure 13.	GKAP-R Test Scores for Centennial Place Elementary and APS	32
Figure 14	GDAP-R Test Scores Analysis	33
Figure 15.	4 th Grade CRCT Reading Test Results for Centennial Place Elementary and APS	34
Figure 16.	4 th Grade CRCT Reading Test Scores Analysis	34
Figure 17.	4 th Grade CRCT Test English Results for Centennial Place Elementary and APS	35
Figure 18.	4 th Grade CRCT English/Language Arts Test Scores	36
Figure 19.	4 th Grade CRCT Math Test Scores for Centennial Place Elementary and APS.....	37
Figure 20.	4 th Grade CRCT Math Test Scores Analysis	37
Figure 21.	Students' Rating Drew Charter School	43
Figure 22.	Teachers'/Staff's Rating Drew Charter School	43
Figure 23.	Parents' Rating Drew Charter School	43
Figure 24.	Student Enrollment Each Academic Year.....	45
Figure 25.	Percentage of Students Qualifying for Free or Reduced Lunch	46

Figure 26.	Demographics of Drew Elementary School, 1995-2003.....	47
Figure 27.	Grade 5 Writing Assessment, Drew vs. APS.....	48
Figure 28.	5 th Grade IOWA Reading Test Results for Drew Elementary and APS.....	50
Figure 29.	5 th Grade IOWA Math Test Results for Drew Elementary and APS	50
Figure 30.	3 rd Grade IOWA Reading Test Results for Drew Elementary, APS and the State	51
Figure 31.	3 rd Grade IOWA Math Test Results for Drew Elementary, APS, and the State	51
Figure 32.	GKAP-R Tests Scores for the APS System and Drew Charter School Students.....	53
Figure 33.	Reading Test Results for Drew Charter School Students vs. APS Students	54
Figure 34.	4 th Grade CRCT Reading Test Scores Analysis for All Students, 2000-2003.....	55
Figure 35.	English Test Results for Drew Charter Students and APS Students.....	56
Figure 36.	Math Test Results for APS Students and Drew Charter Students	57
Figure 37.	1995 Characteristics of the Control Group and Treatment Group	61
Figure 38.	Student Demographics and IOWA Test Scores for the 1996-97 Academic Year	62
Figure 39.	Student Demographics and IOWA Test Scores for the 1997-98 Academic Year	63
Figure 40.	Student Demographics and IOWA Test Scores for the 1998-99 Academic Year	64
Figure 41.	Student Demographics and IOWA Test Scores for the 1999-00 Academic Year	65
Figure 42.	Student Demographics and CRCT Test Scores for the 2001-02 Academic Year	65
Figure 43.	Student Demographics and CRCT Test Scores for the 2003-04 Academic Year	66
Figure 44.	Grade 5 Writing Assessment Test for Control and Treatment Group Schools.....	68

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Abstract

Research has shown that a high quality education at an early age is one of the most important investments that society can make for children who live in low-income households. Quality education generates long-term social benefits and reduces social costs.

Over the last decade the Atlanta Housing Authority (AHA), working with private development partners, has transformed seven public housing projects into mixed-income communities. Each community redevelopment master plan has called for a significant improvement in the quality of the neighborhood elementary school. In most cases, it has involved the construction of an entirely new facility or a substantially remodeled existing facility.

This report examines two new schools that have been built in mixed-income communities. The new schools have implemented numerous innovations that are designed to improve the quality of instructions, the learning process and the overall performance of students.

Fowler Elementary School formerly served children lived in the Techwood Homes and Clark Howell Homes public housing projects. In AY 1995, student performance at Fowler ranked 60th out of 71 elementary schools in the Atlanta Public School (APS) System. Starting in 1995, families were relocated from these projects. The projects and school were demolished and redeveloped. In September of 2000 the four construction phases of Centennial Place, a new mixed-income/mixed-financed community, were completed. In 1998, Centennial Place Elementary School opened and replaced Fowler Elementary School.

Drew Elementary School formerly served children who lived in the East Lake Meadows housing project. In AY 1995, student performance at Drew Elementary ranked 44th out of 71 schools in the APS System. Beginning in 1995, families were relocated to commence the revitalization of the neighborhood. The Villages of East Lake, a mixed-income/mixed-financed community, was completed in 2001. In 2000, the newly constructed Drew Charter School opened and replaced Drew Elementary School.

The primary objective of this research is to determine whether the improvements in the quality of instructions and the learning process at Centennial Place and Drew Charter have improved the performance of students. After describing the enhancements made in teaching and learning, student performance at the new schools is measured along several dimensions. First, we use the results of standardized tests to examine student performance before and after the construction of the new schools. Results of the 5th Grade Writing Assessment Test are used in this regard.¹ Second, the change in student performance at the new schools is measured against the APS System average and against individual schools in the APS system. The Writing Assessment Test and the Criterion Referenced Competency Test (CRCT) are used in this regard.²

The results indicate that a significant improvement has occurred in student performance accompanying the revitalization of Techwood and Clark Howell Homes, the East Lake Meadows housing project and the construction of new schools. In fact, the results suggest that the most dramatic improvements in student performance in elementary schools of the APS System have occurred in neighborhoods where mixed-income revitalization has taken place. This study was not able to specifically examine the performance of children whose families receive public housing assistance and who

¹ The Fifth Grade Writing Assessment Test is the only standardized test that has been administered on a yearly basis over the last ten years. APS stopped administering the IOWA Test of Basic Skills (ITBS) in AY 2000 and resumed in AY 2003. Results of the ITBS for Fowler Elementary and Drew Elementary (prior to 2000) vary so much from year to year that they raise suspicions about the validity of the results; specifically whether some coaching may have been involved. The Criterion Referenced Competency Test (CRCT) has been administered yearly since AY 2000/2001.

² The State Writing Assessment Test evaluates student's ability to express ideas in writing. A standardized scoring system is used to determine the developmental writing stage represented by the results. There are six stages with Stage 6 representing the most advanced writers. This reports ranks schools by the percent of students who achieve Stage 5 or Stage 6. The CRCT assess the extent to which student's have learned the well-defined standard curriculum known as the Quality Core Curriculum.

attend these schools. The confidentiality procedures involved made it impossible to do within the timeframe of this analysis. However, a forthcoming analysis will examine this issue.

Major Findings

(a) The New Schools Introduced Significant Innovations in Teaching and Learning

Centennial Place Elementary School replaced Fowler Elementary School in 1998. Dr. Norman Johnson, working in cooperation with AHA, played a key role in formulating the school's teaching and learning innovations and lobbying for the construction of the new facility. At the time, Dr. Johnson served as Executive Assistant to the President of Georgia Institute of Technology and a member of the APS Board. The new elementary school implemented a school day schedule lasting one-half hour longer and a longer school year calendar. The school offers a variety of after school activities including clubs and enrichment programs, provides social services and case workers for students, and offers specialized instruction to students with special needs and challenge classes for gifted students.

Centennial Place Elementary adopted a math, science and technology focused curriculum. The curriculum was influenced by the elementary school's proximity to Georgia Tech and Tech's interest in a science-based education. The science, math and technology curricula was combined with CO-NECT, a research-based educational model that stresses community accountability for results, learning by doing, and the "sensible" use of technology. Centennial Place actively encourages parental involvement through walk-in conferences on Wednesdays, parent conferences during the year, special programs to encourage parents to interact with their children, and through encouraging parental participation in the school's governance.

The Drew Charter School opened in 2000 as Georgia's first charter school. The new school was an outgrowth of the efforts of the East Lake Foundation, created by philanthropist and developer Tom Cousins. The school implemented a school day

schedule lasting 1.5 hours longer than the typical public school day and implemented an extended school year calendar where students attend school 15 days more than regular public school students. The result is that Drew Charter students spend 33% more time in class than traditional public schools students. The school is equipped with three computers in each classroom and every student in the third grade or above can have a desktop computer for home use. The school offers after school enrichment programs in academic tutoring, mentoring and one-to-one counseling five days a week for two hours a day.

The Drew Charter School adopted the curriculum of The Edison Schools Inc., which focuses primarily on reading (1.5 hours) and math (1 hour) daily. The curriculum also includes an hour of Writing-Language Arts, Science, Social Sciences, World Language, Fine Arts and Physical Education every other day. It uses a computer-based benchmark test to assess and track students' performance. The School requires 100% parental involvement and has parent-teacher conferences quarterly.

(b) The New Schools are more Economically Diverse than they are Racially Diverse

In AY 1995-96, 100% of the students attending Fowler Elementary and Drew Elementary qualified for the free and reduced lunch program. This suggests that all students were probably from low-income families. These percentages were substantially higher than the APS System average of 71.6%. That same year, Fowler enrolled 331 students while Drew enrolled 390 students; 98.0% of students attending Fowler were African American as were 99.0% of students attending Drew Elementary. The APS System's average was 91%.

In AY 2003-04 there were 498 students enrolled at Centennial Place Elementary; 79.0% of these students were eligible for the free and reduced lunch program and 91.0% were African American. At Drew Charter, 755 students were enrolled in grades K1-K7; 79.0% were eligible for free and reduced lunches and 99% were African American. In the APS System during AY 2003-04, 80% of students were eligible for free and reduced lunches and 89% were African American.

(c) Centennial's Ranking Improved from 60th in 1995 to 11th in 2002 while Drew Charter's Ranking Improved from 44th in 1995 to 27th in 2002.

Chart 1 ranks all APS elementary schools in AY 1994-95 and AY 2002-03 according to their performance on the Writing Assessment Test. During AY 1994-95, Fowler Elementary and Drew Elementary ranked 60th and 44th respectively and performed substantially below the APS System average. While 24% of all APS students achieved Stages 5 or 6 on the Writing Assessment Test, only 10% and 15% of Fowler and Drew students respectively achieved these Stages. Fifty nine (59) of APS' 71 schools outperformed Fowler and 43 outperformed Drew.

By AY 2002-03, 62% of Centennial's students achieved Stage 5 or 6 as did 41% of Drew Charter students. In comparison, 39% for the APS System achieved these stages. In AY 2002-03, only 10 schools outperformed Centennial and 26 outperformed Drew Charter.

(d) Schools Associated with AHA Revitalization Activity Experienced Significant Improvements in Student Performance

Chart 1 ranks APS Elementary Schools by their test performance in 1995 and 2002 and by the percentage point improvement in test performance. The (X) beside a school indicates the school served or serves children of a large public housing project or a revitalized mixed-income community. The last four columns of the chart rank schools by the extent of improvement in student performance since 1995. Five of the ten schools that experienced the most significant improvement in student performance were impacted by revitalization activity. For example, Burgess, Peterson, and East Lake are located in communities that are undergoing revitalization primarily as a result of the revitalization that occurred in The Villages of East Lake. Further, Centennial Place and Cook have been affected by the revitalization of Techwood Homes/Clark Howell Homes and Capitol Homes respectively. Other schools influenced by neighborhood revitalization activity include M.A. Jones, Blalock, Drew Charter, Bethune, Slater and Boyd. Even though the latter three schools performed below the APS average, they experienced significant improvements in student performance.

The extent to which the improvements in student performance are created by demographic changes in the student population versus innovations in teaching and learning are examined in the forthcoming study.

(e) Some Schools Located in Neighborhoods that Did Not Undergo Revitalization also Experienced Significant Improvements in Student Performance.

Several schools experienced significant improvements in student performance even though they were not impacted by revitalization activity. These included West Manor, F.L. Stanton, Venetian Hills, Capitol View, Dobbs, Gideon, and Whitefoord. From the standpoint of public policy, it would be very beneficial to understand what caused these improvements. We classify these potential influences under four general categories: family background factors, school specific factors, neighborhood/ environmental factors, and student cognitive ability (see Figure 3 of this report). A better understanding of these issues may allow improvements in teaching and learning to be implemented more efficiently and in a less costly manner. The forthcoming empirical study will examine these issues in more detail.

(f) Student Performance: Criterion Referenced Competency Test

The fourth grade CRCT Reading, English and Math tests evaluate whether students exceed, meet, or do not meet the standards in these core subjects. In AY 2000-01, two years after Centennial Place Elementary opened, 16% of the students did not meet the Reading standard, while 44% of the students met the standards and 40% of the students exceeded it. During that year, the APS System reported that 31% of the students did not meet the standards, 43% met the standards, and 27% of the students exceeded the standard. By AY 2002-03, only 3% of Centennial Place Elementary students did not meet the standard, 28% of the students met the standard and 69% of students exceeded the standard. In the APS System, 24% did not meet the standard, while 38% met the standard and 38% exceeded the standard.

In AY 2000-01 at Centennial Place Elementary, 32% of the students did not meet the Math standard, while 63% of the students met the standard and 5% of the students

exceeded it. The APS System reported that 45% of the students did not meet the standards, 46% met the standards and 9% of the exceeded the standard. By AY 2002-03, only 8% of Centennial Place Elementary students did not meet the Math standard, 57% of the students met the standard and 34% of students exceeded the standard. In the APS System, 32% still did not meet the standard, while 52% met the standard and 15% exceeded the standard.

In AY 2001-02, the second full year of Drew Charter School's operation 48% of the fourth grade students did not meet the CRCT Reading standard, while 44% of the students met the standards and 8% of the students exceeded it. During that year, the APS System reported that 29% of the students did not meet the standards, 43% met the standards, and 29% of the students exceeded the standard. The next year, AY 2002-03, 33% of Drew Charter's students did not meet the standard, 45% of the students met the standards and 21% of students exceeded the standard. In the APS System, 24% did not meet the standard, while 38% met the standard and 38% exceeded the standard.

In AY 2001-02 at Drew Charter, 44% of the students did not meet the Math standard, while 46% of the students met the standards and 10% of the students exceeded it. The APS System reported that 67% of the students did not meet the standards, 31% met the standards and 2% of students exceeded the standard. In AY 2003-03, 32% of Drew Charter's students did not meet the Math standard, 52% of the students met the standards and 15% of students exceeded the standard. In the APS System, 32% still did not meet the standard, while 52% met the standard and 15% exceeded the standard.

Chart 1. Rank of APS Elementary Schools by Performance on 5th Grade Writing Assessment, 1995 and 2002, (% Scoring in Stage 5 or 6)

Rank	AY1994-1995	% Scoring in Stage 5 & 6	Rank	AY2002-2003	% Scoring in Stage 5 & 6	Rank by Percentage Improvement	Schools	Percentage Improvement
	SYSTEM	24		SYSTEM	39		SYSTEM	15
1	BRANDON	79	1	JACKSON	85	1	BURGESS	60
2	SMITH	68	2	SMITH	84	2	EAST LAKE	52
3	MORNINGSIDE	63	3	BRANDON	83	2	X CENTENNIAL PLACE	52
4	JACKSON	62	4	BURGESS	71	4	WEST MANOR	51
5	GARDEN HILLS	56	5	F.L. STANTON	70	5	F.L. STANTON	48
6	RIVERS	49	6	PETERSON	68	6	PETERSON	46
7	WHITE	45	7	CAPITOL VIEW	65	7	VENETIAN HILLS	45
8	X OGLETHORPE	43	7	WEST MANOR	65	8	X COOK	44
8	STATE	43	9	EAST LAKE	63	9	CAPITOL VIEW	39
10	X FICKETT	42	9	VENETIAN HILLS	63	10	DOBBS	37
10	LIN	42	11	X CENTENNIAL PLACE	62	11	GIDEONS	36
12	BEECHER HILLS	39	12	X COOK	56	11	WHITEFOORD	36
13	ADAMSVILLE	37	13	HUMPHRIES	55	13	X M.A. JONES	35
14	KIMBERLY	33	13	LIN	55	14	HUMPHRIES	34
14	MILES	33	13	X M.A. JONES	55	15	BENTEEN	33
16	HUTCHINSON	32	13	PEYTON FOREST	55	16	C.W. HILL	31
17	COLLIER HEIGHTS	30	17	X OGLETHORPE	54	17	X THOMASVILLE HEIGHTS	31
17	CONTINENTAL COLONY	30	18	DOBBS	52	18	PEYTON FOREST	30
19	CLEVELAND	29	18	GARDEN HILLS	52	19	X BLALOCK	28
19	MITCHELL	29	20	C.W. HILL	50	19	CASCADE	28
21	HOWELL	27	21	BENTEEN	47	21	X DREW CHARTER	26
21	WEST	27	21	STATE	47	21	HOPE	26
23	CAPITOL VIEW	26	23	CASCADE	45	21	LAKEWOOD	26
23	HERNDON	26	23	GIDEONS	45	24	X BETHUNE	23
23	X WILLIAMS	26	25	X BETHUNE	44	24	JACKSON	23
26	PEYTON FOREST	25	26	RIVERS	42	26	ANDERSON PARK	22
27	HUBERT	24	27	ADAMSVILLE	41	26	X SLATER	22
28	F.L. STANTON	22	27	X DREW CHARTER	41	28	TOWNS	17
28	PETERSON	22	29	X THOMASVILLE HEIGHTS	40	29	SMITH	16
28	WOODSON	22	29	WHITE	40	30	X BOYD	15
31	X BETHUNE	21	31	WHITEFOORD	39	30	D.H. STANTON	15
31	HUMPHRIES	21	33	KIMBERLY	39	32	ARKWRIGHT	14
31	MCGILL	21	34	BEECHER HILLS	37	32	FAIN	14
34	ARKWRIGHT	20	35	PARKSIDE	36	32	WOODSON	14
34	X M.A. JONES	20	35	WOODSON	36	35	LIN	13
34	TOOMER	20	37	ANDERSON PARK	35	35	PITTS	13
37	C.W. HILL	19	38	ARKWRIGHT	34	37	MCGILL	12
37	X DUNBAR	19	38	LAKEWOOD	34	38	X OGLETHORPE	11
37	RAGSDALE	19	40	HOPE	33	38	SCOTT	11
40	CONNALLY	18	40	HUTCHINSON	33	40	PERKERSON	7
40	VENETIAN HILLS	18	40	MCGILL	33	41	GROVE PARK	6
42	CASCADE	17	43	CLEVELAND	32	41	HUBERT	6
43	SCOTT	16	44	CONTINENTAL COLONY	31	41	KIMBERLY	6
44	DOBBS	15	44	TOWNS	31	44	ADAMSVILLE	4
44	X DREW	15	46	X BLALOCK	30	44	BRANDON	4
44	FAIN	15	46	HUBERT	30	44	RUSK	4
47	BENTEEN	14	46	X SLATER	30	44	STATE	4
47	GUICE	14	49	FAIN	29	48	CLEVELAND	3
47	TOWNS	14	49	X FICKETT	29	48	HERNDON	3
47	WEST MANOR	14	49	HERNDON	29	50	WATERS	2
51	ANDERSON PARK	13	52	X BOYD	28	51	CONTINENTAL COLONY	1
51	X BOYD	13	53	COLLIER HEIGHTS	27	51	HUTCHINSON	1
53	X COOK	12	53	D.H. STANTON	27	51	TOOMER	1
53	D.H. STANTON	12	53	SCOTT	27	54	CONNALLY	0
55	BURGESS	11	56	MORNINGSIDE	25	55	X DUNBAR	-1
55	EAST LAKE	11	57	HOWELL	24	56	BEECHER HILLS	-2
55	GROVE PARK	11	57	PITTS	24	57	COLLIER HEIGHTS	-3
55	PERKERSON	11	59	MITCHELL	21	57	HOWELL	-3
55	PITTS	11	59	TOOMER	21	57	RAGSDALE	-3
60	X FOWLER	10	61	CONNALLY	18	60	GARDEN HILLS	-4
60	WATERS	10	61	X DUNBAR	18	61	WHITE	-5
62	CAMPBELL	9	61	GROVE PARK	17	62	RIVERS	-7
62	GIDEONS	9	61	PERKERSON	18	63	MITCHELL	-8
62	X THOMASVILLE HEIGHTS	9	65	RAGSDALE	16	64	X WILLIAMS	-12
65	LAKESWOOD	8	66	X WILLIAMS	14	65	X FICKETT	-13
65	X SLATER	8	67	WATERS	12	66	MORNINGSIDE	-38
67	HOPE	7	68	RUSK	11			
67	RUSK	7						
69	SLATON	6						
70	WHITEFOORD	3						
71	X BLALOCK	2						

X: Refers to schools serving children of large public housing projects

The Performance of Elementary Schools in AHA's Revitalized Mixed-Income Communities

Part I. Introduction and Purpose

In today's economy good jobs are becoming increasingly competitive. Yet, there is an expanding pool of young people who are unprepared to enter the workforce because they lack "fundamental literacy skills and work habits."¹ While this situation is true for the nation's workforce in general, it is particularly true for individuals who reside in large populated public housing projects. These communities have high rates of poverty, crime and welfare dependency and very low rates of labor force participation and educational attainment. The quality of education children receive, particularly at the elementary level, is critical in expanding their life chances and opportunities. But often, schools that serve children of public housing projects are among the poorest performing in the local school system.

Over the last decade the Atlanta Housing Authority (AHA), using HOPE VI and other government funds, has partnered with private developers to transform some of the city's poorest neighborhoods into mixed-income communities with new high performing elementary schools. As of June 2004, AHA has revitalized seven public housing projects. The revitalized mixed-income communities contain 3,404 rental apartments; 40.6% are reserved for public housing eligible residents, 23.1% are rent subsidized and 36.3% are leased at market rates. Three more communities are being revitalized which will add 2,433 additional mixed-income rental units and 1,435 for sale homes. Families that do not move into the mixed-income communities have the option of using housing vouchers, or relocating to other public housing projects that are not undergoing revitalization. Today, these mixed-income neighborhoods contain some of the City's most attractive rental properties.

