



Center for Research in Educational Policy

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# Supplemental Educational Services

## in the State of North Carolina:

**2006 – 2007**

## Student Achievement Analysis

**Final Draft**





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January 2009

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Center for Research in Educational Policy

# **STUDY OF SUPPLEMENTAL EDUCATIONAL SERVICE PROVIDERS NORTH CAROLINA: 2006-07 STUDENT ACHIEVEMENT ANALYSES**

## **EXECUTIVE SUMMARY**

Supplemental Educational Services (SES) is a component of Title I of the Elementary and Secondary Education Act (ESEA), as reauthorized by the *No Child Left Behind Act of 2001* (NCLB) that provides extra academic assistance for eligible children. Specifically, students from low-income families who are attending Title I schools that are in their second year of school improvement (i.e., have not made adequate yearly progress or “AYP” for three or more years), are in corrective action, or are in restructuring status, are eligible to receive these services. The purpose of this study is to address the federal evaluation/monitoring requirement for the North Carolina Department of Public Instruction (DPI) by determining the impact of provider services on student achievement outcomes. To achieve this goal, Analysis of Covariance (ANCOVA) was used based on two years (2005-06 and 2006-07) of North Carolina End-of-Grade (NCEOG) Mathematics and Reading Comprehension scale scores for students in grades 4-8 while for grade 3, the beginning and end of year test scores were used. Students who received SES services were compared to control students who were similar to SES students in terms of demographics, but did not participate in SES services. In the end, the final matched samples for Reading (N=2,084) and Math (N=715) contained equal numbers of SES and control group students. Furthermore, only providers with 10 or more students available to analyze are included in the analyses in order to increase the reliability of findings and the ability (power) to find significant differences between SES and control groups where such differences existed.

## **Results**

### **Math**

- Based on initial analyses, there were no statistical differences in prior year Math achievement between SES and control students (confirming the quality of the student-level matching).
- After controlling for prior year achievement, no SES provider with at least 10 students to analyze had significantly higher average adjusted 2006-07 NCEOG Math achievement scores compared to their control groups.

- One SES Math provider with at least 10 students to analyze, Sylvan Learning Center Elizabeth City, had a significantly lower average adjusted 2006-07 NCEOG Math achievement scores compared to its control group after controlling for prior year achievement.

## **Reading**

- Based on initial analyses, there were no statistical differences in prior year Reading achievement between SES and control students (confirming the quality of the student-level matching).
- After controlling for prior year achievement, no SES Reading provider with at least 10 students to analyze had significantly higher average adjusted 2006-07 NCEOG Reading achievement scores compared to the control group.
- Two SES providers with at least 10 students to analyze, Bright Futures Learning Center and Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern had significantly lower average adjusted 2006-07 NCEOG Reading achievement scores compared to their control groups after controlling for prior year achievement.

## **Conclusions**

No SES provider with at least 10 students to analyze was found to have a statistically significant positive impact on the students they served. On the other hand, two SES Reading providers with at least 10 students to analyze (Bright Futures Learning Center and Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern) and one SES Math provider with at least 10 students to analyze (Sylvan Learning Center Elizabeth City) were found to have a statistically significant negative impact on the students they served. Although not statistically significant, for the full group of 23 Reading providers, 35% (N=8) had positive adjusted effect sizes, and for the full group of 17 Math providers, 29% (N=5) had positive adjusted effect sizes, indicating a trend favoring the impact of these particular providers.

These results should be interpreted with caution, however. Small sample size, which reduces the ability (power) to detect statistical significance and the reliability of outcomes in general, was a limiting factor for some providers. In Reading, less than half of the providers had 100 or more students to analyze, and in Math, only one had more than 100 students to analyze

(with most having less than 50). As rigorous achievement analyses are conducted in future years which take into account multiple years of achievement results, the ability to detect reliable trends for individual providers will continue to increase. Interested readers can review the following appendices for more detailed information regarding SES provider services, sample selection, and statistical outcomes.

## **STUDY OF SUPPLEMENTAL EDUCATIONAL SERVICE PROVIDERS NORTH CAROLINA: 2006-07 STUDENT ACHIEVEMENT ANALYSES**

Supplemental Educational Services (SES) is a component of Title I of the Elementary and Secondary Education Act (ESEA), as reauthorized by the *No Child Left Behind Act of 2001* (NCLB) that provides extra academic assistance for eligible children. Specifically, students from low-income families who are attending Title I schools that are in their second year of school improvement (i.e., have not made adequate yearly progress or “AYP” for three or more years), are in corrective action, or are in restructuring status, are eligible to receive these services.

The purpose of this study is to address the federal evaluation/monitoring requirement for the State of North Carolina by determining the impact of provider services on student achievement outcomes. To achieve this goal, an analysis was conducted using two years (2005-06 and 2006-07) of North Carolina End-of-Grade (NCEOG) Mathematics and Reading Comprehension scale scores provided by the North Carolina Department of Public Instruction (DPI). These analyses and associated results are reviewed below. The student samples were restricted to grades 3-8 as these were the only grades with the necessary pre-program (i.e., prior year) scores available from 2005-2006. For students in grades 4-8, the prior school year (grades 3-7 in 2005-06) NCEOG scores were used. For third grade students, pre-scores from the beginning of the 2006-07 school year were used.