¹ Research and Policy Committee of the Committee for Economic Development pg. 3.

This study examines two new schools that have been constructed in AHA mixed-income communities. The schools are Centennial Place Elementary and Drew Charter School. Centennial Elementary replaced Fowler Elementary and Drew Charter replaced Drew Elementary. They were constructed in the new mixed-income communities of Centennial Place and The Villages of East Lake respectively.

The purpose of this study is to determine whether the new schools have improved the performance of elementary students.

Part II. Background on Neighborhood Conditions of Schools

In 1994, an Inspector General's Audit Report of AHA properties found that eighty-eight percent (88%) of inspected units did not meet minimum standards of maintenance, safety and sanitation. Throughout the 1980's and early 1990's AHA spent millions of dollars attempting to rehabilitate several of its most distressed housing projects. But the properties deteriorated very soon after the improvements were made. For example, in the decade prior to 1994, the Authority spent \$18 million renovating Techwood/Clark Howell Homes. By 1994, none of these improvements were visible. The poor maintenance at AHA's housing projects caused an excessive number of vacancies. In March of 1993, the vacancy rates at Techwood Homes, Clark Howell Homes and East Lake Meadows were 49.7%, 22.4% and 27.6% respectively (AHA, 1993:85).

Aside from having to endure bad housing conditions, residents of housing projects lived in constant fear of being victimized by violent crime (Office of Audit, 1994). A 1992 Atlanta Police Department crime report indicated that among the 15 largest AHA projects (each with 400 or more housing units) 5,810 crimes were committed. These involved 1,031 narcotic arrests. In the housing projects, the crime rate was 12% higher than the crime rate of the City of Atlanta; and Atlanta had one of the nation's highest crime rates.² In the adjoining housing projects of Techwood/Clark Howell Homes (one of AHA's most crime plagued properties) the crime rate was 69% above the City's average. In 1992, Techwood/Clark Howell projects alone accounted for 5,654 Atlanta Police Department dispatches. This was 4.9% of the City's total dispatches that year. Yet the 2,170 residents of Techwood/Clark Howell represented only one-half of one percent (.5%) of the City's population (AHA, 1993: 82-83). At East Lake Meadows, violent crime was so rampant that the project was commonly referred to as "Little Vietnam."

² Crime data are derived from the Atlanta Police Department Central Crime Analysis Unit and are based on the FBI Uniform Crime Reports. Totals include homicide, rape, robbery, aggravated assaults, burglary, larceny, and auto theft. To make the data compatible with City of Atlanta data, narcotic arrests, vandalism and arson are omitted from housing project totals. This omission probably causes the crime rate in AHA properties to be understated relative to the City's crime rate.

Very few of the households that received housing assistance from AHA had more than one parent present. In fact in 1995, 97% of the 16,355 AHA assisted households were headed by unmarried persons and 86% of households were headed by women. In addition, only 13% of household heads were employed, while 49% (over 21,000) of all persons living in these households were children 16 years of age or younger (Boston, 2005).

The Housing projects had a particularly devastating effect on children. Recently, about 100 parents who moved their families away from Harris Homes housing project as a result of revitalization were interviewed. One resident had this to say about the effect of the move on her kids. "My kids just seem free from a prison. When I was at Harris Homes my kids was in danger; they were scared to go out. Now they feel more free..." (Brooks, Wolk, et. al, 2003: 53). Figure 1 below is the East Lake Meadows housing project before revitalization and afterwards.

Prior to being demolished, Techwood Homes and Clark Howell Homes were located on the south side of North Avenue, directly across from Georgia Institute of Technology. Georgia Tech is one of the nation's leading science and engineering universities. The children who lived in these two housing projects attended Fowler Elementary. In 1995 Dr. Norman Johnson, who served as Executive Assistant to the President of Georgia Tech, spearheaded a move to demolish Fowler and build a high performing elementary school in its place. Eventually, his idea was incorporated into the master plan for the community. Dr. Johnson has stated that he was inspired to do this because he could not find evidence that a single graduate of Fowler had ever attended Georgia Tech.

The characteristics of the families who lived in Clark Howell Homes and East Lake Meadows in 1995 are given in Figure 2.³ These two housing projects, and the census tracts where they were located, exhibit extreme social and economic problems including high poverty, low employment, high crime rates and low educational attainment.

³ By December 1995 (the earlier period for which data are available) the families who lived in Techwood Homes had been relocated to make way for the demolition of the housing project. However, the families of Clark Howell Homes were not relocated until 1996. As such, the family characteristics that are described above are for Clark Howell only.

Figure 1.
East Lake Meadows Housing Project before Revitalization



The Villages of East Lake: After Mixed-Income Revitalization



Figure 2. Characteristics of Housing Projects, 1995

1995 Statistics on Families in Treatment Group and Control Group	Clark Howell	East Lake Meadows
Number of Families in Housing Project	478	387
Number of Persons in Housing Project	1,242	1,397
Average Household Size	2.6	3.6
Percent Black in Project	95.6%	99.5%
Percent Married Households	5.3%	4.9%
Median Household Income	\$4,420	\$4,536
Median Earned Income	\$7,508	\$7,800
Employment Rate (Persons 62 and younger working)	18.3%	13.2%
Poverty Rate	91.4%	91.2%
Welfare Dependency Rate	48.5%	58.9%
No. Type 1 Crimes in Housing Project, 1992	1,084	441
Crimes Rate per Rental Unit in Housing Project	0.91	0.68
Elementary School Serving Project	Fowler	Drew
1990 Statistics on Census Tracts of Housing Projects		
Population in Census Tract	2,562	9,508
Median Household Income	\$5,164	\$5,132
Poverty Rate	70.5%	42.7%
Employment Rate	20.1%	27.4%
Percent Black	84.3%	95.9%
Percent with HS Degree	59.4%	53.9%

Part III. Construction of Mixed-Income Communities and New Schools

In 1994, Renee Glover was appointed the new Executive Director of AHA. She pursued a radically different approach to providing housing services. First, AHA concluded that conventional public housing projects had not mainstreamed families but had served as “warehouses for the poor” and had caused poverty to become severely concentrated. Second, the cycle of social disorders in housing projects was impossible to break by simply rehabilitating the housing units. Instead the housing projects had to be demolished and revitalized mixed-income communities built in their place as one means of deconcentrating poverty. Third, AHA placed the highest priority on improving the human condition of families. Fourth, AHA focused on building market rate housing with an affordable component, rather than just affordable housing. The market rate component of the properties would force managers to adopt more efficient practices (Glover, 2002). AHA announced three objectives of mixed-income revitalization:

1. To de-concentrate poverty and eliminate the stigma associated with public housing.
2. To create public/private partnerships. And;
3. To rebuild communities, not just housing.

The master plan for each new property included the construction of a new elementary school. At Techwood Homes/ Clark Howell Homes, Fowler Elementary School was replaced by Centennial Place Elementary in 1998. In the East Lake Meadows community, Drew Charter School replaced Drew Elementary in 2000.

The new schools are fundamentally different from the previous ones. Centennial Place Elementary School, which opened in 1998, is K-5 and currently has 515 students enrolled. Through his position on the APS Board Dr. Norman Johnson, working with AHA, played a pivotal role in getting funding for the new school and in designing the school’s innovative curriculum. The curriculum emphasizes science, mathematics, and technology. Drew Charter School, which is K-8 with 698 students enrolled in 2004, opened in August 2000 and moved into a new facility in 2001. The East Lake

Foundation, established by philanthropist and developer Tom Cousins, spearheaded efforts to establish this new school.⁴ The school adopted the Edison School Inc.'s curriculum which emphasizes math and reading. The school also has small classes, one-on-one tutoring, bilingual education, extended school hours and after school programs.

⁴ The foundation also played a pivotal role in revitalizing East Lake Meadows.

Part IV. Literature Review on Factors Influencing Student Performance

Researchers have identified many factors that influence student performance. These include the relative quality of early childhood education, the quality of teacher's education, the number of children per classroom, the curricula offered by the school, the number of extracurricular activities, peer influence, parental involvement, household income, the number of children in the family, the marital status of the parents, attendance, dropout rates of children, and the number of juvenile crimes committed by students. These factors may be classified under the following categories: Family background attributes; School specific attributes; Neighborhood/Environment Attributes; and Student's Cognitive Ability (see Figure 3).

Early childhood development programs stimulate children to learn and socialize with others. They also provide them with appropriate preparedness to be successful in school. Recent research has shown that the first five years of a child's life are the most critical in creating and developing their social and cognitive skills. Social skills are the skills people learn in order to relate to others and deal effectively with the challenges of everyday life. Cognitive skills deal with the academic abilities of children such as learning to read and write. During early childhood development, "human ability and motivation are shaped by families and non-institutional environments," and these lay the "foundation for success or failure in school."⁵ According to Parlakian (1992), it is in this time frame that the government should intervene in order to "support, promote and enrich the health and development of young children." Intervening at this early stage of life generates long-term benefits that are reflected by "measures of social performance and lifetime achievements."⁶

⁵ Heckman pg 3

⁶ Heckman pg 5

Figure 3. Factors that Influence Student Performance

<p>FAMILY BACKGROUND:</p> <ul style="list-style-type: none"> A. Household Income Status B. Number of Children in Family C. Married/Single Family Household D. Age of Household Head E. Age of Siblings Residing in the Household F. Number of Rooms in the Household per Person G. Housing Tenancy H. Educational Attainment of Head of Household I. Occupational Attainment of Head of Household J. Labor Force Participation K. Parental Involvement at School 	<p>NEIGHBORHOOD/ENVIRONMENT FACTORS:</p> <ul style="list-style-type: none"> A. Peer Influence <ul style="list-style-type: none"> 1. School Attendance Rates / Dropout Rates 2. Neighborhood Educational Attainment 3. Delinquency Rates B. Crime Status (Especially Juvenile Crimes) C. Neighborhood Income Status as Reflected in: <ul style="list-style-type: none"> 1. Poverty Rate 2. Housing Values 3. Occupational Status D. Racial Composition
<p>SCHOOL SPECIFIC FACTORS:</p> <ul style="list-style-type: none"> A. Student / Teacher ratio B. Enrichment Programs C. Commitment of Teachers <ul style="list-style-type: none"> 1. After School Hours 2. Ability to Motivate Students 3. Ability to Motivate Parental Involvement D. Curricula E. Learning Support <ul style="list-style-type: none"> 1. Teacher Labs 2. Reading / Math Labs 3. Tutoring F. Social Support Svcs for Children/Mentoring Programs G. After School Programs H. Number of Teachers' Aids I. Parent Voluntary Hours J. Faculty Credentials K. Business / Community Support L. Graduation / Retention Rates M. Delinquency Rates N. Racial Composition O. Disciplinary Actions P. Teachers' Salaries Q. School Resources 	<p>STUDENT'S COGNITIVE ABILITY:</p> <ul style="list-style-type: none"> A. Reading Achievements B. Writing Achievements C. Math Achievements D. Preparedness to Enter Higher Grade

Research has found that the benefits for children who participated in Early Childhood programs as compared to those who did not included a higher rate of high school completion, less grade retentions, higher wages, less need for welfare assistance, higher home ownership, and lower rates of juvenile crimes committed.⁷ Other studies have concluded that these programs not “only improve the children’s life outcomes, but [they] more than pay for their initial start-up and program maintenance cost in overall benefits to society.”⁸ In other words, high quality Early Childhood programs, which are designed to aid children in their early stages of development, help produce healthy and productive individuals that contribute to the economic well-being of the country and help reduce the number of people whose behavior is detrimental to society. Research by Schweke (2004) has concluded that the “public saves an estimated \$7.16” for every dollar spent on preschool educational programs.⁹

According to the Early Education for All Organization’s (EEAO) legislative policy brief in Massachusetts (2004), introducing Early Childhood programs for children “provides an opportunity to build upon the children’s natural inclinations to learn and can ... [help] build a solid foundation for school and life success,” which in turn can benefit society as a whole.¹⁰ The rationale is that when children acquire a good education, “community life is enhanced by improved student performance and less socially detrimental behavior.”¹¹ Additionally, since children are in a supervised environment, parents can go to work at ease and continue to be productive individuals. The EEAO also stated that the success of these programs also depended on the adoption of appropriate curricula designed to meet the developmental needs of children, and the quality of teachers’ educational deliverance. The EEAO noted that the “low wages, inadequate educational opportunities and poor working conditions” in schools had lowered the quality and standards of education.¹² The EEAO concluded that the state should adopt

⁷ Reynolds, Temple, Robertson, and Mann 2001 and the High Scope Educational Research Foundation 2002.

⁸ Parlakian

⁹ Schweke pg 18

¹⁰ EEA

¹¹ EEA

¹² EEA

early childhood programs with adequate curricula and should invest in teachers because the quality of their work performance affects children's achievements.

The quality of education that children receive is critically dependent upon teachers. Thus, it is important that teachers receive the appropriate academic training. "Providing high quality and relevant teacher training," improves teachers' performance, which in turn also increases student achievements.¹³ Unfortunately, it is usually the case that when schools are caught "in a hiring crunch, they will tend to assign... under-qualified teachers to problem schools."¹⁴ These teachers do not have the appropriate training to deal with such situations, and hence students suffer. Therefore, in addition to increasing the investment in teachers' academic preparation, there should also be improvements in "appropriate training in child and/or adolescent development."¹⁵ As the investment in teachers increase, a greater "responsibility for the educational performance of students" should also be placed on teachers.¹⁶

The quality of teachers' performance and student progress can also be improved by reducing the size of classrooms. It is usually recommended that the ideal teacher/child ratio should be one teacher for every ten students to reduce the possibility of students feeling isolated. A recent study revealed that many low-achieving students complained that they felt anonymous in the large classrooms settings.¹⁷ The National Day Care Study conducted in the 1970's found that smaller classrooms not only raised student achievement levels and increased the quality of contact with teachers, but also were associated with desirable classroom behavior.¹⁸ Research by Project STAR revealed that "small-class students scored significantly higher than students in regular classes."¹⁹ Similar research by Robinson and Wittebols (1986) indicated that smaller classroom sizes allowed children to obtain more individual attention and made possible other

¹³ Schweke pg 24

¹⁴ Research and Policy Committee of the Committee for Economic Development pg 41

¹⁵ Research and Policy Committee of the Committee for Economic Development pg 48

¹⁶ Research and Policy Committee of the Committee for Economic Development pg 43

¹⁷ Research and Policy Committee of the Committee for Economic Development pg 45

¹⁸ Research and Policy Committee of the Committee for Economic Development pg 34

¹⁹ Schweke pg 22

“teaching practices which [were] not feasible in large groups.”²⁰ Although, much of research confirms the effectiveness of small classroom settings, other research has concluded that the “effect of small classes increases from kindergarten to first grade ... but beyond first grade there is no cumulative effect.”²¹ Therefore, classroom size can be credited with playing a significant role in the early educational achievements of children, but it is not clear how important it is in determining children’s achievements later on in their adult life.

The curricula adopted by schools can serve as a mean to improve the educational performance of children. Research has found that the “quality of the curriculum to which a student is exposed has an impact on the quality of learning that takes place (Oakes, 1985; Vanfossen, Jones & Spade).”²² The relative merits of each program are difficult to assess as researchers have confirmed the effectiveness of various different curricula. For example, Huston-Stein et al., (1977) found “less-structured programs... to be more beneficial than other approaches in fostering imagination, task persistence and independence.”²³ Schweinhart et al., (1986) found that “more didactic, academically oriented programs [produced] greater short-term cognitive gains than other models.”²⁴ Although there is disagreement as to which curriculum produces the greatest benefits for children, researchers concur that whichever type of curriculum is offered by the school, they “can all confer cognitive and noncognitive benefits if they provide [training for teachers], involve parents, keep a small class size and maintain program continuity.”²⁵ More importantly, the key to a successful curriculum is its flexibility to be “responsive to local needs.”²⁶

In addition to the academic programs, schools also need to provide students with activities outside the classroom that enrich their lives. Extra curricular activities provide a “variety of new intellectual and cultural challenges for which there may not be any time

²⁰ www.nwrel.org/scpd/sirs/3/topsyn.html pg. 8

²¹ Schweke pg 23

²² Alexander pg 352

²³ www.nwrel.org/scpd/sirs/3/topsyn.html pg 9

²⁴ www.nwrel.org/scpd/sirs/3/topsyn.html pg 9

²⁵ www.nwrel.org/scpd/sirs/3/topsyn.html pg. 9

²⁶ www.nwrel.org/scpd/sirs/3/topsyn.html pg. 9

during the academic day.”²⁷ These activities help build school spirit and provide valuable lessons regarding of the norms of society. Additionally, these activities also “provide a counterpoint for boredom and idleness that leads to drug use and other negative behavior.”²⁸ Furthermore, extra curricular activities provide a controlled supervised environment that parents can rely on when deciding to leave their children.

Peer influence is another significant element determining children’s educational stimulation. Since children spend a lot of time together, they usually influence one another in various manners, even in digesting school material. Research has shown that “students play a large role in fostering students’ learning of the ideas and concepts of a lesson.”²⁹ A study by Kontos and Wilcox-Herzog (1997), which examines the influences on children’s competence in early childhood, confirmed the “importance of peer presence for social competence.”³⁰ The cooperative learning method among students has proved to have positive effects on the children’s “achievement levels across school levels, ability levels, academic subjects and types of skills.”³¹ Research on the Brookline Early Education Project revealed that when low-ability students were mixed with high-ability students, low-ability students had better achievement levels than when they were mixed in homogenous groups.³² In this case, peers “who [had] high achievement levels and who [were] well-behaved... [served] as positive role models to improve the outcomes of other students,”³³ these types of students are more prevalent in higher socio-economic schools.³⁴ Cooperative learning also has a positive effect on the social skills of children, “such as the attitudes to school, helping behavior towards others, the acceptance of ethnic minority members and tolerance of those who are different.”³⁵ Hence, peer influence, if maneuvered correctly, has the potential to impact students’ performance considerably.

²⁷ Research and Policy Committee of the Committee for Economic Development pg 51

²⁸ Research and Policy Committee of the Committee for Economic Development pg 51

²⁹ Parr and Townsend pg 407

³⁰ Kontos and Wilcox-Herzog pg 260

³¹ Parr and Townsend pg 408

³² www.nwrel.org/scpd/sirs/3/topsyn.html pg 11

³³ Parr and Townsend pg 414-415

³⁴ Parr and Townsend pg 414

³⁵ Parr and Townsend pg 411

Parental encouragement is essential in determining the children's success in school. Virtually all of the successful educational programs implemented have had parent education and parent involvement components.³⁶ Parents not only serve as role models for their children, but also influence their children's attitude and achievements in school. In a study performed by Slaughter-Defoe (unpublished), on the Chicago-based schools, the results revealed that "children ranked their parents (especially mothers and mother surrogates) higher, in relation to support for school and learning, over teachers, siblings, and friends."³⁷ The research by Datcher-Loury (1998) found that family behavior and attitudes had a "large important long-term effects on children's academic performance."³⁸ Additionally, research by the National Governors' Association also reported that the "curriculum of the home [was] twice as powerful [as a] predictor of academic success as [was] socio-economic status."³⁹ Evidence from other studies also suggested that as a parent's level of assistance increased, "the child's current level of performance on the problem-solving task, children's task performance [was also] enhanced."⁴⁰ A study performed by Miedel and Reynolds (1999) concluded that "parental participation in the parent-child centers during preschool, kindergarten, and primary-grade years, was significantly associated with lower rates of grade retentions, fewer years in special education classes, and somewhat higher reading achievements."⁴¹ Parental involvement thus, is an indispensable component of the enhancement in children's academic performance.

Parental involvement is affected by several factors, such as ethnicity, family composition, parents' educational background, and teacher attitudes. For example, Kohl (1994) found that "minority status was associated with a decrease in the amount and quality of parent involvement."⁴² These results were derived from teachers' reports in urban elementary schools and their perception of the degree of participation of parents. The educational level of parents also influences parents' level of involvement

³⁶ www.nwrel.org/scpd/sirs/3/topsyn.html pg 9

³⁷ Slaughter-Defoe pg 468-69

³⁸ Renchler pg 4

³⁹ Research and Policy Committee of the Committee for Economic Development pg 36

⁴⁰ Kontos and Wilcox-Herzog pg 249

⁴¹ Slaughter-Defoe pg 469

⁴² Kohl et al pg 503

and their ability to demand better education as well as question practices and attitudes of the schools. Research by Dauber and Epstein (1989) concluded that “better educated parents [were] more involved at school and at home.”⁴³ The results from Kohl et al., (2000) analysis supported those findings, concluding that “low parental education [was] associated with lower levels of active involvement in many domains.”⁴⁴ However, the results also concluded that lower educational levels were “not related to the quality of the parent-teacher relationship or the parent’s endorsement of the school.”⁴⁵ Research found that family composition, such as the marital status of the parents, although relevant in children’s academic achievements,⁴⁶ was not relevant in terms of parental involvement. Kohl et al., (2004) research results confirmed those findings concluding that single parents “did not report lower levels of involvement with their children at home.”⁴⁷ Finally, the study by Epstein (1991) also revealed that teachers’ attitudes and practices were “highly influential in determining parent’s level of involvement.”⁴⁸ Hence, the factors determining parental involvement become essential to address, since the involvement of parents in children’s education in turn leads to higher student performance.