### **Methodology**

In order to give a more fair and accurate evaluation of the impact of SES services on achievement, students in the analyses detailed in this report had to have a combination of a minimum of 18 hours of service and have attended at least 50% of contracted hours in order to be included in the analyses. In addition, only students in grades 4-8 with both 2005-06 and 2006-07 scores available were included. However, not every grade tested in 2006-07 had a previous year’s test score needed for the analyses. Grade 3 students did not have pre-score from 2005-06, but were given a baseline test at the beginning of the 2006-07 school year. This baseline score was used as the pre-score for all 3<sup>rd</sup> grade students. As a result, grades 3-8 were included in the analyses for both Reading and Math. Furthermore, only providers with 10 or more students available to analyze are included in the analyses in order to increase the reliability

of findings and the ability (power) to find significant differences between SES and control groups where such differences existed. When conducting the analyses, results from the NCEOG in Mathematics and in Reading Comprehension were examined separately by subject tutored. The Reading analyses included the NCEOG Reading Comprehension scores of those students contracted for services in Reading only, as well as the NCEOG Reading Comprehension scores of students contracted for services in both Reading and Math. Similarly, the Math analyses included the NCEOG Mathematics scores of those students contracted for services in Math only, as well as the Mathematics scores of students contracted for services in both Reading and Math.

There were initially 5,297 North Carolina students (6,771 records) from 37 providers across 46 school districts who received SES tutoring services in Reading, Math, or both Reading and Math in 2006-07. The final SES samples used in the analyses included 715 Math students and 2,084 Reading students from 24 different providers. The control groups used in the analyses were composed of students who were similar to SES students in terms of (1) grade level, (2) pre-score, (3) free/reduced lunch status, (4) ethnicity, (5) gender, (6) school district, and (7) school, but did not participate in SES services. There were 1,267,868 records initially available for control student selection that contained NCEOG scores for both 2005-06 and 2006-07 in Reading and Math. The final control groups used for matching to SES students included 465,376 control students in Reading and 461,753 students in Math. In the end, the final matched samples for Reading (N=2,084) and Math (N=715) contained equal numbers of SES and control group students. Appendix B gives detailed information on the SES and control group selection and matching.

Analysis of Covariance (ANCOVA) was used to assess the impact of SES providers on 2006-07 NCEOG Math and/or Reading scores, with students' prior year (2005-06) NCEOG score used as the covariate. ANCOVA statistically equates (adjusts the means of) the groups in 2006-07 on the covariate, meaning that any differences in achievement in 2006-07 can be evaluated as if the groups had similar achievement in 2005-06. Consequently, any significant differences in 2006-07 achievement between SES and control students could be more confidently attributed to SES program effects rather than to differences in prior achievement.

Cohen's *d* effect size is also provided as an indication of the difference in achievement between groups, and was computed as the mean difference (SES-control) divided by the pooled standard deviation. Each effect size (or *d*) indicates the number of standard deviations by which

the SES mean differs from the control group mean. A positive effect size would indicate a higher SES mean, while a negative effect size would indicate a higher control group mean. Thus, an effect size of say, +0.50, would indicate a half of a standard deviation advantage for SES students' scores – a highly substantial educational impact. Generally, in education, effect sizes exceeding +/-0.20 would be considered meaningful and fairly strong. However, given that SES tutoring is fairly limited in total hours per year, lower effect sizes might be expected.

As two years of data (2005-06 and 2006-07) were used in the analyses, independent T-Tests were conducted on pre-score (2005-06) test data for both Reading and Math to ensure the comparability of the SES and control groups on previous achievement. In addition, correlations were performed to test the relationship between the pre-score and current (outcome) scores in order to ensure the data met the requirements for use of ANCOVA. Given the inability to randomly assign students to schools and SES providers, a matched-samples comparison approach is one of the most rigorous methods for determining the effect of SES services on student achievement.

## **Results**

### **Math**

- Based on initial analyses, there were no statistical differences in prior year Math achievement between SES and control students (confirming the quality of the student-level matching).
- After controlling for prior year achievement, no SES provider with at least 10 students to analyze had significantly higher average adjusted 2006-07 NCEOG Math achievement scores compared to their control groups.
- One SES Math provider with at least 10 students to analyze, Sylvan Learning Center Elizabeth City, had a significantly lower average adjusted 2006-07 NCEOG Math achievement scores compared to its control group after controlling for prior year achievement.

## Reading

- Based on initial analyses, there were no statistical differences in prior year Reading achievement between SES and control students (confirming the quality of the student-level matching).
- After controlling for prior year achievement, no SES Reading provider with at least 10 students to analyze had significantly higher average adjusted 2006-07 NCEOG Reading achievement scores compared to the control group.
- Two SES providers with at least 10 students to analyze, Bright Futures Learning Center and Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern had significantly lower average adjusted 2006-07 NCEOG Reading achievement scores compared to their control groups after controlling for prior year achievement.

## Conclusions

No SES provider with at least 10 students to analyze was found to have a statistically significant positive impact on the students they served. On the other hand, two SES Reading providers with at least 10 students to analyze (Bright Futures Learning Center and Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern) and one SES Math provider with at least 10 students to analyze (Sylvan Learning Center Elizabeth City) were found to have a statistically significant negative impact on the students they served. Although not statistically significant, for the full group of 23 Reading providers, 35% (N=8) had positive adjusted effect sizes, and for the full group of 17 Math providers, 29% (N=5) had positive adjusted effect sizes, indicating a trend favoring the impact of these particular providers.

These results should be interpreted with caution, however. Small sample size, which reduces the ability (power) to detect statistical significance and the reliability of outcomes in general, was a limiting factor for some providers. In Reading, less than half of the providers had 100 or more students to analyze, and in Math, only one had more than 100 students to analyze (with most having less than 50). As rigorous achievement analyses are conducted in future years which take into account multiple years of achievement results, the ability to detect reliable trends for individual providers will continue to increase. Interested readers can review the following appendices for more detailed information regarding SES provider services, sample selection, and statistical outcomes.