Children’s academic success is also directly linked to their family’s household incomes. Research has proven that children’s IQ’s are associated to their family’s income level.⁴⁹ Children who are “born into poverty or over-stressful family circumstances often suffer from a whole variety of... problems that can delay social and intellectual development.”⁵⁰ These children’s families are constantly “[struggling] to meet their basic needs.”⁵¹ Parents usually “lack the resources to provide them with the special attention they need for success;”⁵² therefore, children from low socio-economic levels frequently enter the school systems “unprepared to meet the demands of academic

⁴³ Kohl et al pg 502

⁴⁴ Kohl et al pg 518

⁴⁵ Kohl et al pg 518

⁴⁶ Research and Policy Committee of the Committee for Economic Development pg 9

⁴⁷ Kohl et al pg 519

⁴⁸ Kohl et al pg 520

⁴⁹ Renschler pg 4

⁵⁰ Research and Policy Committee of the Committee for Economic Development pg 21

⁵¹ Research and Policy Committee of the Committee for Economic Development pg 28

⁵² Renschler pg 1

learning”⁵³ and become dropouts as a result of their frustration with failure.⁵⁴ The inability of the school system to address the needs of children from low socio-economic families has diminished the number of younger people successfully completing school and thereby entering the work force with the desired skill levels.

Quality education does not only contribute to children’s academic knowledge, it also helps children set goals, establish values and learn the norms of society. Children who do not receive quality educational guidance are, according to Coalition for Juvenile Justice’s (CJJ) 2001 Annual Report, at a higher risk of committing crimes, drinking, smoking, using weapons, attempting to commit suicide or having sex too young. Therefore, a by-product of children receiving inadequate education is usually an increase involvement in inappropriate activities. Many of these children “often enter the juvenile court system and frequently graduate into the adult prison system” since most do not have any skills and as a result return to crime once they are released.⁵⁵ This educational failure is not only costly to the individuals who do not receive a quality education; it is also a costly to society, since society must pay the taxes required to maintain jails, the court systems, and adequate law enforcement. A research report based on observations of the High Scope Perry Preschool Model (which implemented youth programs to break the relationship between childhood poverty and school failure) reported that benefits included lower rates of delinquency, higher achievements rates, and higher rates of employment.⁵⁶ A study based on the Chicago School’s District Child-Parent Center Program found that the children who attended this program as compared to others who did not had lower rates of juvenile arrests, lower rates of grade retention, and lower rates of arrests for violent crimes.⁵⁷

Education is a key element in the progress of society, both socially and economically. Furthermore, it is the economic ladder for underprivileged children. Hence, it is important to pursue high quality educational programs for children at an early age. This

⁵³ Research and Policy Committee of the Committee for Economic Development pg 22

⁵⁴ Research and Policy Committee of the Committee for Economic Development pg 21

⁵⁵ CJJ’s 2001 Annual Report

⁵⁶ CJJ’s 2001 Annual Report

⁵⁷ CJJ’s 2001 Annual Report

section has explored the importance and complexity of this challenge. Although the school system in the United States has not successfully addressed the needs of all children, especially those from low-income families, research on various determinants of children's academic performance point to numerous ways that the of education can be improved. These include early childhood programs, investment in teachers, improving the types of curricula offered by the school and the number of extracurricular activities, monitoring peer influence and increasing parental involvement. Mixed-income neighborhood revitalization, if done properly, can address the needs of low-income students by improving the academic performance of children. In this regard, it has the potential to be an important component of the solution to the much needed educational reform.

Part V. Centennial Place Elementary

Centennial Place Elementary School replaced Fowler Elementary School in 1998. As part of the school's educational reforms, Centennial Place Elementary adopted new guidelines designed to reach higher achievement levels. For example, the elementary school implemented a school day schedule lasting half an hour longer than the typical public school in the Atlanta Public School system (APS). The school also adopted a long school year calendar, where students have nine-week sessions throughout the year. This school calendar enables the school to ensure that all students are at the same level. It achieves this by making students who are falling behind take instructional programs during the school breaks. The school also offers a variety of after school activities, clubs and enrichment programs for children. Many of these activities, along with the school's physical education classes and the Montessori Preschool Program that is designed to prepare young children for kindergarten, take place in the YMCA that adjoins to the school.

The new elementary school also adopted an unconventional curriculum, which focuses on science, math and technology. The curriculum's theme was influenced by the elementary school's proximity to Georgia Tech and the university's interest in a science-based curriculum.⁵⁸ The curriculum centers on living things in the Fall, earth and science in the Winter and physical science in Spring. The school emphasizes science and mathematics through technology. This keeps children up-to-date with current technological trends. To facilitate technological know-how, the elementary school is equipped with a computer lab, as well as five computers in each classroom for students to utilize during instruction. The elementary school also offers other instructional programs, such as the "specialized instruction offered to students with special needs, including those with learning disabilities, and the speech impaired..." and a challenge class "to qualified, gifted students."⁵⁹

⁵⁸ Abt Associates, Inc.

⁵⁹ <http://www.apskids.org/CentennialPlace/>

The school's science, math and technology curriculum is combined with CO-NECT, a research-based program, which assesses the educational progress of students through rubrics and portfolios. CO-NECT is a "research-based educational model that stresses community accountability for results, learning by doing and the "sensible" use of technology."⁶⁰

As part of the new guidelines adopted by the school, Centennial Place Elementary actively pursues parental involvement. Parents are invited to walk-in conferences on Wednesdays and are expected to participate in three parent conferences during the year. The school also sponsors special programs to encourage parents to interact with their children. Furthermore, the school also tries to involve parents by promoting parental participation in the school's governance.

Below, we evaluate Centennial Place Elementary students along several key dimensions and compare them to students of the former Fowler Elementary and to the APS. This includes comparisons of the number of students enrolled in each school, the socio-economic status of the students attending the schools, the racial/ethnic composition of the student bodies, as well as the students' performance on the Writing Assessment Test and the IOWA Reading and Math Tests. The analysis takes into consideration the last four years Fowler Elementary operated (from 1994 through 1998), and the subsequent years it operated as Centennial Place Elementary.⁶¹

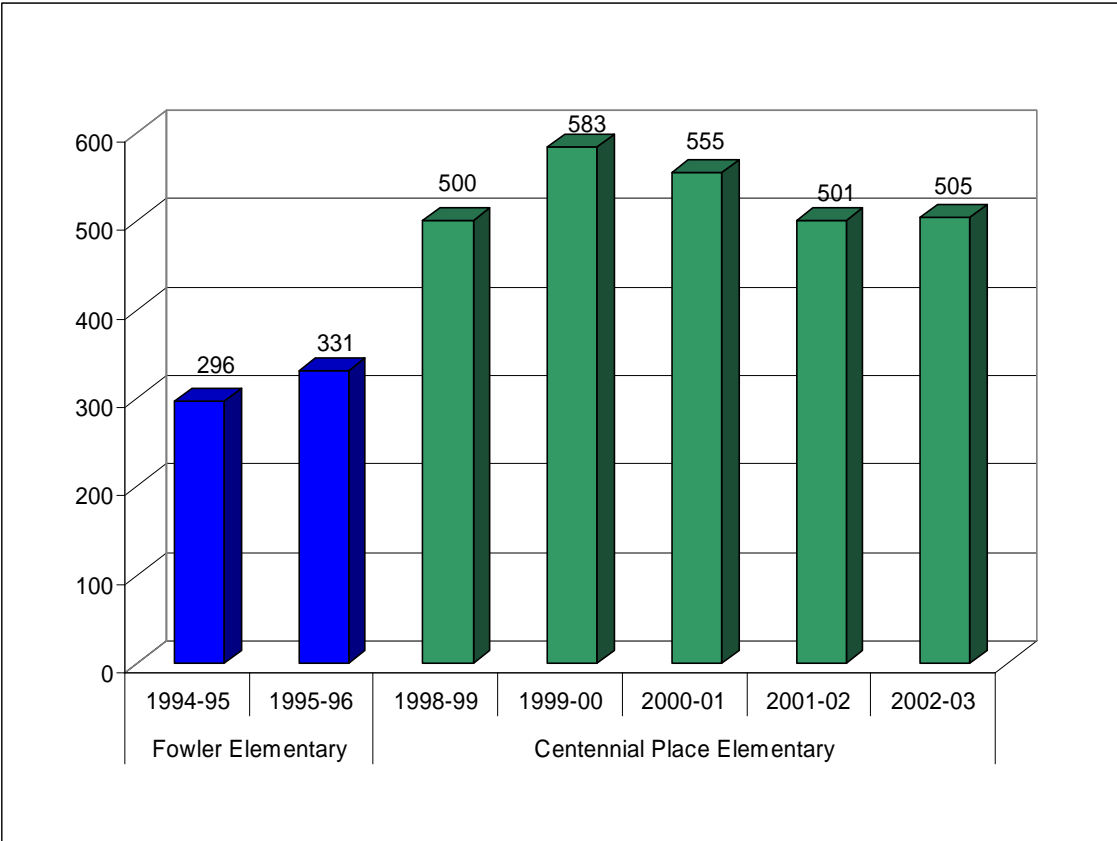
There is also a separate evaluation of the progress of kindergarten and fourth grade students at Centennial Place Elementary from the year 2000 through 2003. To do this we used the new set of standardized tests, the Georgia Kindergarten Assessment Program-Revised Tests (GKAP-R) and the Georgia Criterion-Referenced Competency Tests (CRCT), and compare Centennial Place Elementary children to other Atlanta Public School children.

⁶⁰ <http://www.apskids.org/CentennialPlace/>

⁶¹ These are also the last two years Georgia Public School students took IOWA tests to assess student performance.

Academic enrollment declined at Fowler Elementary after the 1996-1997 academic year. This decline reflected the relocation of families from the housing project as a result of revitalization activities. In the 1995-1996 school year, there were 331 students enrolled in the school; by the 1997-1998 academic year, the school enrollment had dropped to 168 children (Figure 1). Enrollment at the elementary school increased significantly once Centennial Place Elementary opened and replaced Fowler Elementary. In its first year operating, the new elementary school had 500 students enrolled. The number of students enrolled increased over the next couple of years, reaching 583 students in the 1999-2000 school year, and then decreased to 505 students by the 2002-2003 school year (Figure 4).

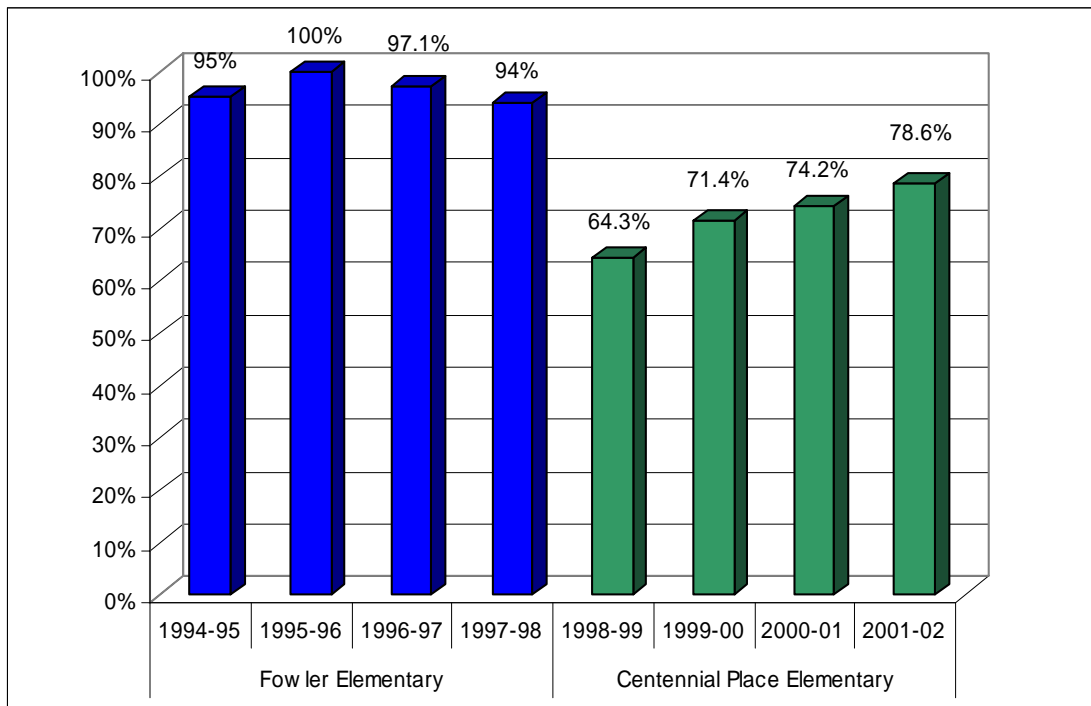
Figure 4
Student Enrollment Each Academic Year



Source: Fowler Elementary and Centennial Place Elementary Yearly School Reports

The economic diversity of families whose kids attend Fowler and Centennial Place is reflected in their eligibility for Free and Reduced Lunch. During Fowler Elementary School's operation, the percentage of eligible children ranged from 95%-100% (Figure 5). In the 1995-1996 school year, the percentage of students eligible for free or reduced lunch reached 100%. Following the revitalization of the Techwood and Clark Howell Homes into a mixed-income neighborhood, Centennial Place Elementary School experienced a considerable increase in the economic diversity of its student body. In the 1998-1999 school year, the first year Centennial Place Elementary was open, 64.3% of the students were eligible for free or reduced lunch. By the 2001-2002 school year, the percentage of children qualifying for free or reduced lunch increased to 78.6%.

Figure 5
Percentage of Students Qualifying for Free or Reduced Lunch



Source: Fowler Elementary and Centennial Place Elementary Yearly School Reports

The racial composition of the elementary school has changed in comparison to the early 1990's, when 98% of Fowler Elementary students were African-American. Even though the student body at Centennial Place Elementary is still predominantly African-American, there has been a continuous increase in its ethnic diversity. In the 2002-2003 academic year, 93% of the student body was African-American, 3% was Asian, 1% was Hispanic, 1% was White, and 1% was multiracial (Figures 6 and 7).

Enrollment at Fowler Elementary decreased from 296 students to 168 students within 4 years.

Figure 6
Demographics of Fowler Elementary School, 1995-1998

Demographics and Other Factors	1998	1997	1996	1995	4-Year Change
Total Enrollment	168	245	331	296	-128
Ethnicity/Race					
Asian/Pacific Islander	0%	0%	0%	0%	0%
Black/African American	99.4%	97.6%	96.7%	98%	1.4%
Hispanic	0%	1.2%	.9%	.7%	-.7%
Multiracial	0%	.8%	1.2%	.3%	-.3%
Native American	0%	0%	0%	0%	0%
White/Non-Hispanic	.6%	.4%	1.2%	1%	-.4%
Other Subgroups					
Eligible for Free/Reduced Lunch	94%	97.1%	100.0%	95%	-1%
Limited English Proficiency	0%	0%	0%	0%	0%
Special Education	4.8%	2.4%	2%	3%	1.8%

Source: GA School Council Institute: www.gsci.org/ReportCenter/reportcenter.jsp

Centennial Place Elementary School has experienced slightly more racial diversity.

**Figure 7
Demographics of Centennial Place Elementary School, 2000-2003**

Demographics and Other Factors	2003	2002	2001	2000	4-Year Change
Total Enrollment	505	501	555	583	-78
Ethnicity/Race					
Asian/Pacific Islander	3%	5%	5%	2%	1%
Black/African American	93%	91%	92%	95%	-2%
Hispanic	1%	1%	1%	1%	0%
Multiracial	1%	2%	1%	0%	1%
Native American	0%	0%	0%	0%	0%
White/Non-Hispanic	1%	2%	1%	2%	-1%
Other Subgroups					
Eligible for Free/Reduced Lunch	68%	79%	74%	71%	-3%
Limited English Proficiency	4%	2%	2%	No Data	2%
Special Education	5%	5%	4%	4%	1%

Source: GA School Council Institute: www.gsci.org/ReportCenter/reportcenter.jsp

The students’ academic achievements at Fowler Elementary School is evaluated by comparing the school’s fifth grade Writing Assessment test scores to those of students in the Atlanta Public School system (APS) for the 1994-2002 academic years. The evaluation also looks at the IOWA test scores of third grade students at Fowler Elementary and those of third grade students in APS. Finally, we compare student performance at Centennial Place Elementary against the APS for the 1998-2002 school years. The Writing Assessment test is used because it is the only standardized test that has been administered by APS each year.

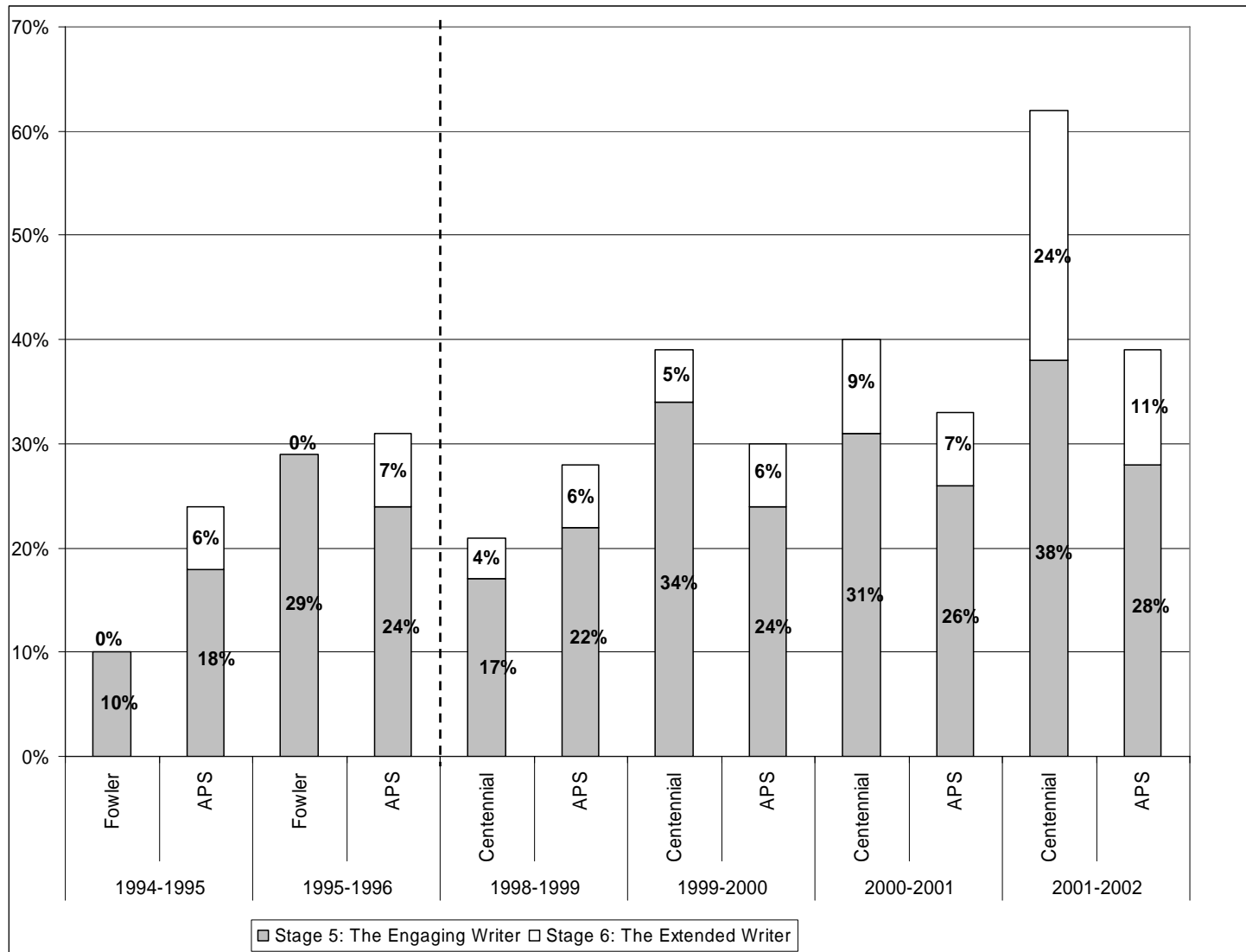
The Grade 5 Writing Assessment test is a standardized test given to students to evaluate their writing abilities.⁶² Test results rank students in terms of their developmental writing stage, which ranges from 1 to 6, with 6 being the most advanced.

⁶² Georgia Department of Education Website <http://www.doe.k12.ga.us/index.asp>

In the 1994-95 school year, 10% of Fowler Elementary fifth grade students achieved a Stage 5 writing level and none achieved a Stage 6 score, while 18% of APS fifth grade students achieved a Stage 5 score and 6% a Stage 6 score (Figure 8). Two years after Centennial Place Elementary replaced Fowler Elementary, in the 2000-01 school year, 40% of the fifth grade students achieved a Stage 5 or Stage 6 score.⁶³ That year, the school outperformed APS students by seven percentage points (APS had 33% of its fifth grade students score a Stage 5 or Stage 6 on the Writing Assessment test). In the 2001-02 academic year, Centennial Place widened the performance gap even more as 62% of its fifth grade students achieved a Stage 5 or Stage 6 writing score and only 39% of APS students achieved such marks.

⁶³We have omitted academic years – 1996-97, 1997-98 and 1998-99 from the analysis because the student body of the school was undergoing a significant transition in response to the removal of families from the housing project.

Figure 8
Writing Assessment Scores for Fowler and Centennial Place
(% Achieving Stages 5 and 6)



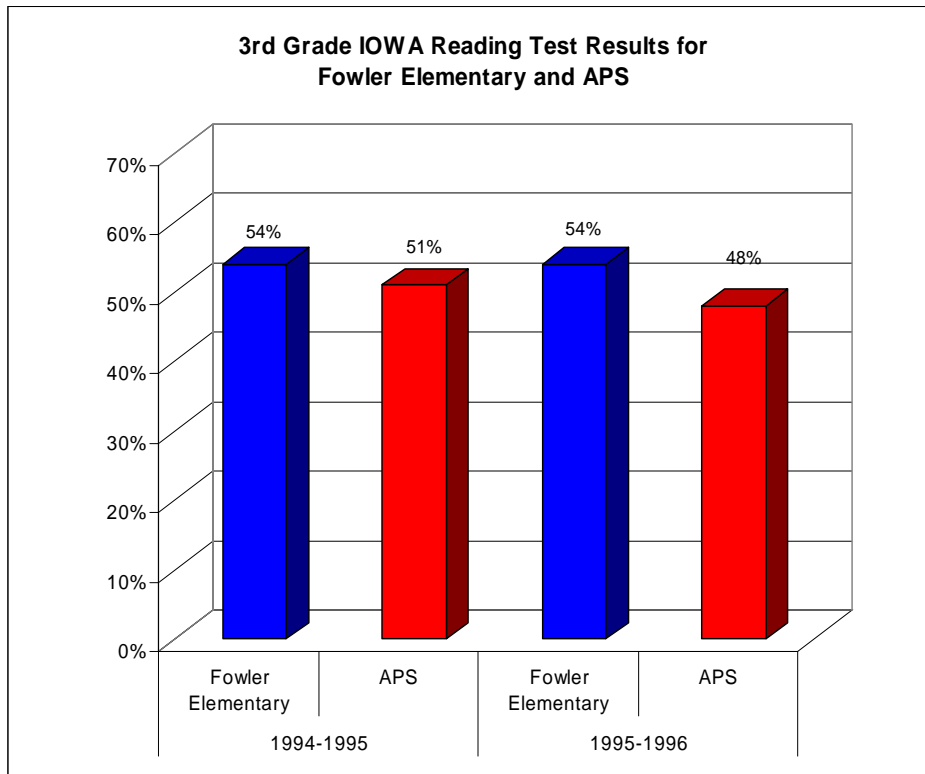
The ITBS (IOWA Test of Basic Skills) is a standardized test that allows schools to measure their students' performance against other students taking the same tests. IOWA tests assess students' performance on various core subjects, such as Reading and Math. The scores range from 1 to 100. Student scores are placed in a percentage category corresponding to a national scale. So for example, if Student A scores a 76, it means Student A achieved a test score higher than 76% of all the other students taking the test. Only 24% of the students that took the test had scores higher than Student A. APS did not administer the IOWA test AY 2000-2001, 2001-2002 and 2002-2003.

In the 1994-1995 academic year, third grade students at Fowler Elementary achieved a score of 54 on the IOWA Reading tests. On a national level, these scores indicate that Fowler Elementary students scored better than 54% of third grade students nationally. However, this high score seems inconsistent with the relatively lower scores achieved by students at Fowler on the Writing Assessment test (Figure 9).

ITBS data used in this analysis was obtained from the Georgia Department of Education website. It should be noted however that there is a discrepancy between the data available from this source and data provided to the researcher by APS. According to data obtained from GA DOE, Third grade students at Fowler achieved 54 on the ITBS Reading test and 77 on the Math test in AY 1994-95. Data from APS reports a 13 on the ITBS Reading and 33 on the ITBS Math for the same year. In general, ITBS scores for Fowler and Drew did not seem consistent with scores achieved on other standardized tests such as the Writing Assessment. Further, we were not able to reconcile these inconsistencies. As a result, ITBS scores are simply reported in this research but readers are warned to be very cautious about the accuracy of the reported results.

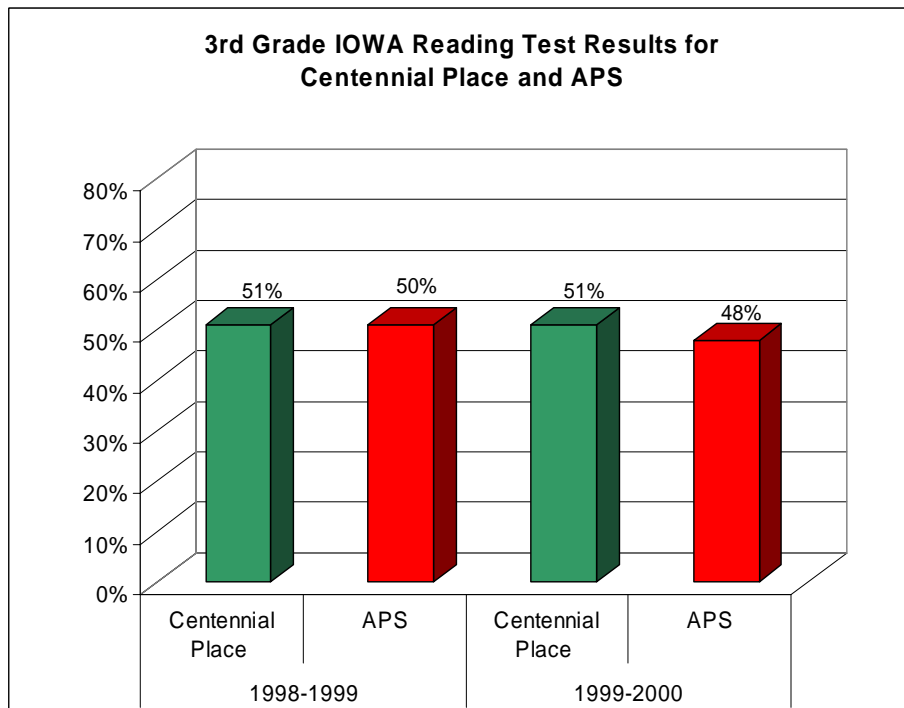
In Centennial's first year operating, the 1998-1999 school year, students' Reading scores was 51. That same year, APS students' score was 50. The following year, Reading scores remained the same for Centennial Place Elementary students (51), while APS students achieved lower test scores (48) (Figure 10).

Figure 9



Source: Georgia Department of Education Website <http://www.doe.k12.ga.us/index.asp>

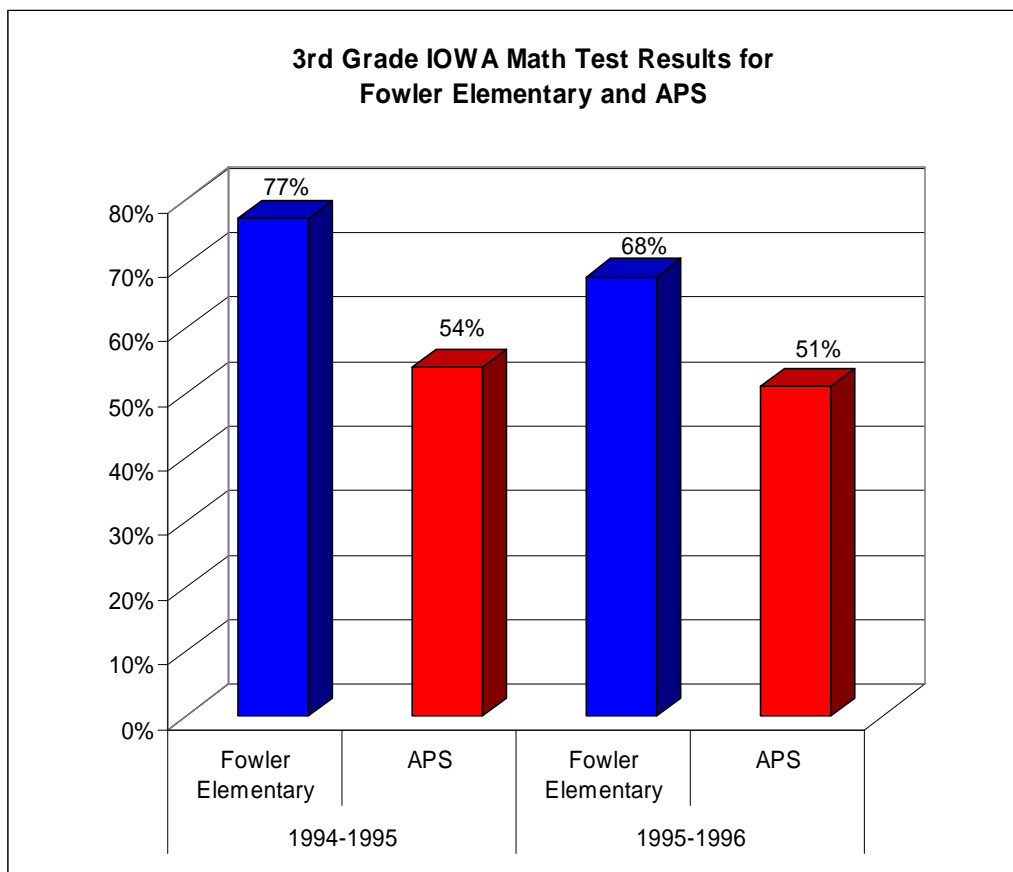
Figure 10



Source: Georgia Department of Education Website <http://www.doe.k12.ga.us/index.asp>

In the 1994-1995 school year, Fowler Elementary student's math score was 77, meaning their scores were higher than 77% of the students taking the same test. Only 33% of the students taking the same test had scores higher than Fowler Elementary School students. This score was significantly higher than that achieved by APS (54) (Figure 11). If correct, the 1994-95 match score would be a significant achievement for students at Fowler. However, the results appear to be inconsistent with results of student performance on other standardized tests.

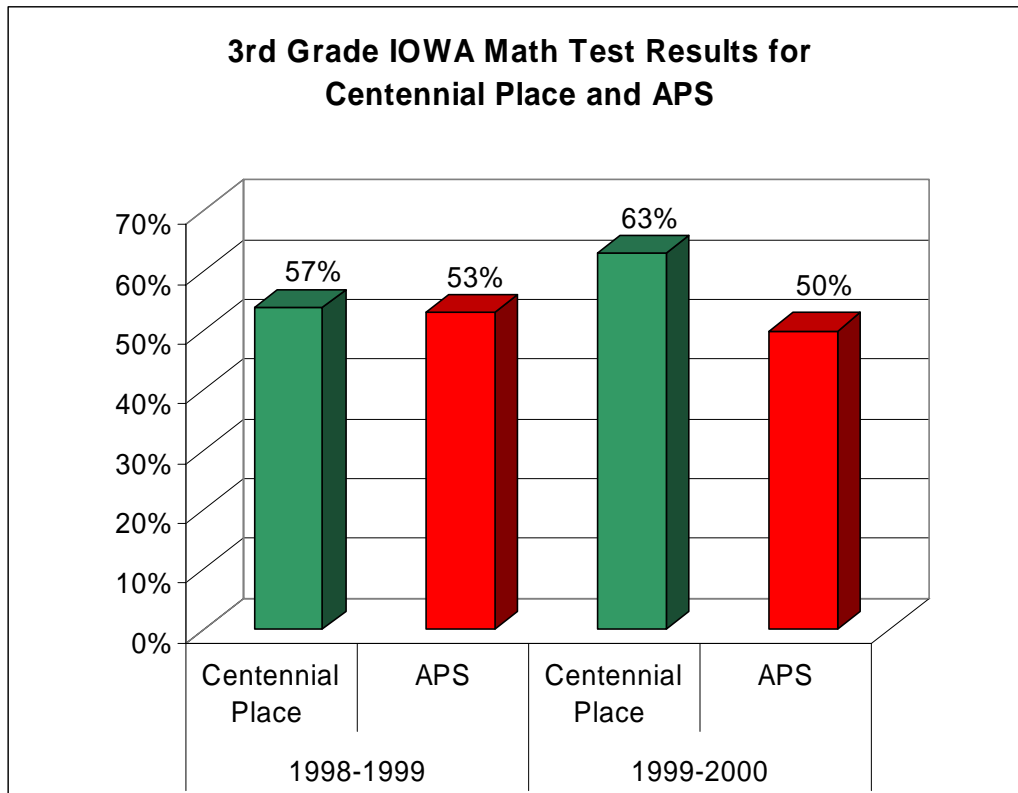
Figure 11



Source: Georgia Department of Education Website <http://www.doe.k12.ga.us/index.asp>

During 1998-2000 academic years, the first two years Centennial Place Elementary was operating, students' Math performance improved significantly. In the 1998-1999 school year, Centennial student's Math score was 57. The following year, student performance improved even more, as students achieved a score of 63 on the Math test. APS students the on the other hand, had a slight decrease in their performance. Their scores dropped to 53 in the 1998-1999 school year, and it decreased to 50 in the 1999-2000 school year (see Figure 12).

Figure 12



Source: Georgia Department of Education Website <http://www.doe.k12.ga.us/index.asp>

After the 1999-2000 school year, the IOWA test was no longer administered and as a result Centennial Place Elementary students were assessed through different tests, such as the Georgia Kindergarten Assessment Program-Revised Tests (GKAP-R) and the Georgia Criterion-Referenced Competency Tests (CRCT) for fourth grade students. GKAP-R Tests evaluate whether children in kindergarten are prepared to enter first grade. “Throughout the year, teachers assess kindergarten students on a variety of assessment activities in the domain areas of literacy, mathematics, and social/emotional development. By Spring, teachers have rated each student on 32 activities according to state standards” and decided whether the students are prepared for first grade.⁶⁴ CRCT tests “are state-mandated end-of-year assessments. These tests are designed to measure how well students have mastered the content and skills that are unique to Georgia’s Quality Core Curriculum (QCC) in the areas of Reading, English/Language Arts, Mathematics, Science, and Social Sciences at grades 1 through 8.”⁶⁵ The tests evaluate whether students in each grade exceed, meet, or do not meet the standards. Figures 13 through 18 below show the tests results for students in kindergarten and fourth grade from the year 2001 through 2003.

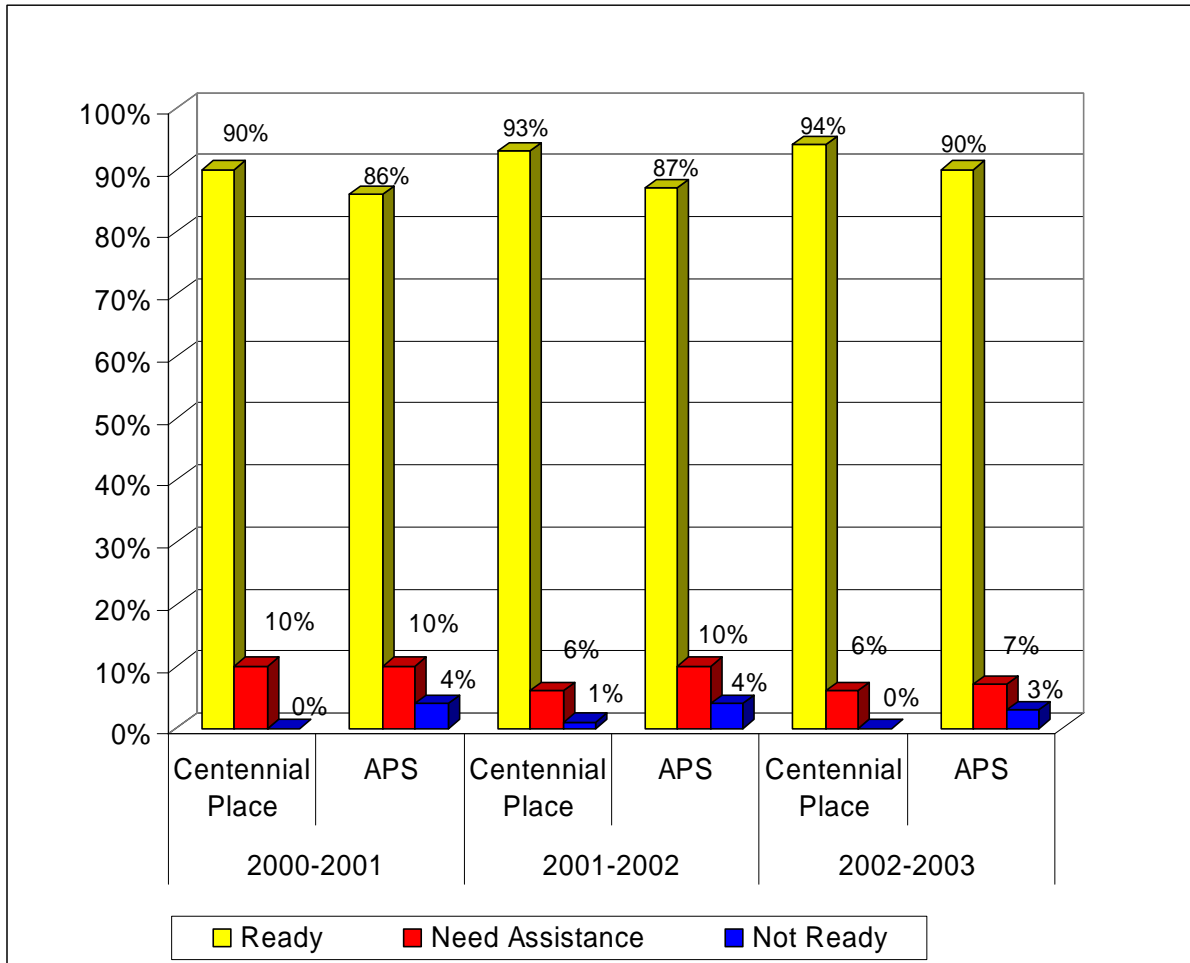
The GKAP-R Test evaluates whether children in kindergarten are prepared to enter first grade. The tests given to kindergarten students at Centennial Place Elementary in 2001 concluded that the majority of the students were ready for first grade. In the 2000-2001 academic year, 90% of the students had scores signaling they were ready to enter first grade, while the other 10% were ready to enter first grade with extra assistance. By the 2002-2003 school year, 94% of the students were prepared for first grade, and only 6% needed extra assistance. APS reported that in the 2000-2001 school year, 86% of kindergarten students were ready for first grade, 10% of the students needed extra assistance, and 4% of the students were not ready for first grade. Although APS did increase the number of students prepared for first grade by the 2002-2003 academic year, the percentage of students prepared to enter first grade were not as high as that as Centennial Place Elementary School’s. APS reported that in 2003, 90% of students

⁶⁴ <http://reportcard.gaosa.org/k12/> Office of Student Achievements

⁶⁵ <http://reportcard.gaosa.org/k12/> Office of Student Achievements

were ready for first grade, 7% needed extra assistance, and 3% were not ready (Figures 13 and 14).

Figure 13
GKAP-R Test Scores for Centennial Place Elementary and APS



Source: Governor's Office of Student Achievement Website <http://www.gaosa.org/>

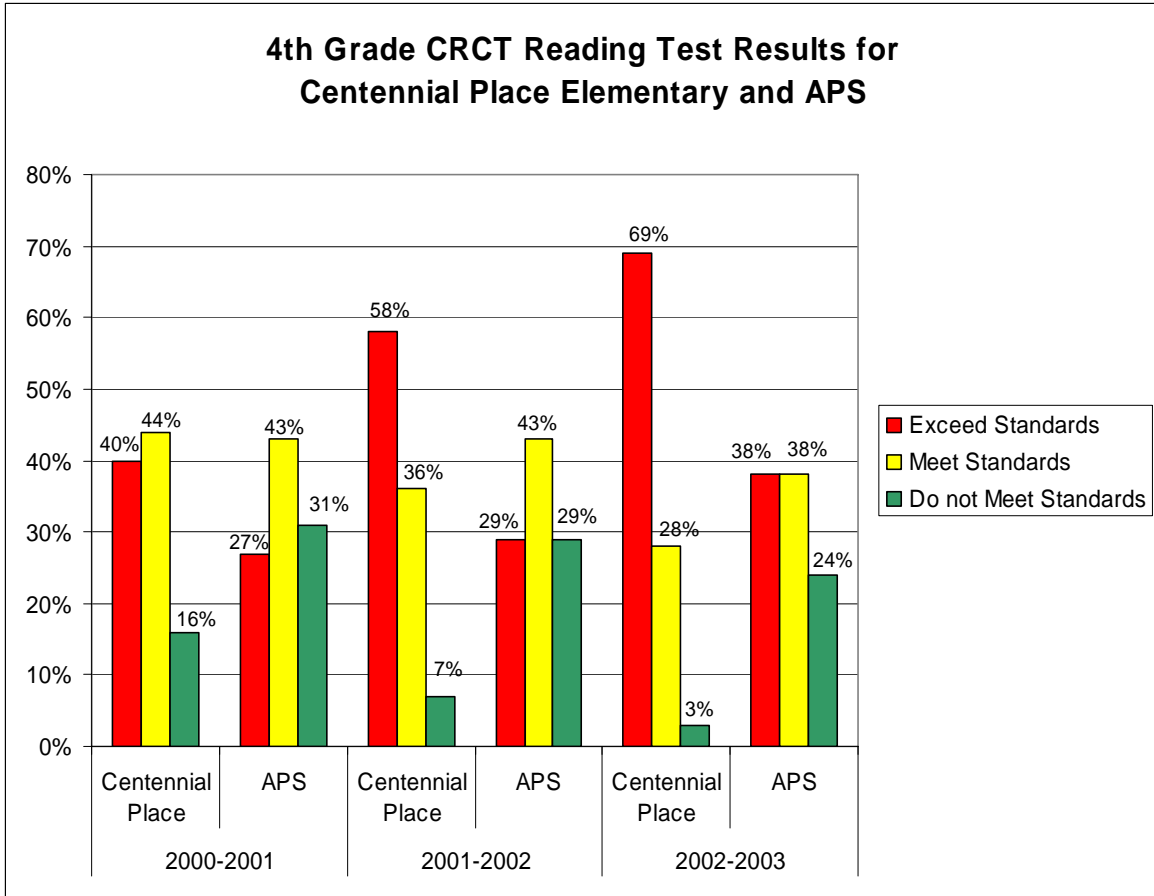
Figure 14
GKAP-R Test Scores Analysis, The
Percentage of Kindergartners in Centennial Place Elementary
School in Each Category

	2003	2002	2001	3-Year Change
Ready	94%	93%	90%	4%
Needs Extra Assistance	6%	6%	10%	-4%
Not Ready	0%	1%	0%	0%
Number Tested	80	97	94	-14
Number Not Ready	5	7	9	-4

Source: GA School Council Institute: www.gsci.org/ReportCenter/reportcenter.jsp

The fourth grade CRCT Reading, English and Math tests evaluate whether students exceed, meet, or do not meet the standards in these core subjects. In the 1999-2000 academic year, 16% of the students at Centennial Place Elementary did not meet the Reading standards, while 44% of the students met the standards, and 40% of the students exceeded them. These scores were considerably better than those achieved by the Atlanta Public School system. In the 1999-2000 school year, APS reported 27% of the students exceeded the standards, 43% met the standards, and 31% of the students did not meet the standards. Within three years, Centennial Place Elementary tests scores improved dramatically. Sixty-nine percent (69%) of students exceeded the standards, 28% of the students met the standards, and only 3% of the students did not meet the standards. Reading scores for APS students also increased during this time period, however, not to the extent of Centennial Place Elementary students (Figures 15 and 16). In 2003, 24% of APS students still did not meet the standards.