## **Appendix A**

### **SES Provider Services**

#### **Initial Sample File**

There were 5,297 North Carolina students in the initial sample who received SES tutoring services in 2006-07 from 37 providers across 46 school districts. As shown in Tables A1 and A2, Education Station served the largest number of individual students (N=761, 14.4%) followed by Academics by Venture (N=641, 12.1%). Although Education Station served a higher percentage of individual students, Academics by Venture had the largest number of contracts (1,048). Education Station provided the second highest number of contracts with 768. Student contracts are not unique. Students could have multiple contracts if they received SES tutoring services in both Reading and Math from the same provider. When describing the types of services SES providers performed, each contract was treated as a unique record. Two providers (Sweethearts 21<sup>st</sup> Century Catawba County Schools and Sylvan Learning Center: Mooresville) each had the smallest percentage of students, serving only 1 student with 1 contract. Nine providers had fewer than 10 students served.

SES providers indicated the number of hours for which services were contracted, the number of hours attended, and the subject tutored for each student. Of the initial 5,297 SES students receiving services, 324 were tutored in Math only, 3,499 were tutored in Reading only, and 1,474 were tutored in both Math and Reading.

**Table A1: Initial Sample - Number of Students Served by Provider and Subject Area**

<b>Provider</b>	<b>Math Only</b>	<b>Reading Only</b>	<b>Both: Reading and Math</b>	<b>Number of Students</b>	<b>Percent of Total</b>
Academics By Venture	8	226	407	641	12.1%
Academics Plus, Inc	0	83	1	84	1.6%
AlphaBEST Education	0	3	0	3	0.1%
Brainfuse	9	13	39	61	1.2%
BrainWorks Learning Center	39	33	0	72	1.4%
Brame Institute	1	15	44	60	1.1%
Bright Futures Learning Center	4	377	47	428	8.1%
Bright Sky Learning	0	7	0	7	0.1%
Club Z	6	26	36	68	1.3%
Community Education Durham Public Schools	0	1	119	120	2.3%
Communities in Schools: Brunswick County	0	4	0	4	0.1%
Educational Enterprises	0	4	0	4	0.1%
Education Station	0	754	7	761	14.4%
Failure Free Reading	4	180	7	191	3.6%
Huntington Learning	0	33	69	102	1.9%
It's Simply English	0	7	0	7	0.1%
MasterMind Prep	30	214	138	382	7.2%
Monroe 21st Century Community Learning Center	0	0	12	12	0.2%
North Carolina Central University	7	113	186	306	5.8%
Prime Time for Kids	0	28	0	28	0.5%
Sky Link	0	0	1	1	0.0%
Southridge Learning Center	0	2	17	19	0.4%
Sweethearts 21st Century Catawba County Schools	0	1	0	1	0.0%
Sylvan Ace It Bladen, Brunswick, Columbus, Lumberton, Robeson	82	196	1	279	5.3%
Sylvan Ace It Duplin and Sampson	1	4	0	5	0.1%
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	41	270	77	388	7.3%
Sylvan Ace It Harnett, Wayne, Wilson	1	139	8	148	2.8%
Sylvan Ace It Henderson and Roanoke Rapids	8	121	0	129	2.4%
Sylvan Ace It Wake	0	50	8	58	1.1%
Sylvan Learning Center Charlotte University	0	237	53	290	5.5%
Sylvan Learning Center Columbus	18	15	0	33	0.6%
Sylvan Learning Center Elizabeth City	0	179	39	218	4.1%
Sylvan Learning Center Hickory	9	13	0	22	0.4%
Sylvan Learning Center Mooresville	0	1	0	1	0.0%
Sylvan Learning Center Mount Airy	4	12	2	18	0.3%
Sylvan Learning Center Robeson	18	15	0	33	0.6%
University Instructors	34	123	156	313	5.9%
<b>Totals</b>	<b>324</b>	<b>3,499</b>	<b>1,474</b>	<b>5,297</b>	

Table A2 provides the average hours contracted and attended by service provider and subject area for the initial sample of students with valid data for hours contracted, hours attended, and subject area. For students who received tutoring in Math only, North Carolina Central University had the highest average number of hours contracted (40.0), followed by Sylvan Learning Center Hickory and Sylvan Learning Center Robeson, who each had an average of 36 contracted hours. Sylvan Learning Center Robeson had the highest average hours of tutoring attended in Math (32.1), followed by Sylvan Ace It Henderson and Roanoke Rapids (30.09). For students who received tutoring in Reading only, Communities in Schools: Brunswick County had the highest average number of hours contracted (60.0) followed by

Sylvan Learning Center Hickory (38.9). Sylvan Learning Center Robeson again had the highest average hours of tutoring attended (29.7) followed by Sylvan Learning Center Hickory (28.6), which also had the second highest average number of hours contracted. For students who received services in both Reading and Math, Sylvan Learning Center Mount Airy had the highest average number of hours contracted (38.5). Monroe 21<sup>st</sup> Century Community Learning Center had the highest average hours of tutoring attended (34.4).

**Table A2: Initial Sample - Average Hours Contracted and Average Hours Attended by Provider and Subject Area**

Provider	Math Only		Reading Only		Both Math and Reading		Totals	
	Avg. Hours Contracted	Avg. Hours Attended	Avg. Hours Contracted	Avg. Hours Attended	Avg. Hours Contracted	Avg. Hours Attended	Total Number of Students	Total Number of Contracts
Academics By Venture	29.2	13.8	28.4	20.1	27.4	17.8	641	1048
Academics Plus, Inc	N/A	N/A	30.0	22.8	30.0	28.0	84	85
AlphaBEST Education	N/A	N/A	28.7	23.3	N/A	N/A	3	3
Brainfuse	22.0	21.8	30.0	4.9	28.0	8.3	61	100
BrainWorks Learning Center	32.5	26.8	32.6	26.9	N/A	N/A	72	72
Brame Institute	30.0	9.0	25.1	25.1	27.8	17.6	60	104
Bright Futures Learning Center	26.5	13.5	29.0	19.7	27.4	15.8	428	475
Bright Sky Learning	N/A	N/A	28.0	12.1	N/A	N/A	7	7
Club Z	18.8	10.3	19.3	8.4	20.3	13.6	68	104
Community Education Durham Public Schools	N/A	N/A	20.0	18.0	20.0	15.2	120	239
Communities in Schools: Brunswick County	N/A	N/A	60.0	27.3	N/A	N/A	4	4
Educational Enterprises	N/A	N/A	26.8	19.8	N/A	N/A	4	4
Education Station	N/A	N/A	26.0	15.9	32.3	30.0	761	768
Failure Free Reading	28.8	17.5	36.9	21.3	32.3	20.6	191	198
Huntington Learning	N/A	N/A	30.9	19.0	29.0	20.8	102	171
It's Simply English	N/A	N/A	21.4	19.1	N/A	N/A	7	7
MasterMind Prep	27.6	20.2	27.4	18.9	28.6	18.5	382	520
Monroe 21st Century Community Learning Center	N/A	N/A	N/A	N/A	36.0	34.4	12	24
North Carolina Central University	40.0	25.6	32.6	22.2	31.3	21.6	306	492
Prime Time for Kids	N/A	N/A	24.4	21.5	N/A	N/A	28	28
Sky Link	N/A	N/A	N/A	N/A	33.0	30.0	1	2
Southridge Learning Center	N/A	N/A	21.0	21.0	28.7	25.3	19	36
Sweethearts 21st Century Catawba County Schools	N/A	N/A	34.0	25.0	N/A	N/A	1	1
Sylvan Ace It Bladen, Brunswick, Columbus, Lumberton, Robeson	33.6	27.6	34.1	25.2	34.0	34.0	279	280
Sylvan Ace It Duplin and Sampson	34.0	25.0	34.0	26.3	N/A	N/A	5	5
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	29.5	27.0	28.6	25.3	30.1	21.7	388	465
Sylvan Ace It Harnett, Wayne, Wilson	34.0	24.0	32.7	27.4	31.0	27.3	148	156
Sylvan Ace It Henderson and Roanoke Rapids	34.0	30.9	35.3	23.8	N/A	N/A	129	129
Sylvan Ace It Wake	N/A	N/A	33.1	27.4	34.0	34.0	58	66
Sylvan Learning Center Charlotte University	N/A	N/A	29.8	12.5	36.7	26.5	290	343
Sylvan Learning Center Columbus	34.0	26.7	33.1	25.3	N/A	N/A	33	33
Sylvan Learning Center Elizabeth City	N/A	N/A	27.9	18.8	36.0	22.7	218	257
Sylvan Learning Center Hickory	36.0	29.7	38.9	28.6	N/A	N/A	22	22
Sylvan Learning Center Mooresville	N/A	N/A	30.0	26.0	N/A	N/A	1	1
Sylvan Learning Center Mount Airy	22.5	14.3	31.8	15.8	38.5	23.0	18	20
Sylvan Learning Center Robeson	36.0	32.1	35.9	29.7	N/A	N/A	33	33
University Instructors	26.7	21.6	27.4	22.0	26.6	18.5	313	469

## Final Sample File

Once the SES sample file was restricted (see Table B1), there were 2,245 North Carolina students who received SES tutoring services in 2006-07 from 24 different providers. As shown in Tables A3 and A4, Academics by Venture (N=255, 11.4%) and Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern (N=255, 11.4%) served the largest number of individual students. Although both Academics by Venture and Sylvan Ace It served the same number of students, Academics by Venture was the largest provider in terms of contracts, with 403. The smallest provider was Brain Works Learning Center, providing services to 10 students with 10 contracts.

Of the 2,245 SES students receiving services, 161 were tutored in Math only, 1,530 were tutored in Reading only, and 554 were tutored in both Math and Reading.

**Table A3: Final Sample - Number of Students Served by Provider and Subject Area**

<b>Provider</b>	<b>Math Only</b>	<b>Reading Only</b>	<b>Both: Reading and Math</b>	<b>Number of Students</b>	<b>Percent of Total</b>
Academics By Venture	0	107	148	255	11.4%
Academics Plus, Inc	0	59	0	59	2.6%
BrainWorks Learning Center	10	0	0	10	0.4%
Brame Institute	0	10	16	26	1.2%
Bright Futures Learning Center	1	154	15	170	7.6%
Club Z	3	2	13	18	0.8%
Community Education Durham Public Schools	0	0	21	21	0.9%
Education Station	0	224	0	224	10.0%
Failure Free Reading	0	49	0	49	2.2%
Huntington Learning	0	15	33	48	2.1%
MasterMind Prep	12	102	51	165	7.3%
North Carolina Central University	0	59	71	130	5.8%
Prime Time for Kids	0	12	0	12	0.5%
Southridge Learning Center	0	2	10	12	0.5%
Sylvan Ace It Bladen, Brunswick, Columbus, Lumberton, Robeson	60	126	1	187	8.3%
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	31	175	49	255	11.4%
Sylvan Ace It Harnett, Wayne, Wilson	0	100	0	100	4.5%
Sylvan Ace It Henderson and Roanoke Rapids	0	66	0	66	2.9%
Sylvan Ace It Wake	0	39	0	39	1.7%
Sylvan Learning Center Charlotte University	0	65	32	97	4.3%
Sylvan Learning Center Columbus	14	10	0	24	1.1%
Sylvan Learning Center Elizabeth City	0	83	22	105	4.7%
Sylvan Learning Center Robeson	16	10	0	26	1.2%
University Instructors	14	61	72	147	6.5%
<b>Totals</b>	<b>161</b>	<b>1,530</b>	<b>554</b>	<b>2,245</b>	