Figure 15



Source: Governor's Office of Student Achievement Website <http://www.gaosa.org/>

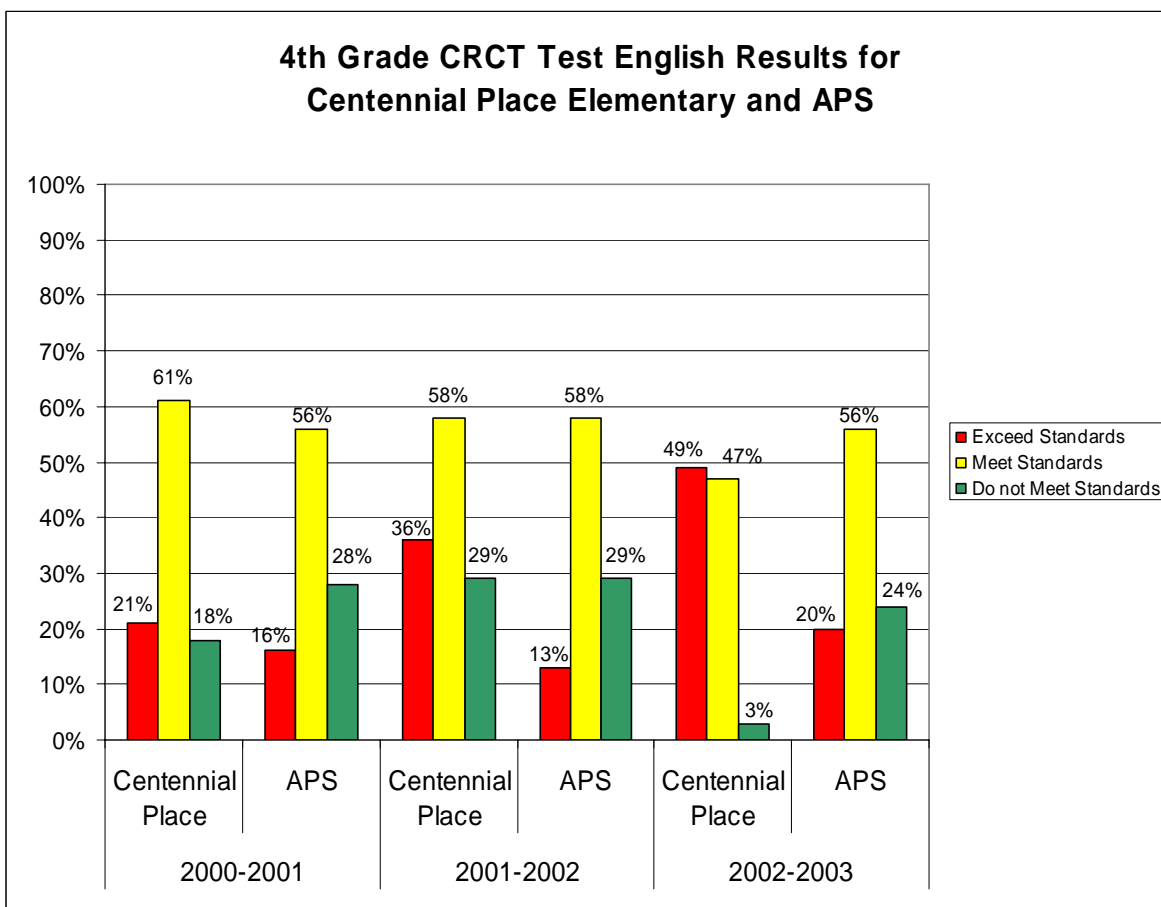
Figure 16
4th Grade CRCT Reading Test Scores: Analysis for Centennial Place Students, 2000-2003

Subject	2003	2002	2001	3-Year Change
Reading				
Students Exceeding Standards	69%	58%	40%	29%
Students Meeting Standards	28%	36%	44%	-16%
Students Not Meeting Standards	3%	7%	16%	-13%
Number Tested	87	59	81	6
Number Not Meeting Standard	3	4	13	-10

Source: GA School Council Institute: www.gsci.org/ReportCenter/reportcenter.jsp

English scores also changed significantly for Centennial Place Elementary students during the 2001-2003 time period. In these three years the percentage of students not meeting the requirements decreased from 18% to 3% and the percentage of students exceeding the requirements increased from 21% to 49%. APS students also had an increase in performance in this three-year time period. The percentage of students exceeding the standards increased from 16% to 20%. The percentage of students exceeding the standards increased from 16% to 20%. The percentage of students meeting the standards remained the same (56%), while the percentage of students not meeting the standards decreased from 28% to 24% (Figures 17 and 18). Clearly however, the progress achieved by APS students was not as great as that achieved by Centennial Place Elementary students.

Figure 17



Source: Governor's Office of Student Achievement Website <http://www.gaosa.org/>

Figure 18

**4th Grade CRCT English/Language Arts Test Scores:
Analysis for Centennial Place Students, 2000-2003**

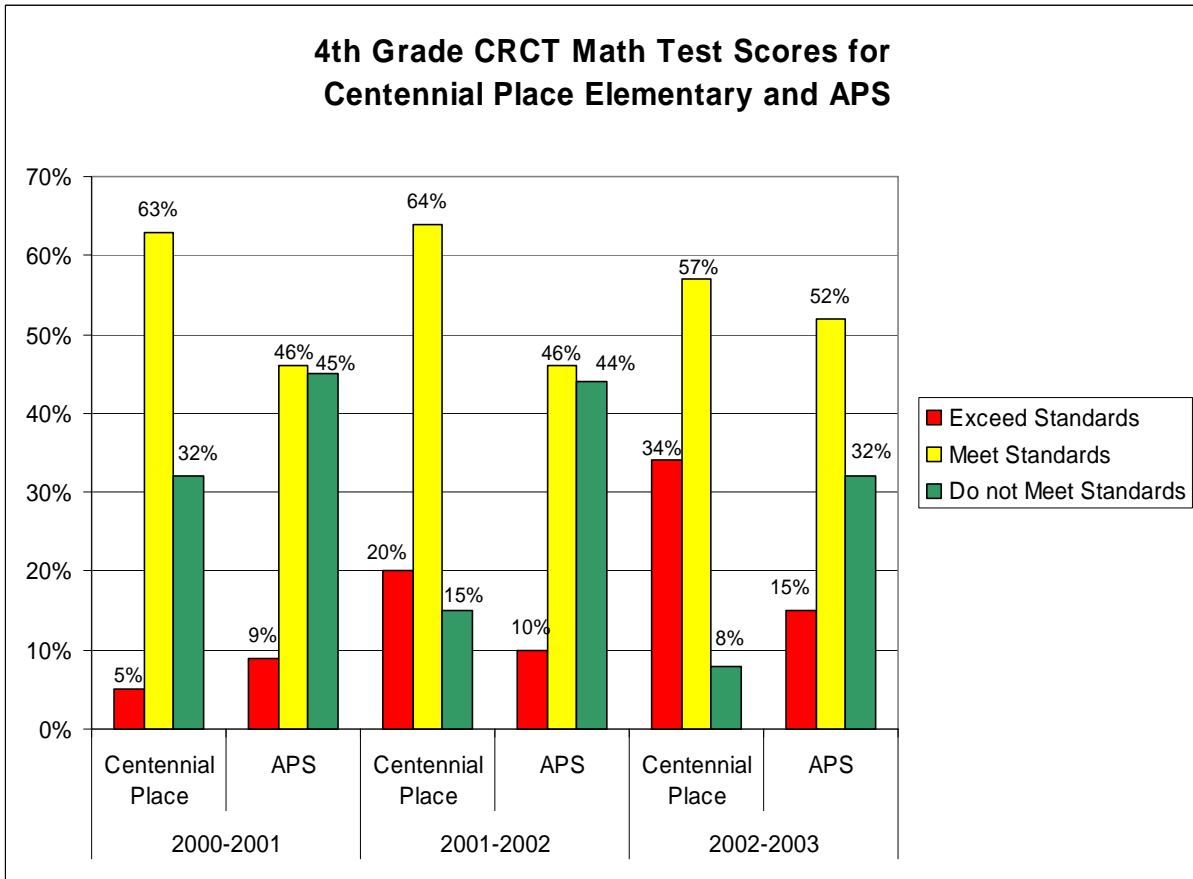
Subject	2003	2002	2001	3-Year Change
English/Language Arts				
Students Exceeding Standards	49%	36%	21%	28%
Students Meeting Standards	47%	58%	61%	-14%
Students Not Meeting Standards	3%	7%	18%	-15%
Number Tested	87	59	82	5
Number Not Meeting Standard	3	4	15	-12

Source: GA School Council Institute: www.gsci.org/ReportCenter/reportcenter.jsp

Math scores in the 1999-2000 school year for Centennial Place Elementary students revealed that 5% of the student achieved scores above the standards, 43% of the students met the standards, and 51% did not meet the standards. In three years, the percentage of students exceeding the standards rose to 34%, while 57% of the students met the standards, and only 8% of the students did not meet the standards. Over this three-year period, APS students also displayed some improvements in their Math performance. Again however, the improvement experienced by APS students did not compare to that experienced by Centennial Place Elementary students (Figure 19 and 20).



Figure 19



Source: Governor's Office of Student Achievement Website <http://www.gaosa.org/>

Figure 20

4th Grade CRCT Math Test Scores: Analysis for Centennial Place Students, 2000-2003

Subject	2003	2002	2001	3-Year Change
Math				
Students Exceeding Standards	34%	20%	5%	29%
Students Meeting Standards	57%	64%	63%	-6%
Students Not Meeting Standards	8%	15%	32%	-24%
Number Tested	87	59	82	5
Number Not Meeting Standard	7	9	26	-19

Source: GA School Council Institute: www.gsci.org/ReportCenter/reportcenter.jsp



In the years Centennial Place Elementary has been operating, student performance has increased in every subject. Every year an increased percentage of students has met or exceeded the test score standards and so has the amount of students achieving a Stage 5 or Stage 6 writing test score.



Part VI. Drew Charter School

The Drew Charter School opened in the year 2000. It replaced Drew Elementary School. The new school was created as part of the process of revitalizing East Lake Meadows. It was done in an effort to address the educational needs of the low-income students of the area and to equip them with the necessary academic and social skills required to succeed in school and in life. When Drew Charter School replaced the old Drew Elementary School, it became Georgia's first charter school. "Charter schools are independent public schools designed and operated by educators, parents, community leaders, educational entrepreneurs, and others. They are sponsored by designated local or state educational organizations, which monitor their quality and effectiveness but allow them to operate outside of the traditional system of public schools."⁶⁶ In this case, the Drew Charter School is governed by a board of directors which is responsible for overseeing operations of the school.

To create an environment that would bring about high levels of performance for the children of The Villages of East Lake, the Drew Charter School adopted new educational guidelines. For example, the school implemented a school day schedule lasting 1.5 hours longer than the typical public school day. The school also embraced an extended school year calendar, in which students attend school 15 days more than regular public school students. This results in Drew Charter School students spending 33% more time in class than traditional public schools students.⁶⁷ To keep students up-to-date with technology, the Drew Charter School is equipped with three computers in each classroom and "each student in the third grade or above can have a desktop computer for home use."⁶⁸ The school also offers after school programs five days a week, for two hours a day. These programs include academic tutoring as well as enrichment programs. There is also a new YMCA that adjoins the school. Students use this building for after school activities. Furthermore, the school runs a mentoring program, which provides one-to-one counseling for students.

⁶⁶ www.nclb.gov/start/glossary/

⁶⁷ Ibid

⁶⁸ Abt Associates Inc.



The Drew Charter School adopted the curriculum of The Edison Schools Inc., which focuses primarily on reading and math. The elementary school curriculum utilizes the *Success for All* reading program and the Everyday Math National Science Foundation curriculum. The curriculum consists of 1.5 hours of Reading and 1 hour of Math daily. Additionally, the curriculum includes about an hour of Writing-Language Arts, Science, Social Sciences, World Language, Fine Arts and Physical Education every other day. The Edison curriculum uses a computer-based benchmark test to assess and track students' performance. In addition to the Edison curriculum, the school offers a Special Education program, which targets the needs of children with disabilities. In the 2002-2003 school year, the school had 90 students enrolled in this program.

As part of its educational reform, the Drew Charter School tries to involve parents in their children's education. The *Success for All* reading program has a Student Support Team built into it, which requires 100% parental involvement. "The Student Support Manager makes phone calls to parents who fail to make or attend appointments."⁶⁹ Additionally, the school has parent-teacher conferences quarterly to make parents aware of their children's educational progress.

The Drew Charter School uses CSMpact to assess the current level of satisfaction with most aspects of the school experience. This is a detailed survey conducted by Harris Interactive, Inc., which "includes the opinions of many constituents, including parents, students, faculty and staff. The surveys assess the level of satisfaction stakeholders have with most aspects of the school experience,"⁷⁰ such as overall school satisfaction, teachers' performance, students, school buses, equipment and facilities, and school atmosphere. The information is then evaluated "to determine which experiences and perceptions have the largest impact on satisfaction and allows Drew faculty and staff to develop a fact-based strategic plan to improve satisfaction among the population served."⁷¹ In other words, CSMpact is "designed to provide the school with the

⁶⁹ Abt Associates Inc.

⁷⁰ Drew Charter School, Inc. Annual Report 2001-2002

⁷¹ Drew Charter School, Inc. Annual Report 2001-2002



necessary information to engage in the continuous improvement of educational services.”⁷²

The CSMpact 2001-2002 survey asked students to rate their overall school satisfaction, teachers, school buses, equipment and facilities, as well as school atmosphere (Figure 21). Students’ overall school satisfaction received a rating of 7.1. Drew Charter School teachers received a rating of 8.5, while the school buses were rated as a 6.9. Equipment and facilities received a 7.1 student rating, and school atmosphere received a 6.7. The results of the student surveys that year revealed students were most content with their teachers. The results also indicated students were most unhappy with the bus service provided by the school, and the atmosphere that prevailed in the school.

Drew Charter School faculty and staff members answered a much more detailed survey. They were asked to rate their overall satisfaction with the school, students, involvement in decision making, the principal, the academy director, parental support, equipment and facilities, and school atmosphere among others (Figure 22). Faculty and staff members rated their overall school satisfaction a 7.2. Students received a score of 6.9. Involvement in decision making received a rating of 7.3. The principal received an 8.8 teacher/staff rating and the academy director received a 5.5. Parental support received a low rating of 5.5, while equipment and facilities received a rating of 9.0, and school atmosphere received a rating of 7.8. In this case, the 2001-2002 survey results indicated school employees were most displeased with the amount of parental support they received and the administration.

Parents were also asked to participate in surveying the different areas of the school (Figure 23). They were asked to rate their overall satisfaction with the school, the feedback they received on their child’s performance, the curriculum/training, the principal/administration, teachers, communications/involvement, school buses, and equipment and facilities. Parents rated their overall satisfaction with the school as an 8. They rated the feedback on their child’s performance as an 8.9. The curriculum/training received a rating of 8.5, while the administration received a rating of 8.8 and teachers

⁷² Drew Charter School, Inc. Annual Report 2001-2002



received a rating of 9.1. Involvement received a rating of 8.9, school buses received a rating 7.9, and equipment and facilities received a rating of 9.2. The parents' overall ratings of the school were higher than those of students and faculty and staff members. This indicates parents were the stakeholders who were most content with the performance of the school in the 2001-2002 academic year.



Figure 21
Students' Rating
Drew Charter School
2001-2002 School Year

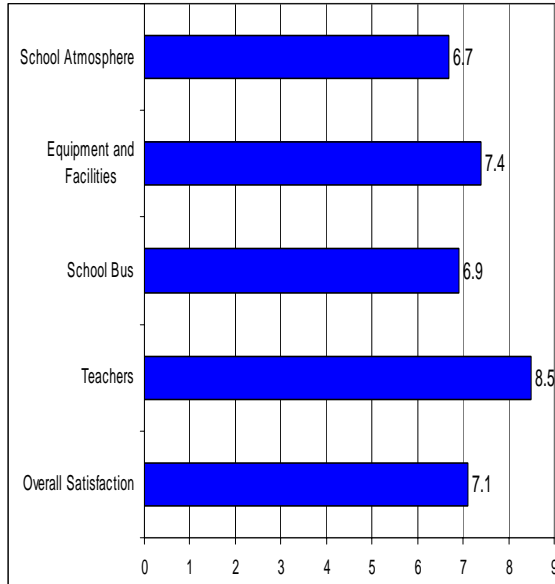


Figure 22
Teachers'/Staff's Rating
Drew Charter School
2001-2002 School Year

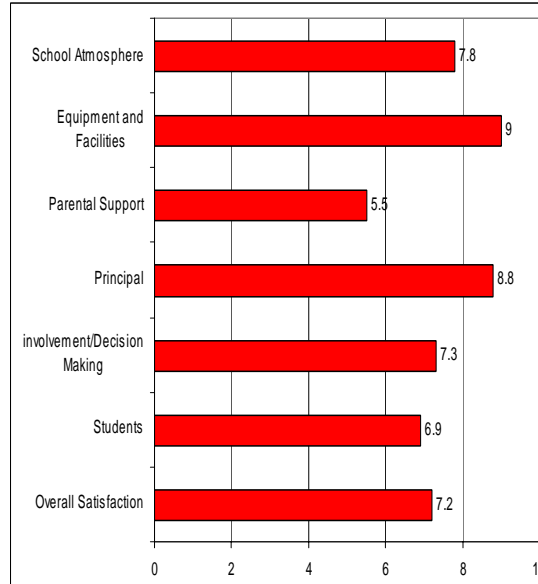
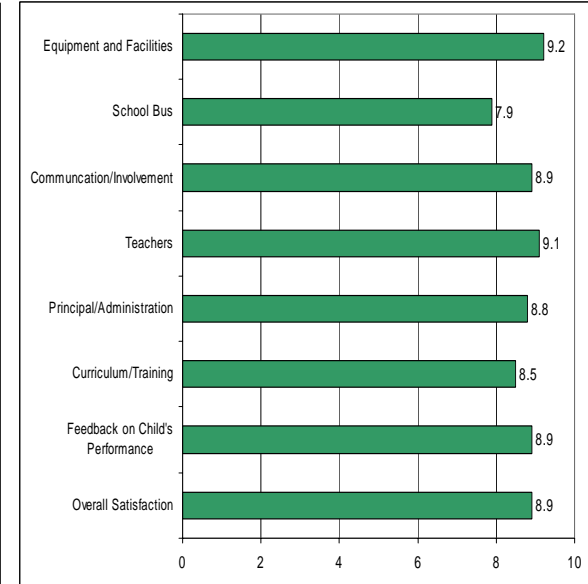


Figure 23
Parents' Rating
Drew Charter School
2001-2002 School Year



Source for Tables 1, 2, 3: Drew Charter School, Inc. Annual Report 2001-2002

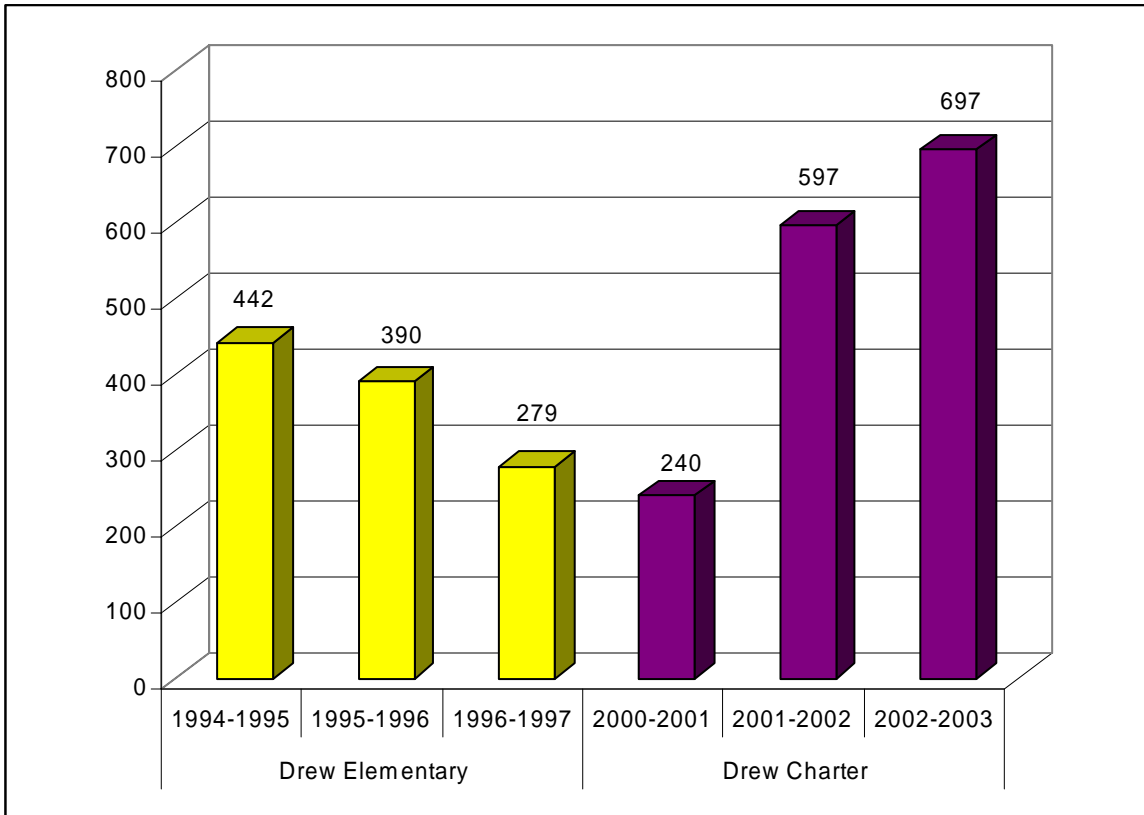


Drew Charter School is assessed by comparing it to the school performance of Drew Elementary School. This includes comparisons assessing student enrollment, students' economic diversity, as well as separate analysis of student performance on tests under the management of Drew Elementary School and under the guidance of Drew Charter School. This evaluation takes into consideration the last three years (from 1994 through 1997) the Georgia Education system website has data available on Drew Elementary School. It also uses the first three years the new Drew Charter School has been operating (from 2000 through 2003).