Table A4 provides the average hours contracted and attended by service provider and subject area for the final sample of students. For students who received tutoring in Math only, Sylvan Learning Center Robeson had the highest average number of hours contracted (36.0), as well as the highest average hours of tutoring attended (33.1). For students who received tutoring in Reading only, Failure Free Reading had the highest average number of hours contracted (37.5) and Sylvan Learning Center Robeson again had the highest average hours of tutoring attended (31.7). For students who received services in both Reading and Math, Sylvan Learning Center Charlotte University had the highest average number of hours contracted (37.0) and Sylvan Ace It Bladen, Brunswick, Columbus, Lumberton, Robeson had the highest average hours of tutoring attended (34.0).

**Table A4: Final Sample - Average Hours Contracted and Average Hours Attended by Provider and Subject Area**

Provider	Math Only		Reading Only		Both Math and Reading		Totals	
	Avg. Hours Contracted	Avg. Hours Attended	Avg. Hours Contracted	Avg. Hours Attended	Avg. Hours Contracted	Avg. Hours Attended	Total Number of Students	Total Number of Contracts
Academics By Venture	N/A	N/A	28.4	24.3	27.7	25.0	255	403
Academics Plus, Inc	N/A	N/A	30.0	24.8	N/A	N/A	59	59
BrainWorks Learning Center	33.1	30.0	N/A	N/A	N/A	N/A	10	10
Brame Institute	N/A	N/A	29.1	29.1	30.0	24.5	26	42
Bright Futures Learning Center	25.0	24.0	29.6	25.5	27.5	23.1	170	185
Club Z	21.7	19.3	18.0	18.0	22.1	22.1	18	31
Community Education Durham Public Schools	N/A	N/A	N/A	N/A	20.0	19.0	21	42
Education Station	N/A	N/A	29.5	28.9	N/A	N/A	224	224
Failure Free Reading	N/A	N/A	37.5	30.9	N/A	N/A	49	49
Huntington Learning	N/A	N/A	30.8	30.8	29.2	26.0	48	81
MasterMind Prep	29.3	28.0	27.7	24.2	30.2	25.5	165	216
North Carolina Central University	N/A	N/A	33.9	27.2	31.7	27.5	130	201
Prime Time for Kids	N/A	N/A	28.2	27.1	N/A	N/A	12	12
Southridge Learning Center	N/A	N/A	21.0	21.0	29.2	26.5	12	22
Sylvan Ace It Bladen, Brunswick, Columbus, Lumberton, Robeson	34.0	30.7	34.1	29.1	34.0	34.0	187	188
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	29.7	28.0	29.9	28.1	30.1	26.4	255	304
Sylvan Ace It Harnett, Wayne, Wilson	N/A	N/A	32.6	29.2	N/A	N/A	100	100
Sylvan Ace It Henderson and Roanoke Rapids	N/A	N/A	34.9	29.6	N/A	N/A	66	66
Sylvan Ace It Wake	N/A	N/A	33.3	29.4	N/A	N/A	39	39
Sylvan Learning Center Charlotte University	N/A	N/A	31.2	28.3	37.0	33.2	97	129
Sylvan Learning Center Columbus	34.0	26.8	34.0	29.7	N/A	N/A	24	24
Sylvan Learning Center Elizabeth City	N/A	N/A	29.2	23.6	36.0	29.8	105	127
Sylvan Learning Center Robeson	36.0	33.1	35.8	31.7	N/A	N/A	26	26
University Instructors	28.2	25.6	27.7	26.4	27.2	24.7	147	219

## **Appendix B**

### **Sample Selection**

To examine the North Carolina SES provider program effect on student achievement in the 2006-07 year, a matched program-control design at the student level was employed. In this design, each SES student was paired with a comparable “control” student who did not receive SES services. To make the student matches as similar as possible, students were matched on grade level, prior achievement scale score, free/reduced lunch status, ethnicity, and when possible, gender, LEA, and school. It should be noted that no special education students or students designated as English Language Learners (ELL) were included in any of the analyses.

To be included in the sample for analyses, students and providers had to meet certain criteria:

- Include only students who had a combination of a minimum of 18 hours attended and at least 50% of contracted hours attended. This provides a more fair assessment of provider effects.
- Drop providers with less than 10 students left to analyze. This increases the reliability of findings and the ability (power) to find significant differences between groups where such differences existed.
- Drop special education students due to the inability to properly match control students without access to IEP data.
- Drop English Language Learners due to the inability to properly match students without knowing their specific level of fluency.
- Drop multiple students with the same student ID number due to the inability to match students with the appropriate test data.
- Drop students with invalid start dates or start dates later than May 1, 2007, the NCEOG test date.