Before the revitalization of the East Lake Community, Drew Elementary School taught kindergarten through fifth grade. In the 1994-1995 academic year, there were 442 students enrolled in the school. Within two years, that number decreased almost by half, to 279 students due to the relocation of families from the community associated with the construction of the new school (Figure 24). Enrollment at the school however changed considerably once the Drew Charter School was completed. The new Drew Charter School teaches grades kindergarten through eighth grade. Drew Charter School's enrollment was low the year it opened (240 students), by the end of its third year operating, the school had 697 students enrolled and had a waiting list of 225 children.⁷³

⁷³ Abt Associates Inc., Case Studies Exploring the Potential Relationship Between Schools and Neighborhood Revitalization

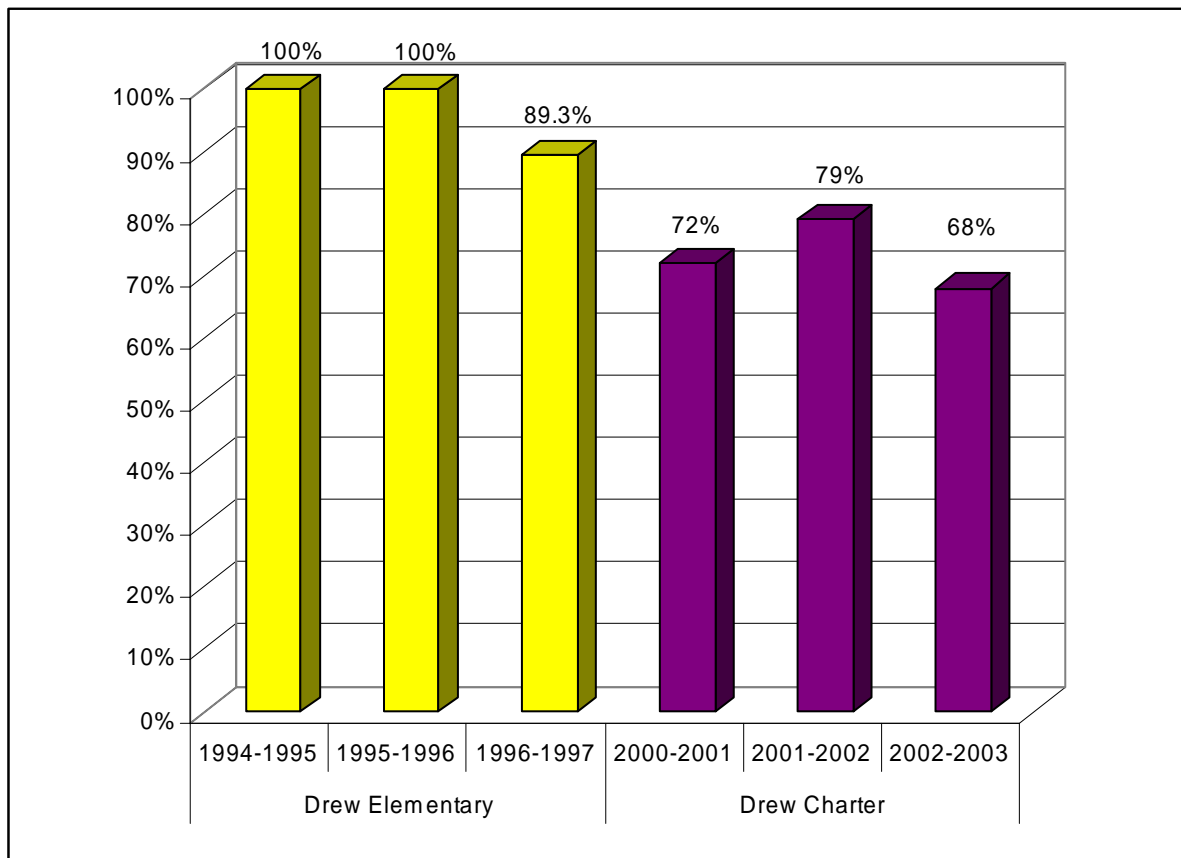
Figure 24
Student Enrollment Each Academic Year



Source: Georgia Department of Education Website <http://techservices.doe.k12.ga.us/reportcard>

Students' economic diversity is reflected in their eligibility for free or reduced lunch. Under the Drew Elementary School, almost all students were from low-income families. In the 1995-1996 school year, 100% of the students qualified for free or reduced lunch (Figure 24). This percentage decreased significantly under the Drew Charter School. In the year 2000, the year the school opened, 72% of the students were eligible for free or reduced lunch. Within three years, the percentage of students qualifying for free or reduced lunch decreased to about 68%⁷⁴ (Figure 25).

Figure 25
Percentage of Students Qualifying for Free or Reduced Lunch



Source: Georgia Department of Education Website <http://techservices.doe.k12.ga.us/reportcard/>

⁷⁴ Ibid

While the economic diversity of the student body changed significantly between 1995 and 2003, racial diversity was unchanged (Figure 26).

Figure 26
Demographics of Drew Elementary and Drew Charter School, 1995-2003

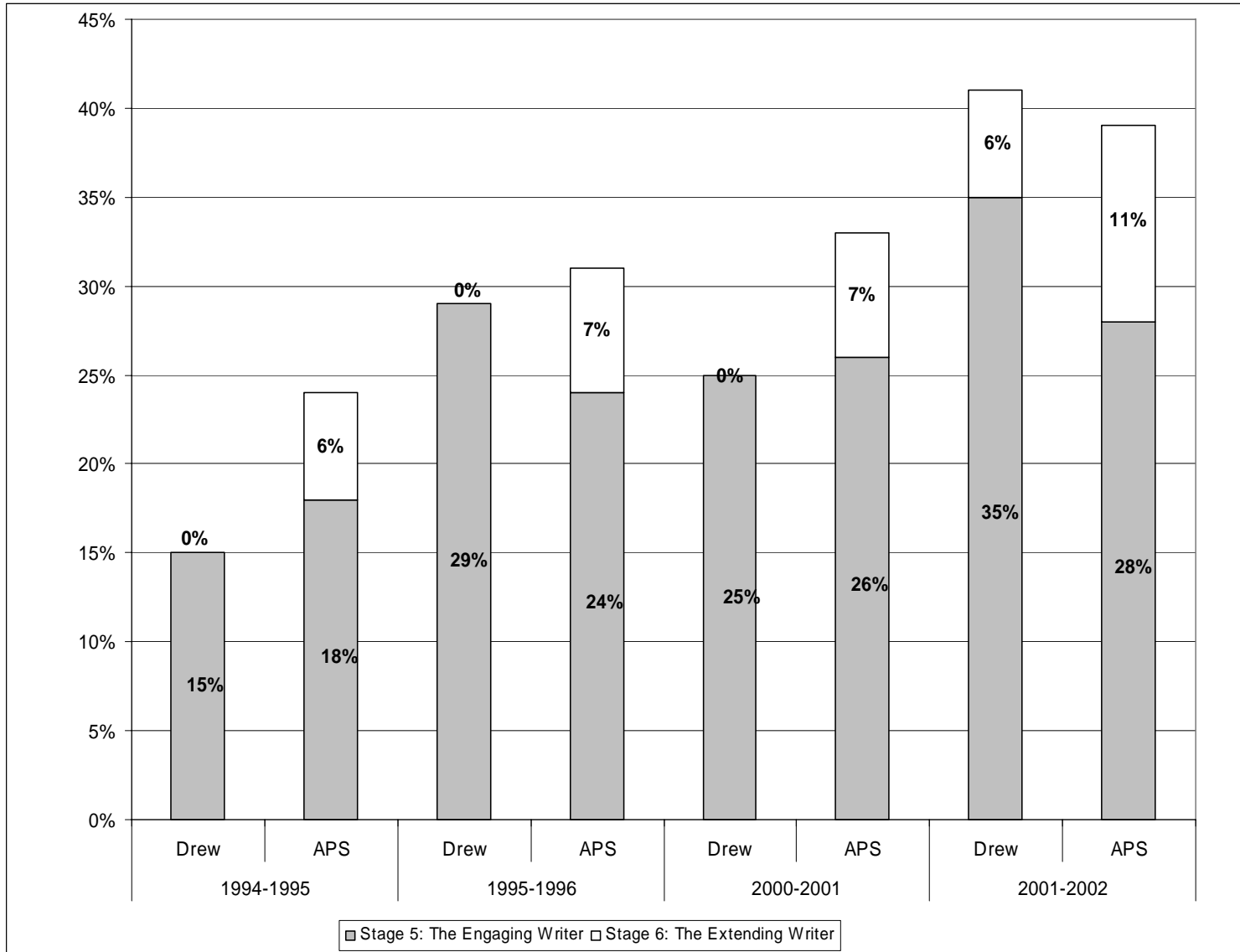
Demographics and Other Factors	Drew Elementary			3-Year Change	Drew Charter				4-Year Change
	1995	1996	1997		2000	2001	2002	2003	
Total Enrollment	442	390	279	-163	0	240	597	697	457
Black/African American	99.5%	99%	98.9%	-.06%	0%	99%	99%	99%	0%
Special Education	6%	6%	12.9%	6.9%	0%	5%	7%	10%	5%

Source: GA Department of Education: <http://techservices.doe.k12.ga.us/reportcard/>

Students' performance at Drew Elementary School is analyzed by comparing results of the Writing Assessment test scores and IOWA test scores of fifth grade students at both the Drew Elementary School and the Atlanta Public School (APS) system for the 1994-1997 school years.

Figure 27 provides the results of the top two stages of Grade 5 Writing Assessment. It compares Drew and Drew Charter to the System. The figure reveals how the performance gap has narrowed with the System over time. In 1994-95, none of Drew's students achieved Stage 6. Further, the percent in Stage 5 (15%) was smaller than the System's percent in Stage 5 (18%). By 2001-02, Drew Charter had 35% in Stage 5 (as compared to 28% for the System) and 6% in State 6 (as compared to 11% for the System). Overall, 41% of Drew Charter students achieved Stage 5 and 6 in 2001-2002 while 39% of APS students achieved these stages. In comparison, in 1994-95, 15% of Drew Elementary students achieved Stages 5 and 6 while 24% of students in the APS System achieved these stages.

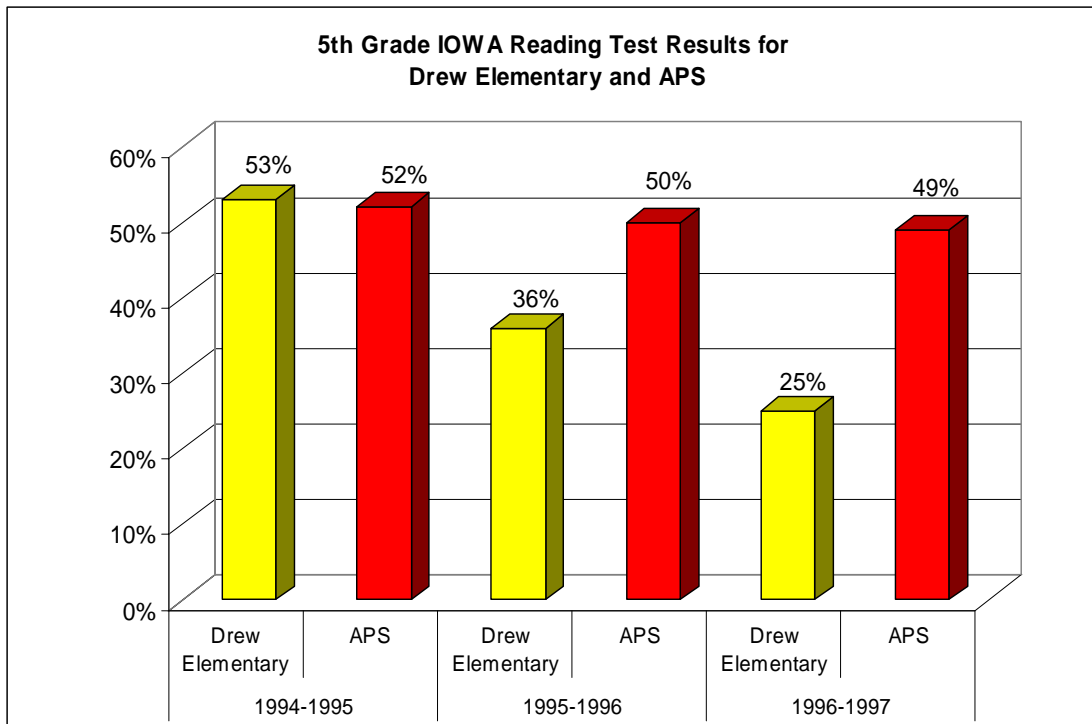
Figure 27
Grade 5 Writing Assessment Drew vs. APS



In the 1994-1995 academic year, Drew Elementary fifth grade students achieved a score of 53 on the IOWA Reading test (Figure 28). A similar score was achieved by students of APS. These scores decreased significantly in the following two years. In the 1996-1997 school year, fifth grade students at Drew Elementary scored a 36 on the Reading test. Not only did the students do worse than three quarters (75%) of the students taking the same tests on a national scale, but their scores were also significantly lower than those of APS students. That year APS students scored a 49 on the Reading test. The results suggest that APS student performance remained close to the national average, while Drew Elementary School student performance declined significantly. Since the student body was in significant flux during the period, declining from 442 in AY 1994-95 to 279 by AY 1996-97, it is difficult to ascribe a cause to this decline. The wide fluctuation in ITBS scores from one year to the next implies that one should be very cautious about the degree of credibility placed in the scores. In this study, we simply report ITBS scores and do not use them to draw major conclusions.

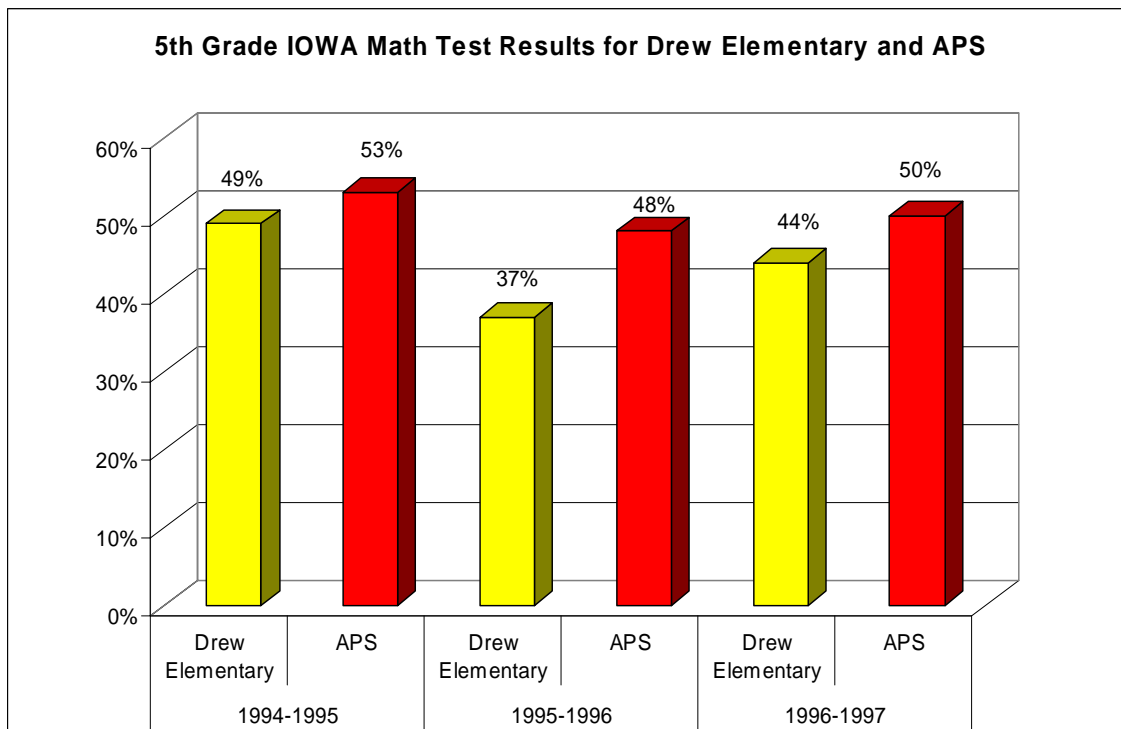
The IOWA Math tests results revealed a similar trend as that of the Reading test scores (Figure 29). However, the results for the Math test did not have as sharp of a decrease in performance as the results for the Reading test. In the 1994-1995 school year, the performance gap between Drew Elementary fifth grade students and APS fifth grade students was four percentage points; Drew Elementary School students scored a 49, while APS students scored a 53. Within three years, Drew Elementary school students' Math IOWA test scores decreased to 44, while APS students' Math scores decreased to 50. In this three-year time period, APS had a decrease of three percentage points and Drew Elementary had a decreased of five percentage points, increasing the performance gap between the two to six percentage points. Third grade students at Drew achieved scores that generally outperformed the Atlanta Public School system between AY 1994-1995 and 1996-1997 (see Figures 30 and 31).