There were 6,771 records for 5,297 SES students initially available who were designated as receiving services in the content areas of Math only, Reading only, and both Math and Reading (see Table B1). Students could have multiple records if they received both Math and Reading services from the same provider. Table B1 provides a detailed list of the SES file

selection process. Students who were designated as Special Education (842 records) or English Language Learners (685 records) were deleted first. Students who had a grade level other than 3-8 (25 records) were the next group to be deleted from the file. Any SES students who had less than 18 hours of tutoring and/or attended less than 50% of contracted hours (1306 records) were also excluded. Twenty-eight SES students had invalid service start dates and were excluded from the file. This left 3,022<sup>a</sup> records for 2,411<sup>b</sup> students: 193<sup>c</sup> students who received tutoring in Math only, 1,607<sup>d</sup> in Reading only, and 611<sup>e</sup> who received tutoring in both Math and Reading. The SES student file was then split into only 2 groups according to subject area. There were 804 Math records, and 2,218 Reading records.

**Table B1: SES Student File Selection Process**

Students	Records	Action Taken
5,297	6,771	Initial file including only content areas 1,2,3 ( Math, Reading, Math & Reading)
-842		Delete Special Education Students
-685		Delete ELL Students
-25		Only keep grades 3-8
-1,306		Delete students with LT 18 hours of tutoring and/or attended LT 50% of contracted hours
-28		Delete students with invalid service start dates
2,411 <sup>b</sup>	3,022 <sup>a</sup>	Total Number
193 <sup>c</sup>		Math Only
1,607 <sup>d</sup>		Reading Only
611 <sup>e</sup>		Both Reading and Math
		<b>Split file into 2 groups - Math and Reading</b>
	804	All Math
	2,218	All Reading
	804	All Math
	-41	Delete students without pre and current scores
	763	Number of students used for Matching for Math File
	-48	Delete providers with LT 10 students
	<b>715</b>	<b>Final Math File</b>
	2,218	Reading
	-95	Delete students without pre and current scores
	2,123	Number of students used for Matching for Reading File
	-1	Invalid pre-score data
	-38	Delete providers with LT 10 students
	<b>2,084</b>	<b>Final Reading File</b>
161	161	Math Only
1,530	1,530	Reading Only
554	1,108	Both Reading and Math
<b>2,245</b>	<b>2,799</b>	<b>Total</b>

For the Math file, starting with 804 students, 41 were deleted because they lacked pre- or post-score data, leaving 763 students. Providers left with less than 10 student records to analyze were also deleted (48 records). This left 715 student records in the Math file for matching and analyses.

For the Reading file, starting with 2,218 students, 95 were deleted because they lacked pre- or post-score data, leaving 2,123 students. Providers left with less than 10 student records to analyze were also deleted (38 records). One additional student was deleted because of a possibly invalid pre-score. This left 2,084 student records in the Reading file for matching and analyses. The SES student file contained 2,799 records for 2,245 unique SES students.

The control group file was constructed in a similar fashion. Table B2 provides a list of the control group selection process. There were initially 1,267,868 records available including only the NCEOG scores from the content areas of Math and Reading. All students without pre- and post-score data were excluded (94,577 records). Students who received SES services were excluded from the control file (77,544 records), as well as Special Education students (110,135 records), and English Language Learner students (57,783 records). This left a total of 927,829 student records. The control student file was then split into the two content areas of Math (N=462,101) and Reading (N=465,728). There were 348 records deleted from the Math file and 352 records deleted from the Reading file because of duplicate student ID numbers. This left a total of 461,753 student records in the Math control student file and 465,376 student records in the Reading control student file for matching.

**Table B2: Control Group Matching File**

<b>Students</b>	<b>Records</b>	<b>Action Taken</b>
	1,267,868	Initial file including only scores from content areas of Math or Reading
	-94,577	Delete students without pre and current scores
	-77,544	Delete students who appear in SES file
	-110,135	Delete Special Education Students
	-57,783	Delete ELL Students
	927,829	Total
		<b>Split into 2 Groups - Math and Reading</b>
	462,101	Math Only
	-348	Delete students with duplicate IDs
<b>461,753</b>		<b>Final Math file for Matching</b>
	465,728	Reading Only
	-352	Delete students with duplicate IDs
<b>465,376</b>		<b>Final Reading file for Matching</b>

After the final groups of SES and control students were obtained, SES students were matched with comparable control students not receiving SES services based on the following criteria:

- Same grade level
- Prior year scale score in Math (+/-3) or Reading (+/-3)
- Free/reduced priced lunch status
- Race
- Gender
- LEA
- School

The first four criteria were required to be satisfied for all matching. Matching on gender, LEA, and school were highly desirable. Table B3 provides a step-by-step accounting of the SES and control students included in the matching process by content area.

**Table B3: Matching Process**

	N	N	Matching Criteria
	Math	Reading	
Step 1	14	68	Grade level, Pre Scale Score, Free/Reduced Lunch, Race, Gender, LEA, School
Step 2	6	12	Grade level, Pre Scale Score, Free/Reduced Lunch, Race, LEA, School
Step 3	538	1,535	Grade level, Pre Scale Score, Free/Reduced Lunch, Race, Gender, LEA
Step 4	61	135	Grade level, Pre Scale Score, Free/Reduced Lunch, Race, LEA
Step 5	144	372	Grade level, Pre Scale Score, Free/Reduced Lunch, Race, Gender

All 763 SES Math students and all 2,122 SES Reading students were matched with a control student. A breakdown of the demographic characteristics of the SES and control students in the final samples by content area is presented in Table B4. The SES and control groups were very similar in both Math and Reading, varying only slightly on gender, with the proportion of female SES students larger than that of male students in both content areas.