Figure 28



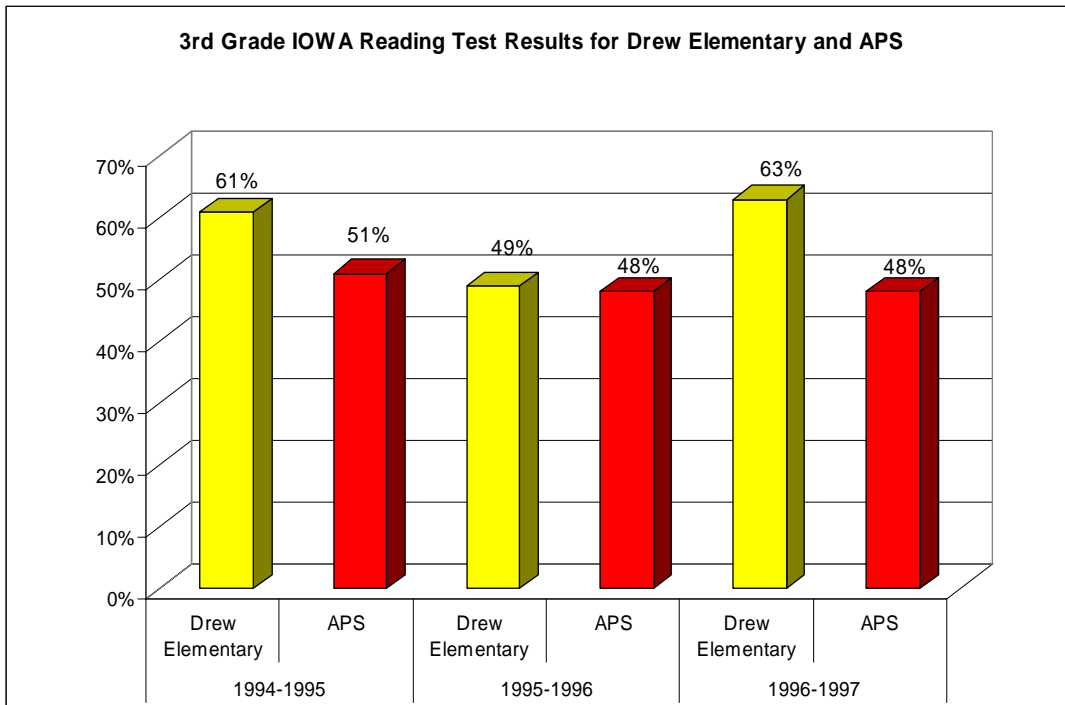
Source: Georgia Department of Education Website <http://techservices.doe.k12.ga.us/reportcard/>

Figure 29



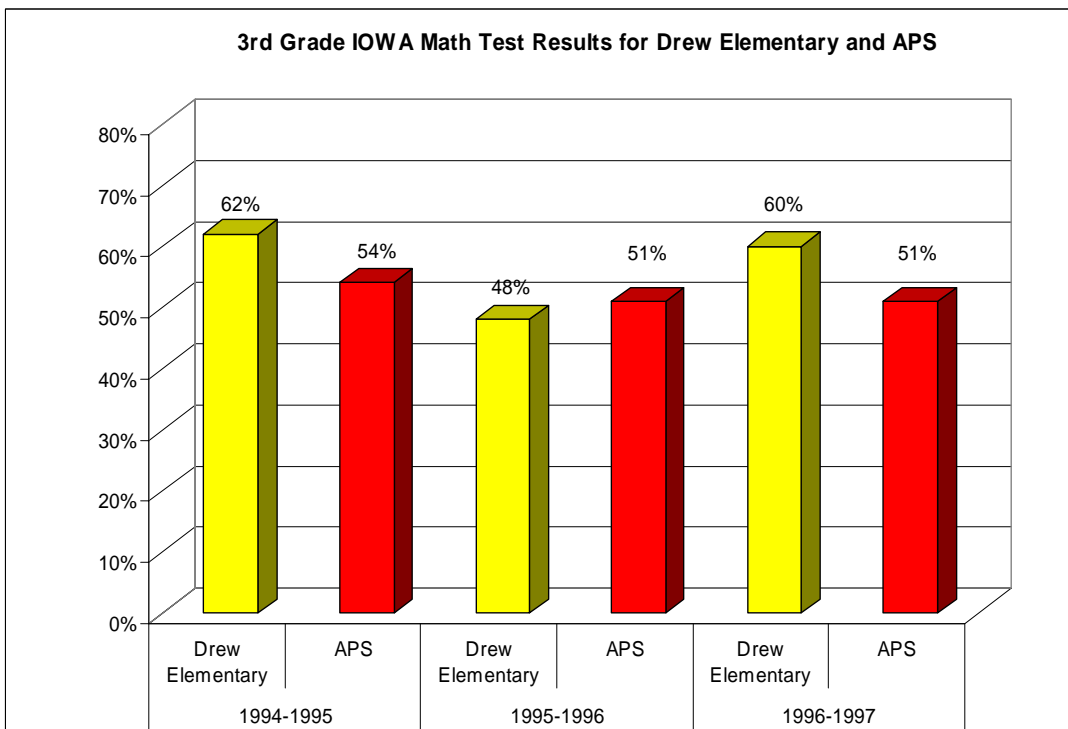
Source: Georgia Department of Education Website <http://techservices.doe.k12.ga.us/reportcard/>

Figure 30



Source: Georgia Department of Education Website <http://techservices.doe.k12.ga.us/reportcard/>

Figure 31



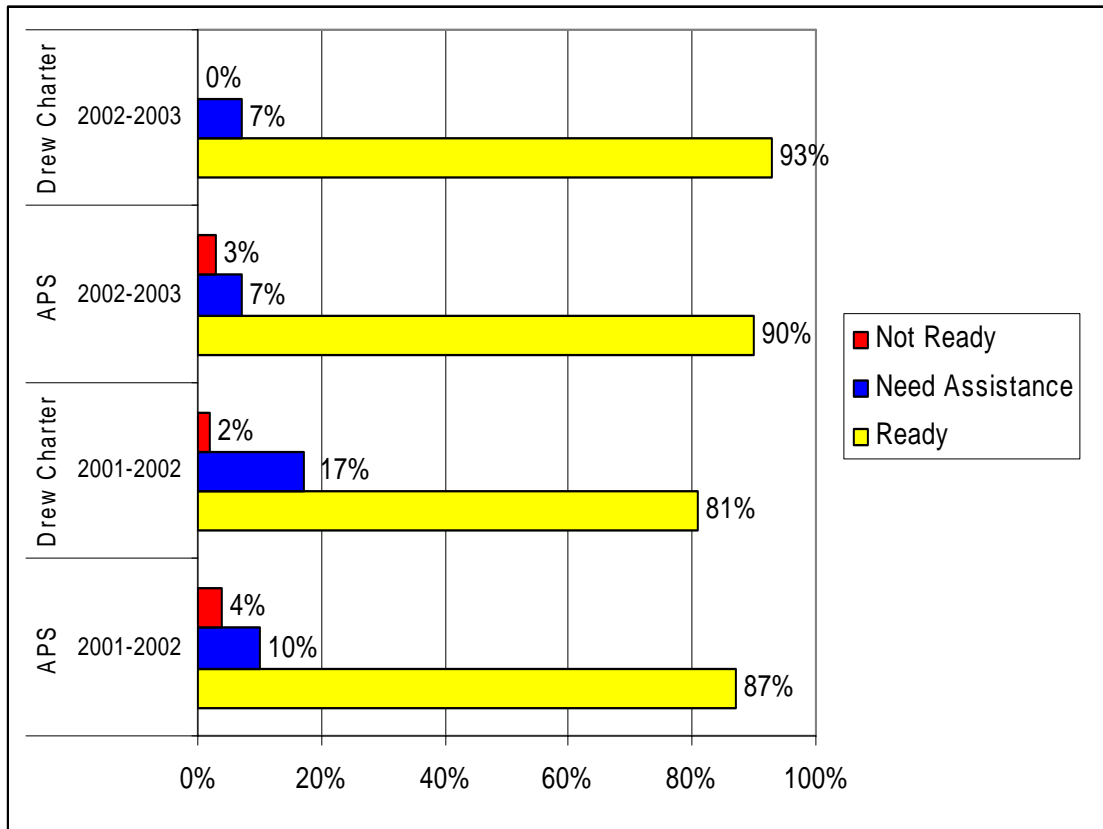
Source: Georgia Department of Education Website <http://techservices.doe.k12.ga.us/reportcard/>

The students' progress under the management of the new charter school can be evaluated by comparing scores students receive on the Georgia Kindergarten Assessment Program-Revised Tests (GKAP-R) and the Georgia Criterion-Referenced Competency Tests (CRCT) to the scores received by students in the Atlanta Public School system on those same two tests. The tests evaluate whether students in each grade exceed, meet, or do not meet the standards. In this case, because the school opened in the year 2000 and there were not many students enrolled that first year, tests taken the following school year, the 2001-2002 academic year, serve as a baseline to measure student progress. Additionally, since fourth grade students are the only students that have been tested every year and Reading, English/Language Arts, and Math are the only core subjects areas that have also been tested each year, fourth grade CRCT Reading, English/Language Arts, and Math test results are the only scores evaluated. Tables 13 through 20 below show the tests results for students in kindergarten and fourth grade from the year 2001 through 2003.

In the 2001-2002 academic year, (Figure 32) 81% of the students received scores signaling they were ready to enter first grade, while 17% of the students required extra assistance, and only 2% were not prepared to enter first grade. That year, the percent of students "ready" was lower than that reported by the Atlanta Public School system. That year, APS system reported that 87% of kindergarten students were ready to enter first grade, 10% needed assistance, and 4% were not ready. The following year, the Drew Charter School students' test scores improved considerably, surpassing the scores achieved by APS students. The school had increased the percentage of kindergarten students prepared to enter first grade to 93%, decreased the percentage of students needing extra assistance to enter first grade to 7%, while APS reported that 90% of students were ready for first grade, 7% of students needed extra assistance, and 3% of students were still not ready for the first grade.

Figure 32

GKAP-R Tests Scores for the APS System and Drew Charter School Students

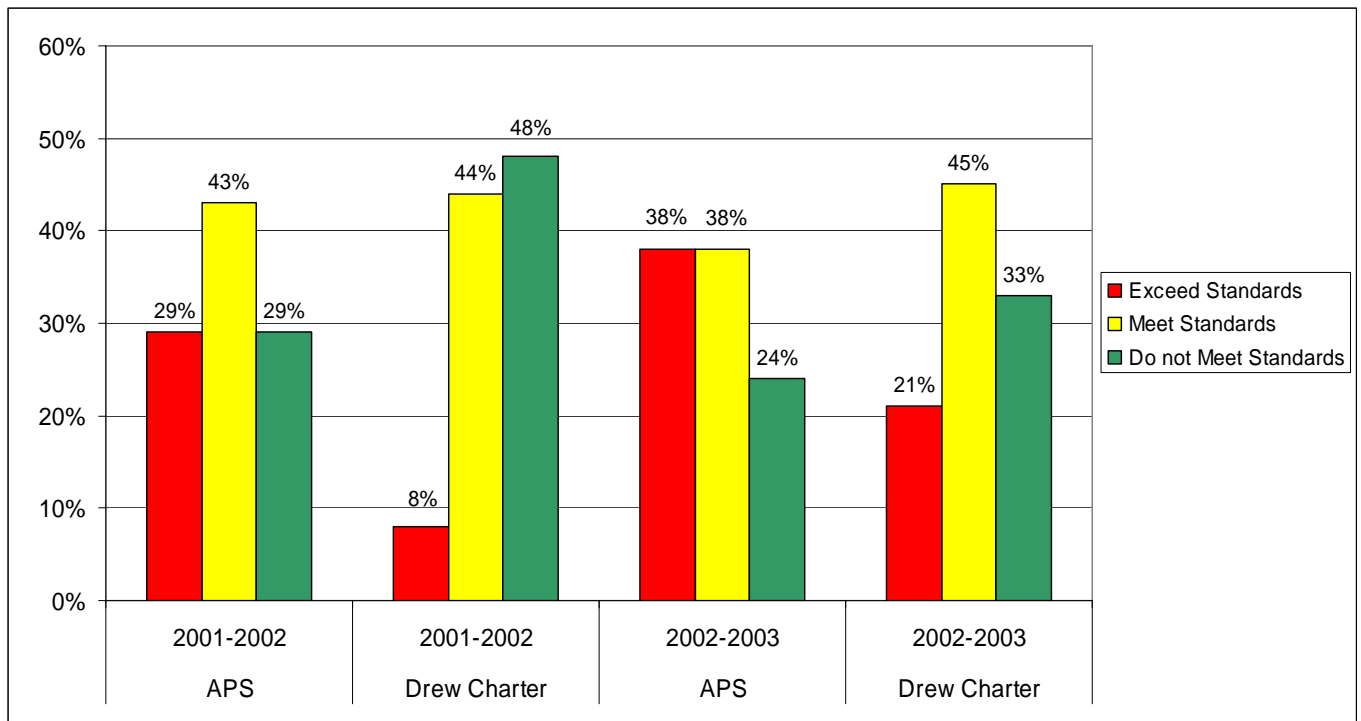


Source: Governor's Office of Student Achievement Website <http://www.gaosa.org>

The fourth grade CRCT Reading test results for the baseline 2001-2002 academic year revealed that 48% of the students at Drew Charter School did not meet the reading standards (Figure 33). Forty-four percent (44%) of the students met the standards and only 8% of the students exceeded the standards. The percent of students not meeting the standard was significantly higher than the percent for APS. APS test scores revealed that 29% of students had scores exceeding the standards, 43% of the students had scores meeting the standards, and 29% of the students had scores not meeting the standards. Drew Charter School was able to make a significant improvement in students' Reading performance the following year, increasing in the percentage of fourth grade students exceeding the standards from 8% to 21% and a decreasing the percentage of students not meeting the standards from 48% to 33%. These scores are still below the APS, but a significant improvement has occurred in the trend. (see Figure 34).

Figure 33

Reading Test Results for Drew Charter School Students vs. APS Students



Source: Governor's Office of Student Achievement Website <http://www.gaosa.org>

Figure 34

**4th Grade CRCT Reading Test Scores Analysis for All Students
2000-2003**

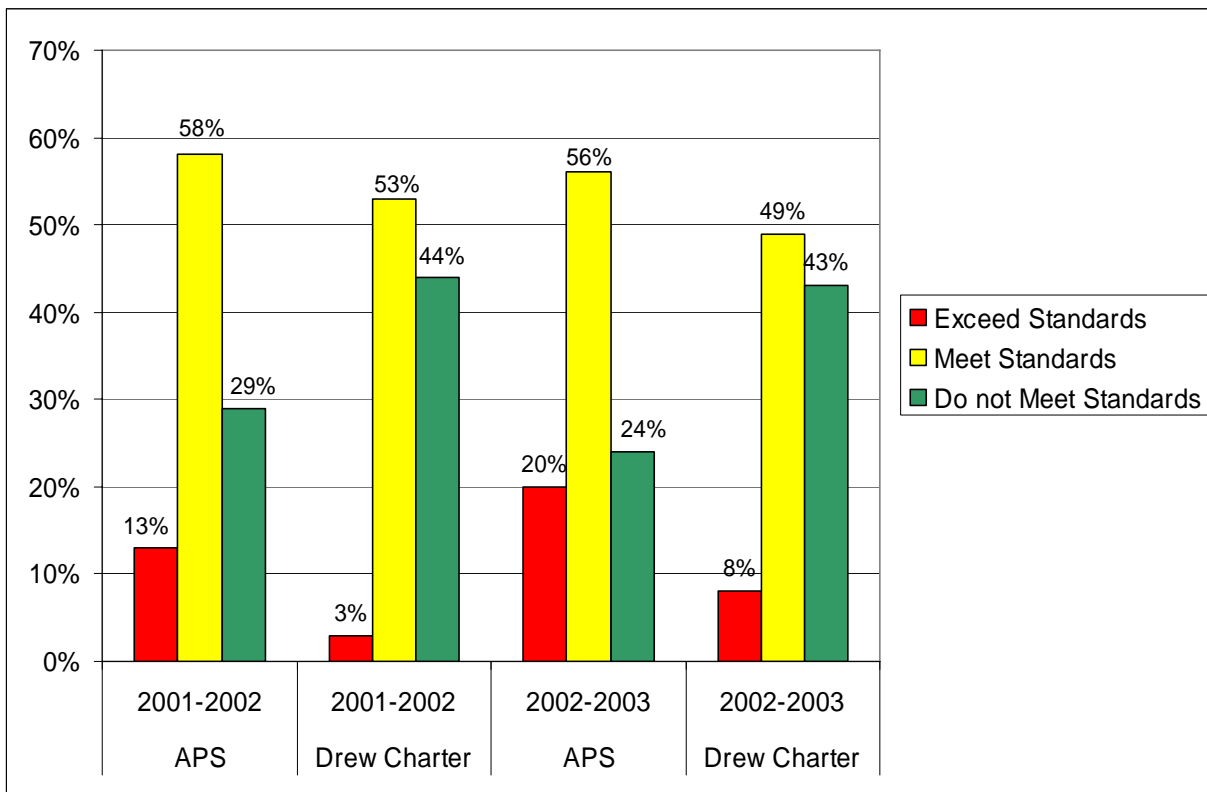
Subject	2003	2002	2001	2000	4-Year Change
Reading					
Students Exceeding Standards	21%	8%	10%	No data	11%
Students Meeting Standards	45%	44%	21%	No data	24%
Students Not Meeting Standards	33%	48%	69%	No data	-36%
Number Tested	84	91	39	0	45
Number Not Meeting Standard	28	44	27	0	1

Source: GA School Council Institute: www.gsci.org/ReportCenter/reportcenter.jsp

The 2001-2002 school year fourth grade CRCT English/Language Arts tests results (Figure 35) revealed that 44% of the students at Drew Charter School did not meet the standards, 53% of the students met the standards, and only 3% of the students exceeded the standards. Tests scores for the following year indicated only a slight improvement in the students' performance: 8% of the students had scores exceeding the standards, while 49% of the students met the standards and 43% of the students did not meet the standards. The improvement among APS students was considerably better than at Drew Charter. In the 2002-2003 academic year, APS reported 20% of students exceeded the standards, 56% of the students met the standards, and 24% of the students did not meet the standards.

Figure 35

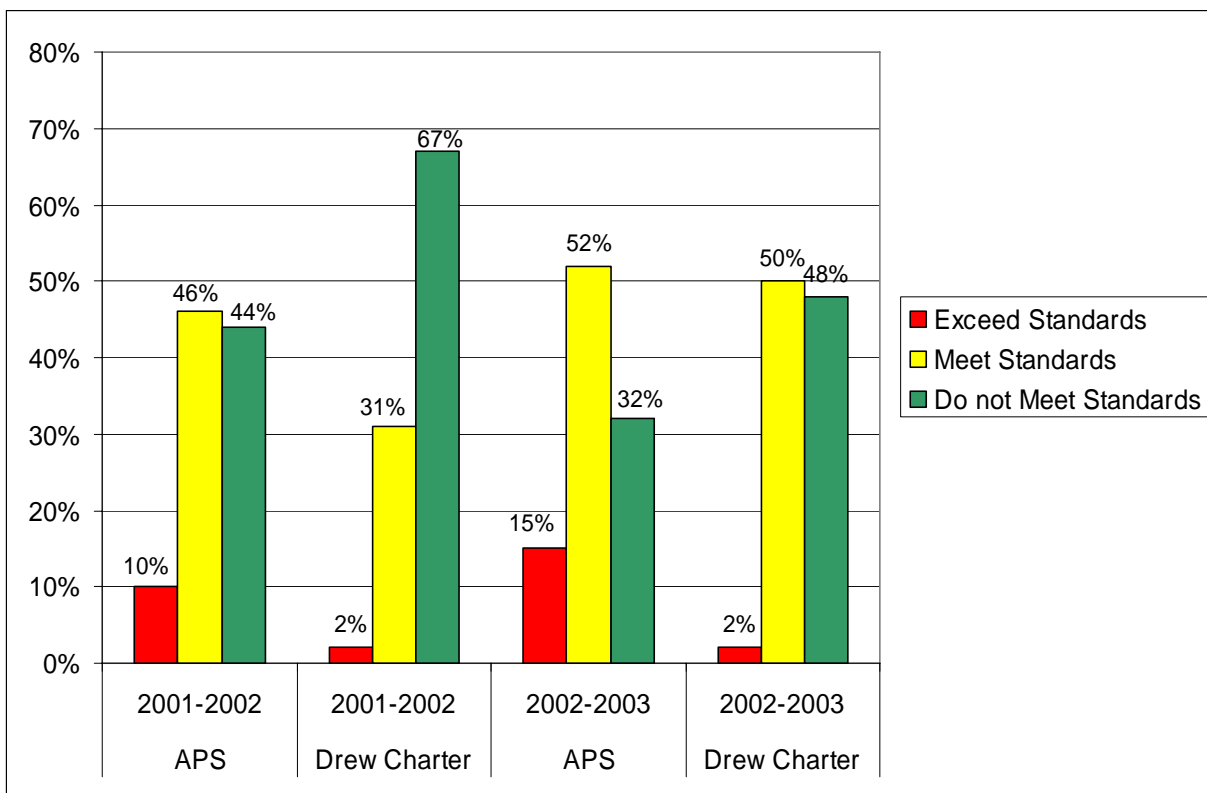
English Test Results for Drew Charter Students and APS Students



Source: Governor's Office of Student Achievement Website <http://www.gaosa.org>

The fourth grade Math CRCT test scores for the 2001-2002 school year are given in Figure 36. For Drew Charter, 67% of the students did not meet the standards, 31% of the students met the standards and only 2% of the students had scores exceeding the standards. The following year, the 2002-2003 academic year, Drew Charter School significantly raised the percentage of students meeting the requirements to 50% and reduced the percentage of students with scores not meeting the requirements to 48%. Again, these scores were lower than those obtained by APS students. APS reported that in the 2002-2003 academic year, 15% of the students had scores exceeding the standards, 52% of the students met the standards, and 32% of the students did not meet the standards.

Figure 36
Math Test Results for APS Students and Drew Charter Students



Source: Governor's Office of Student Achievement Website <http://www.gaosa.org>

In summation, Drew Charter School students have demonstrated a significant increase in their academic performance. Test results have revealed that in each consecutive year, students are achieving higher test scores. Nevertheless, the tests results are not as significant as those achieved by Centennial Elementary and in some instances, Drew's student still perform below the APS average.

In a recent resident survey conducted in Centennial Place, 91% of AHA-assisted residents and 77% of market-rate and tax credit residents were very satisfied with the quality of the school. (Abt Associates, 2001:36). Similarly, 78% of families with children attending Drew Charter expressed satisfaction with the school.⁷⁵

Both schools occupy newly constructed facilities and have implemented innovative educational programs made possible through public and private support and several corporate sponsorships. Additionally, the schools have recruited committed and caring teachers and staff, significantly improved parental involvement, established rigorous standards-based curricula, implement after school programs and provided a very broad range of social and supportive services. These innovations have taken place while they have continued to try and preserve their commitment to serve the needs of residents of low-income students and others in their respective communities.

⁷⁵ "Report of Drew Charter school for the 2000-01 Academic Year" :1.

Part VII. Centennial and Drew in Comparison to Two Other Schools in Non-Revitalized Communities

For additional insight, Centennial Place and Drew Charter are benchmarked against schools in housing projects that were not revitalized, Dunbar Elementary and A.D. Williams Elementary. The public housing projects that were selected for comparison had similar characteristics; they were Bowen Homes and Mc Daniel Glen. A significant amount of information has been accumulated on these communities during the course of two earlier studies.⁷⁶ Figure 37 provides information on the characteristics of the communities placed in each group. Fowler and Drew are part of the “Treatment” Group while A.D. Williams and Dunbar are part of the “Control” Group.