**Table B4: SES and Control Group Characteristics**

<b>Demographic Characteristic</b>	<b>Reading</b>		<b>Math</b>	
	<b>SES</b>	<b>Control</b>	<b>SES</b>	<b>Control</b>
Female	54.2	54.0	56.7	55.6
Male	45.8	46.0	43.3	44.4
Eligible for Free/Reduced Lunch	96.7	96.7	97.0	97.0
American Indian	2.5	2.5	3.5	3.5
Asian	0.5	0.5	0.8	0.8
Hispanic	4.6	4.6	4.3	4.3
Black	76.5	76.5	71.7	71.7
White	13.0	13.0	15.9	15.9
Multi-Racial	3.0	3.0	3.8	3.8
3rd Grade	27.9	27.9	29.4	29.4
4th Grade	25.1	25.1	22.9	22.9
5th Grade	22.3	22.3	22.3	22.3
6th Grade	12.5	12.5	14.4	14.4
7th Grade	7.1	7.1	6.2	6.2
8th Grade	5.0	5.0	4.8	4.8

## Appendix C

### Statistical Outcomes

Each analysis comparing the SES and control groups was performed separately by subject area (Math and Reading). Analysis of Covariance (ANCOVA) was used to assess the impact of SES providers on students' achievement on the NCEOG in Mathematics and Reading Comprehension. As two years of data (2005-06 and 2006-07) were used in the analyses, independent T-Tests were conducted on pre-score test data to ensure the comparability of the SES and control groups on previous achievement. In addition, correlations were performed to test the relationship between the prior year (pre-) and current scores in order to ensure the data met the requirements for using ANCOVA. T-Test results further confirmed the similarity of the matching process with zero effect sizes for all providers (see Table C1 and C2). Correlations (R) between NCEOG scores pre- to current-program were moderate to strong, ranging from 0.50 to 0.88.

**Table C1: Math Pre-Score T-Tests and Correlations**

Provider	N	SES		Control		t	p	Effect Size ( <i>d</i> )	R
		M	SD	M	SD				
Academics By Venture	148	334.22	12.98	334.22	12.98	0.00	1.00	0.00	0.81
BrainWorks Learning Center	10	344.90	9.28	344.90	9.28	0.00	1.00	0.00	0.69
Brame Institute	16	330.06	11.86	330.06	11.86	0.00	1.00	0.00	0.75
Bright Futures Learning Center	16	337.75	13.92	337.75	13.92	0.00	1.00	0.00	0.88
Club Z	16	342.31	10.61	342.31	10.61	0.00	1.00	0.00	0.82
Community Education Durham Public Schools	21	332.00	14.00	332.00	14.00	0.00	1.00	0.00	0.84
Huntington Learning	33	332.30	13.80	332.27	13.88	0.01	0.99	0.00	0.73
MasterMind Prep	63	337.10	12.95	337.08	12.98	0.01	1.00	0.00	0.78
North Carolina Central University	71	334.46	13.37	334.46	13.37	0.00	1.00	0.00	0.83
Southridge Learning Center	10	332.80	10.82	332.80	10.82	0.00	1.00	0.00	0.57
Sylvan Ace It Bladen, Brunswick, Columbus, Lumberton, Robeson	61	338.97	12.43	338.97	12.43	0.00	1.00	0.00	0.78
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	80	337.36	13.10	337.36	13.10	0.00	1.00	0.00	0.78
Sylvan Learning Center Charlotte University	32	342.63	13.28	342.63	13.28	0.00	1.00	0.00	0.86
Sylvan Learning Center Columbus	14	346.64	8.53	346.64	8.53	0.00	1.00	0.00	0.80
Sylvan Learning Center Elizabeth City	22	341.18	13.98	341.18	13.98	0.00	1.00	0.00	0.85
Sylvan Learning Center Robeson	16	341.88	8.16	341.88	8.16	0.00	1.00	0.00	0.56
University Instructors	86	336.79	13.23	336.79	13.23	0.00	1.00	0.00	0.84

**Table C2: Reading Pre-Score T-Tests and Correlations**

Provider	SES			Control		t	p	Effect Size ( <i>d</i> )	R
	N	M	SD	M	SD				
Academics By Venture	255	344.10	10.07	344.10	10.07	0.00	1.00	0.00	0.80
Academics Plus, Inc	59	239.58	9.91	239.58	9.91	0.00	1.00	0.00	0.70
Brame Institute	26	239.19	9.81	239.19	9.81	0.00	1.00	0.00	0.82
Bright Futures Learning Center	169	242.72	10.77	242.72	10.77	0.00	1.00	0.00	0.75
Club Z	15	245.67	5.19	245.67	5.19	0.00	1.00	0.00	0.53
Community Education Durham Public Schools	21	238.76	10.95	238.76	10.95	0.00	1.00	0.00	0.82
Education Station	224	244.21	9.37	244.21	9.37	0.00	1.00	0.00	0.76
Failure Free Reading	49	247.29	9.27	247.29	9.27	0.00	1.00	0.00	0.77
Huntington Learning	48	241.58	10.02	241.56	10.04	0.01	1.00	0.00	0.75
MasterMind Prep	153	243.29	10.80	243.30	10.79	-0.01	0.99	0.00	0.81
North Carolina Central University	130	241.71	10.79	241.71	10.79	0.00	1.00	0.00	0.77
Prime Time for Kids	12	242.67	7.52	242.67	7.52	0.00	1.00	0.00	0.50
Southridge Learning Center	12	242.58	10.01	242.58	10.01	0.00	1.00	0.00	0.77
Sylvan Ace It Bladen, Brunswick, Columbus, Lumberton, Robeson	127	242.91	10.07	242.91	10.06	-0.01	1.00	0.00	0.77
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	224	243.26	10.83	243.26	10.83	0.00	1.00	0.00	0.76
Sylvan Ace It Harnett, Wayne, Wilson	100	244.73	10.10	244.73	10.10	0.00	1.00	0.00	0.76
Sylvan Ace It Henderson and Roanoke Rapids	66	249.61	7.66	249.61	7.66	0.00	1.00	0.00	0.78
Sylvan Ace It Wake	39	243.21	9.49	243.21	9.49	0.00	1.00	0.00	0.78
Sylvan Learning Center Charlotte University	97	244.52	9.88	244.52	9.88	0.00	1.00	0.00	0.79
Sylvan Learning Center Columbus	10	251.40	11.62	251.40	11.62	0.00	1.00	0.00	0.83
Sylvan Learning Center Elizabeth City	105	240.44	10.30	240.44	10.30	0.00	1.00	0.00	0.75
Sylvan Learning Center Robeson University Instructors	10	250.40	7.14	250.40	7.14	0.00	1.00	0.00	0.78
	133	243.42	10.15	243.42	10.15	0.00	1.00	0.00	0.77