The 1996-97 academic year is the benchmark year for the schools being evaluated. During this time period, all of the original schools were still operating; however, Fowler’s student body was experiencing a significant decline. It is interesting to note that the academic performance of the two schools undergoing revitalization dropped significantly during this period. One thing we are concerned with is determining how the decline in performance of the revitalized schools compared to similarly situated schools.

In the 1996-97 academic year, schools in both groups had student body populations composed primarily of Blacks (Figure 36). In each school, more than 97% of the student body was Black. Student populations at other public schools in the APS System had similar compositions that year, as the APS system reported 90.1% of the student body was Black.

During the 1996-97 academic year, most students attending the public schools qualified for free or discounted lunch. At Drew Elementary, 89.3% of the students were eligible for free or discounted, while at Fowler Elementary, Dunbar Elementary and A.D. Williams Elementary more than 93% of the students qualified. All of the schools had

⁷⁶ See Boston (forthcoming 2005) for more detailed information on the characteristics of these communities and the rationale for including them in the treatment and control groups.

higher percentages of students qualifying for free or discounted lunch than all students in the APS (71.6%).

In the 1996-97, 2.4% of the students at Fowler Elementary received Special Education. Dunbar Elementary also had a low percentage of students receiving such education (3%). At A.D. Williams Elementary, 7.1% of the students received Special Education, while Drew Elementary had 12.9%.

Figure 37
1995 Characteristics of the Control Group and Treatment Group

1995 Statistics on Families in Treatment Group and Control Group	Treatment Group		Control Group	
	Clark Howell	East Lake Meadows	Bowen Homes	McDaniel Glen
Number of Families in Housing Project	478	387	577	424
Number of Persons in Housing Project	1242	1397	1826	1189
Average Household Size	2.6	3.6	3.6	2.8
Percent Black in Project	95.6%	99.5%	99.0%	99.1%
Percent Married Households	5.3%	4.9%	1.9%	1.7%
Median Household Income	\$4,420	\$4,536	\$3,960	\$3,960
Median Earned Income	\$7,508	\$7,800	\$7,280	\$7,800
Employment Rate (Persons 62 and younger working)	18.3%	13.2%	14.9%	14.7%
Poverty Rate	91.4%	91.2%	92.9%	94.1%
Welfare Dependency Rate	48.5%	58.9%	57.5%	50.9%
No. Type 1 Crimes in Housing Project, 1992	1084	441	690	610
Crimes Rate per Rental Unit in Housing Project	0.91	0.68	1.06	1.23
Elementary School Serving Project	Fowler	Drew	A.D. Williams	Dunbar
1990 Statistics on Census Tracts of Housing Projects				
Population in Census Tract	2,562	9,508	3,345	1,955
Median Household Income	\$5,164	\$5,132	\$ 4,888	\$4,599
Poverty Rate	70.5%	42.7%	66.9%	72.7%
Employment Rate	20.1%	27.4%	18.6%	17.7%
Percent Black	84.3%	95.9%	99.7%	96.5%

Source: Administrative records of AHA and 1990 Census data.

According to the IOWA Reading and Math test scores, Fowler Elementary and A.D. Williams Elementary third grade students scored lower than the National average (50) and below the scores achieved by APS students (Figure 38). The scores indicate that about 75% of third grade students across the Nation perform better in the Reading and Math than A.D. Williams third grade students. The scores achieved by Fowler Elementary third grade students were also considerably low (39 Reading and 44 Math). Both Drew Elementary and Dunbar Elementary third grade students achieved scores that not only out performed third grade students in the APS system, but also were above the National average. In the 1996-97 Drew Elementary third grade students scored a 63 on the Reading test and 60 on the Math test, while Dunbar third grade students achieved a 57 on the Reading test and a 63 on the Math test.

Figure 38
Student Demographics and IOWA Test Scores for the 1996-97 Academic Year

		Treatment		Control		APS
		Fowler	Drew	Dunbar	A.D. Williams	
1996-97	% of Student Population Black	97.6%	98.9%	99.6%	99.6%	90.1%
	% Students receiving Free/Reduced lunch	97.1%	89.3%	96.4%	93.7%	71.6%
	% Student receiving Special Education	2.4%	12.9%	3%	7.1%	7.2%
	Iowa Test Scores					
		Reading	39	63	57	24
	Math	44	60	63	23	51

During the 1997-98 school year, there was a decrease in the percentage of students eligible for free or discounted lunch for students attending APS. The amount of students eligible for free or discounted lunch decreased from 71.6% to 64.4%. Dunbar Elementary also experienced a significant decrease, from 96.4% to 89.5%. During this academic year, both the control group and treatment group schools had about 90% or more of its student populations eligible for free or discounted lunch.

In the 1997-98 academic year, the performance of students at APS increased (Figure 39). From 1996-97 to 1997-98 APS students increased their IOWA Reading and Math test scores from a 49 to a 55 and from a 50 to a 58, respectively. Students at A.D. Williams Elementary achieved similar scores to those achieved the previous year on both Reading and Math. Dunbar Elementary had a significant decrease in performance on both tests, dropping from a 57 to a 45 on the Reading test and from a 63 to a 44 on the Math test. Fowler Elementary students' Reading test scores increased from a 39 to 46, but their Math test scores decreased from a 44 to a 34. There was no data available for Drew Elementary for this academic year.

Figure 39

Student Demographics and IOWA Test Scores for the 1997-98 Academic Year

		Treatment		Control		APS
		Fowler	Drew	Dunbar	A.D. Williams	
1997-98	% of Student Population Black	99.4%	NA	98.2%	99.8%	89.8%
	% Students receiving Free/Reduced lunch	94%	NA	89.5%	94.9%	64.4%
	% Student receiving Special Education	4.8%	NA	4.2%	7.9%	7.7%
	Iowa Test Scores					
	Reading	46	NA	45	25	55
Math	34	NA	44	23	58	

In the 1998-99 academic year, Centennial Place Elementary replaced Fowler Elementary. During this year, revitalization affected Drew Elementary; thus, there is no academic data available for the school until the 2000-2001 academic year. For this reason, changes in academic performance of control group schools from the 1998-99 school year until the 2000-01 academic year can only be evaluated in relation to Centennial Place Elementary.

One significant difference between Centennial Place Elementary and the two schools in the control group (Dunbar Elementary and A.D. Williams Elementary) during the 1998-99 school year was the percent of students qualifying for free or discounted lunch (Figure 40). While the control group schools had over 96% of the students qualifying for

free or discounted lunch, Centennial Place elementary had 64.3%. The percentage of students qualifying for free or discounted lunch at Centennial Place Elementary was even lower than that of children at APS (75.5%).

During this academic year student scores improved for both the control group and the treatment group. For example, Centennial Place Elementary third grade students increased their IOWA Reading and Math test scores from a 46 and 34 to a 51 and 57 respectively. In the control group, A.D. Williams third grade students had an increase in both the Reading and Math test scores of 11 percentage points each. Students at Dunbar Elementary had a slight decrease in the Reading test scores, from a 45 to a 44, but had an increase of 12 percentage points on the Math test scores (from a 44 to a 56). APS student performed at about the National average on both the Reading and Math tests (50 and 53 respectively).

Figure 40
Student Demographics and IOWA Test Scores for the 1998-99 Academic Year

		Treatment		Control		APS
		Centennial	Drew	Dunbar	A.D. Williams	
1998-99	% of Student Population Black	96.7%	NA	99.6%	99.4%	89.8%
	% Students receiving Free/Reduced lunch	64.3%	NA	96.6%	100%	75.5%
	% Student receiving Special Education	7.5%	NA	4.2%	7%	7.9%
	Iowa Test Scores Reading	51	NA	44	36	50
	Math	57	NA	56	34	53

For the 1999-2000 academic year, third graders at Centennial Place Elementary outperformed students in the control group schools and students in the APS system (Figure 41). During this period, students in the control group school had a considerable decrease in their Reading and Math test scores. Dunbar Elementary third grade students had a decrease of 23 percentage points on the Reading test and 27 percentage points on the Math test, while A.D. Williams third grade students had a decrease of 5 percentage points on the Reading test and 11 percentage points on the Math test. APS students also had a decrease in performance; however, the decrease was not as significant as that of students in the control group.

Figure 41

Student Demographics and IOWA Test Scores for the 1999-2000 Academic Year

		Treatment		Control		APS
		Centennial	Drew	Dunbar	A.D. Williams	
1999-2000	% of Student Population Black	95%	NA	98.5%	99.3%	89.8%
	% Students receiving Free/Reduced lunch	71.4%	NA	93.3%	99.2%	75.4%
	% Student receiving Special Education	4.5%	NA	4.4%	6.30%	8%
	Iowa Test Scores					
	Reading	51	NA	21	31	48
	Math	63	NA	29	23	50

During the 2000-01 school year, APS administered the Stanford 9 test. Since the test was only administered in the 2000-2001 academic year, the results will not be evaluated. The following year the CRCT was administered.

In the 2001-02 school year, Centennial had significantly fewer third grade students not meeting the CRCT test requirements than schools in the control group (Figure 42). However, Drew Charter School's scores were quite similar to those of the control group schools and lower than the scores achieved by APS students.

Figure 42

Student Demographics and CRCT Test Scores for the 2001-02 Academic Year

		Treatment		Control		APS	
		Centennial	Drew Charter	Dunbar	A.D. Williams		
2001-02	% of Student Population Black	90.6%	99.2%	98.4%	99.3%	89.2%	
	% Students receiving Free/Reduced lunch	78.6%	79.2%	98.2%	98.8%	80.1%	
	% Student receiving Special Education	5%	6.9%	3.6%	5.3%	8.3%	
	CRCT Test Scores						
		Reading					
		Does not Meet	7	40	47	51	26
		Meet	50	45	43	32	46
		Exceeds	44	15	10	16	28
		Math					
	Does not Meet	11	48	53	54	28	
	Meets	60	49	40	43	57	
	Exceeds	29	2	6	4	15	

The CRCT test was not given to third grade students in the 2002-2003 academic year. Therefore no analysis of student performance can be made for that school year.

During the 2003-04 school year, Centennial Place Elementary had 95% of its students meeting or exceeding the Reading standards and 91% meeting or exceeding the Math requirements. Drew Charter had 81% of the students meeting or exceeding the Reading requirements and 74% of the students meeting or exceeding the Math requirements. Dunbar Elementary had 72% of its students meeting or exceeding the Reading requirements and 60% meeting or exceeding the Math standards. A.D. Williams Elementary had 68% of its students meeting or exceeding the Reading requirements and 62% meeting or exceeding the Math requirements. Compared to the APS system, Centennial Place Elementary out performed the APS system in both tests in terms of students achieving scores that met or exceeded the requirements, while Drew Elementary outperformed it on the Reading test (Figure 43). None of the control group school had scores that were higher than the APS system.

It should be noted however, that the performance of all schools improved since the 2001-02 academic year. Additionally, during this academic year, schools in the control group experienced a significant decrease in the percentage of students qualifying for free or discounted lunch, while one school in the treatment group had an increase and the other only had a slight decrease.

Figure 43

Student Demographics and CRCT Test Scores for the 2003-04 Academic Year

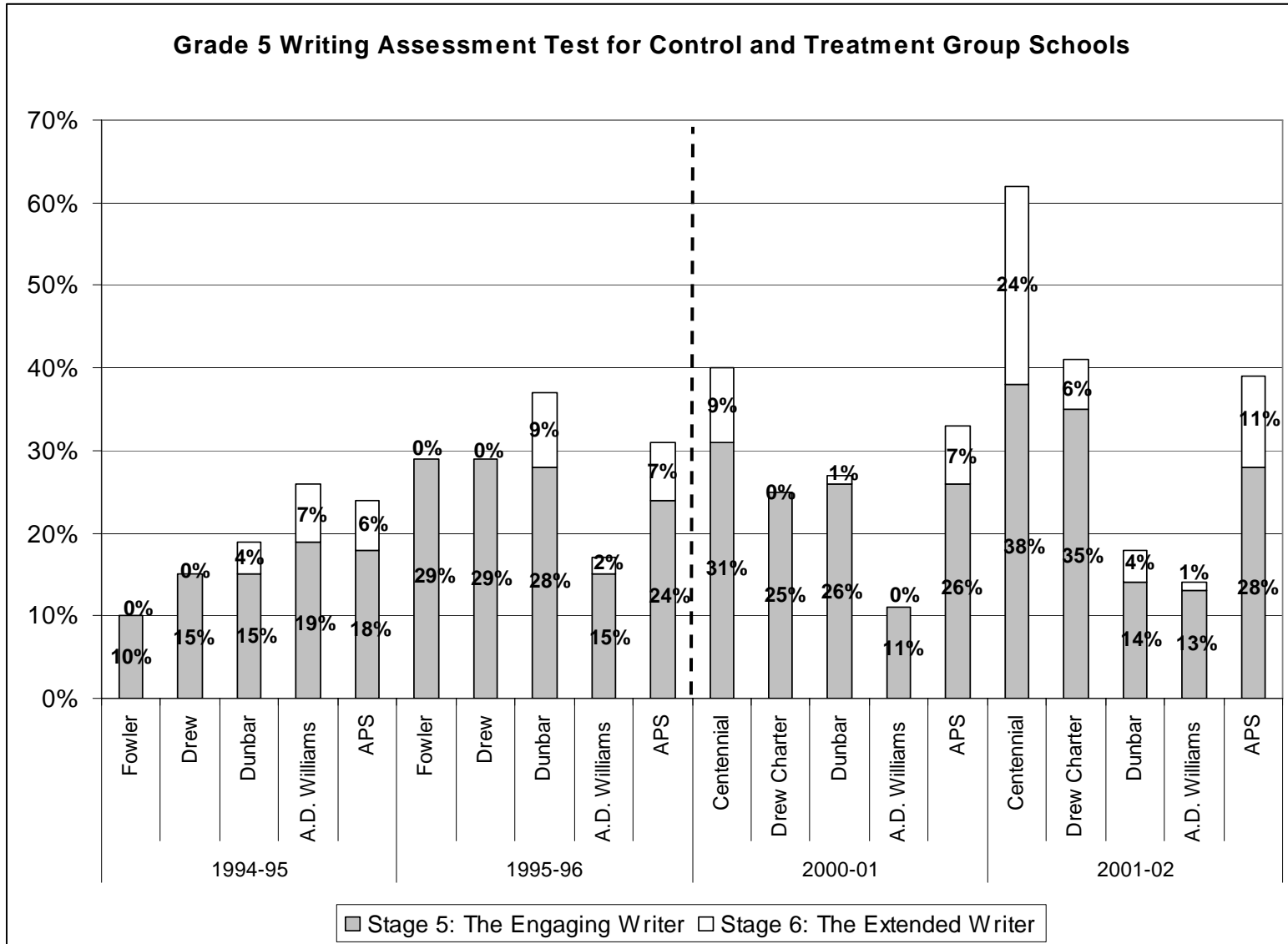
				Treatment		Control		
				Centennial	Drew Charter	Dunbar	A.D. Williams	APS
2003-04	% of Student Population Black			92%	98%	100%	98%	88%
	% Students receiving Free/Reduced lunch			64%	81%	89%	77%	70%
	% Student receiving Special Education			NA	NA	NA	NA	NA
	CRCT Test Scores							
	Reading	Does not Meet		5	19	28	32	20
		Meets		44	64	53	45	47
		Exceeds		51	17	19	23	33
	Math	Does not Meet		9	26	40	38	21
		Meets		63	67	60	51	59
Exceeds		28	7	0	11	19		

The time period chosen for the evaluation does not allow for very conclusive results because the standardized tests administered changed quite often. During these years, the standardized tests administered included the Writing Assessment, the IOWA test, the Stanford 9 test, and the CRCT test. The data evaluated however, does suggest that improved educational achievements were experienced by schools in the revitalized neighborhoods.

More definitive results are available for the Grade 5 Writing Assessment test (Figure 44). This test was given to fifth graders through out the entire evaluation period. Therefore, this test illustrates more consistently the academic performance of students in the schools.

The test results indicate that in the 1994-95 school year, when all of the original schools were still in operation, most of the schools had a smaller percentage of fifth grade students attaining Stage 5 and Stage 6 writing scores than students in the APS system (except A.D. Williams). By the 2001-02 school year, when schools in the treatment schools had already been replaced, students in treatment group were achieving scores above those scored by the control group and the APS system. In the 2001-02 academic year, Centennial Place Elementary and Drew Charter had 62% and 41% respectively, of their fifth grade students scoring Stage 5 and Stage 6 on the Writing Assessment test, while APS had 39% of its fifth grade students scoring in the top two writing stages, and the control group schools (Dunbar and A.D. Williams) had 18% and 14% respectively.

Figure 44



Source: Georgia Department of Education Website <http://techservices.doe.k12.ga.us/reportcard>

These results indicate that the treatment group schools have improved the academic performance of the children in their communities significantly. The academic success of Centennial Place Elementary students has been much faster than that of Drew Charter students. Scores on the standardized tests indicate that Centennial Place improved significantly since the first year the school started operating, while Drew Charter School has advanced at a slower pace. Nevertheless, scores do indicate Drew Charter school students have improved significantly. A second way to evaluate the results is to consider what would have happened to students at Drew Elementary, had the revitalization not occurred. The experience of Dunbar and A.D. Williams suggest that students may have continued to perform at the same low rate as in the mid-1990's.

Bibliography

- Alexander, Nicola A. (2000) *The missing link: an econometric analysis on the impact of curriculum standards on student achievements*. *Economics of Education Review* Vol. 19 pp.351-361
- Boston, T.D. (forthcoming, 2005) *The Effects of Mixed-Income Revitalization and Residential Mobility on Public Housing Residents: A case Study of the Atlanta Housing Authority*” *Journal of the American Planning Association* Fall, 2005.
- Bronson, Martha B., Tivnan, Terrence, and Seppanen, Patricia S. (1995) *Relations Between Teacher and Classroom Activity Variables and the Classroom Behaviors of Pre-kindergarten Children in Chapter 1 Funded Programs*. *Journal of Applied Developmental Psychology* Vol. 16 pp.253-282
- Choen, Mark A. (1998) *The Monetary Value of Saving a High-Risk Youth*. *Journal of Quantitative Criminology* Vol. 14 no.1 pp 5-33
- Early Education for All (2004) *Early Education for All Legislative Policy Brief*. Boston: Early Education for All
- Glewwe, Paul (1997) *Estimating the Impact of Peer Group Effects on Socioeconomic Outcomes: Does the Distribution of Peer Group Characteristics Matter?* *Economics of Education Review* Vol.16 no.1 pp 39-43
- Glewwe, Paul, Jacoby, Hanna G., and King, Elizabeth M. (2001) *Early childhood nutrition and academic achievement: a longitudinal analysis*. *Journal of Public Economics* Vol. 81 pp 345-368
- Harper, Caroline, Marcus, Rachel, and Moore, Karen (2003) *Enduring Poverty and the Conditions of Childhood: Lifecourse and Intergenerational Poverty Transmissions*. *World Development* Vol. 31 no.3 pp535-554
- Heckman, James J. (2000) *The real question is to use the Available funds wisely. The best evidence supports the policy prescription: Invest in the Very Young*. Chicago: Ounce of Prevention Fund and the University of Chicago Harris School of Public Policy Studies
- Juvenile Justice Monitor, Online Vol. 5 no.5 (2001) *Out of the School House Into the Jail House: CJJ Annual Report Shows Link Between School Failure and Delinquency*. www.juvjustice.org/publications/jjmonitor/0001.html
- Kohl, Gwynne O., Leguan, Lilian J., and McMahon Robert J (2000) *Parent Involvement in School Conceptualizing Multiple Dimensions and their Relations with Family and Demographic Risk Factors*. *Journal of School Psychology*. Vol. 38, no. 6 pp.501-523

- Kontos, Susan and Wilcox-Herzog, Amanda (1997) *Influences on Children's Competence in Early Childhood Classrooms*. Early Childhood Research Quarterly Vol. 12 pp.247-262
- NIEER: Fast Facts (2004) *Economic benefits of quality preschool education for America's 3-and 4-year olds*.
<http://nieer.org/resources/facts/index.php?FastFactID=6>
- NW Regional Educational Laboratory (1989) *School Improvement Research Series: Topical Synthesis #3: Research on Early Childhood Education* by Kathleen Cotton and Nancy Faires Conklin. www.nwrel.org/scpd/sirs/3/topsyn.html
- Parlakian, Rebecca (1992) *Growing Up Healthy: What Local Governments Can Do to Support Young Children and Their Families*. Zero to Three Policy Center
- Parr, Judy M. and Townsend, Michael A.R. (2002) *Environments, processes, and mechanisms in peer learning*. International Journal of Educational Research. Vol. 37 pp. 403-423
- Renchler, Ron (1993) *Poverty and Learning*. ERIC Digest Vol. 83
- Research Policy Committee of the Committee for Economic Development (1987) *Children in Need: Investment Strategies for the Educationally Disadvantaged*. Washington D.C.: Committee for Economic Development
- Schweke, William (2004) *Smart Money: Education and Economic Development*. Washington D.C.: Economic Policy Institute
- Slaughter-Defoe, Diana T. (1999) *Commentary on the Chicago School-Based Research of Arthur Reynolds and Colleagues*. Journal of School Psychology. Vol. 37, no.4 pp.465-470