To control (or adjust the means) for influences on 2006-07 test scores other than SES participation, an analysis of covariance (ANCOVA) statistical procedure was employed. Cohen's *d* effect size was computed as the mean difference of achievement scale scores (SES – control) divided by the pooled standard deviation, and indicated the number of standard deviations by which the SES and control group means differed. Thus, an effect size of say, +0.50, would indicate a half of a standard deviation advantage – a highly substantial educational impact. Generally, in education, effect sizes exceeding +/-0.20 would be considered meaningful and fairly strong. Given the inability to randomly assign students to schools and SES providers, a matched-samples comparison approach is one of the most rigorous methods for determining the effect of SES services on student achievement.

## North Carolina End-of-Grade (NCEOG) in Mathematics Results by Provider

The ANCOVA revealed a significant difference in 2006-07 adjusted mean scale scores between the SES and control group for Sylvan Learning Center Elizabeth City, after controlling for prior year achievement. SES student's adjusted mean (344.91) was significantly lower than the control group's adjusted mean (348.50). No other statistically significant differences for Math providers were found.

**Table C3: Math ANCOVA Outcomes by Provider**

Provider	SES Students				Control Students				F	p	Effect Size ( <i>d</i> )	Adj. Effect Size ( <i>d</i> )
	N	M	SD	Adj. M	M	SD	Adj. M					
Academics By Venture	148	342.99	10.03	342.99	344.07	10.06	344.07	2.47	0.12	-0.11	-0.18	
BrainWorks Learning Center	10	349.40	9.45	349.40	351.60	6.95	351.60	0.65	0.43	-0.28	-0.38	
Brame Institute	16	339.38	11.43	339.38	339.88	8.98	339.88	0.04	0.84	-0.05	-0.07	
Bright Futures Learning Center	16	343.63	10.70	343.63	347.06	11.67	347.06	3.59	0.07	-0.32	-0.69	
Club Z	16	346.38	8.25	346.38	346.13	7.15	346.13	0.02	0.88	0.03	0.06	
Community Education Durham Public Schools	21	340.52	10.04	340.52	342.24	11.72	342.24	0.89	0.35	-0.16	-0.30	
Huntington Learning	33	342.67	9.71	342.67	344.09	9.47	344.08	0.76	0.39	-0.15	-0.22	
MasterMind Prep	63	346.25	8.95	346.26	344.32	9.62	344.31	3.59	0.06	0.21	0.34	
North Carolina Central University	71	342.42	10.21	342.42	344.11	9.50	344.11	3.46	0.07	-0.17	-0.31	
Southridge Learning Center	10	343.90	7.03	343.90	341.90	5.72	341.90	0.69	0.42	0.33	0.39	
Sylvan Ace It Bladen, Brunswick, Columbus, Lumberton, Robeson	61	345.93	9.91	345.93	346.72	8.83	346.72	0.55	0.46	-0.08	-0.14	
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	80	344.94	9.17	344.94	345.46	9.47	345.46	0.32	0.57	-0.06	-0.09	
Sylvan Learning Center Charlotte University	32	348.00	9.96	348.00	348.44	10.88	348.44	0.11	0.75	-0.04	-0.08	
Sylvan Learning Center Columbus	14	351.71	6.53	351.71	349.86	8.07	349.86	1.21	0.28	0.26	0.43	
Sylvan Learning Center Elizabeth City	22	344.91	10.57	344.91	348.50	9.26	348.50	5.63	0.02*	-0.37	-0.73	
Sylvan Learning Center Robeson	16	348.50	8.54	348.50	346.13	6.44	346.13	1.13	0.30	0.32	0.39	
University Instructors	86	345.42	9.99	345.42	346.09	9.51	346.09	0.68	0.41	-0.07	-0.13	

\*Significant at  $p < .05$

Adjusted effect sizes (Cohen's *d*) ranged from -0.73, a medium negative effect to +0.43, a medium positive effect. For the remaining 16 Math providers who did not have significantly different means for SES and control group students, 1 had a medium positive effect, 3 had small positive effects, and 1 had a negligible positive effect (Table C4). Positive effects indicate that although the difference was not significant, SES adjusted group means were slightly higher than control group means, indicating a positive trend. Additionally, 1 provider had a medium negative effect, 5 had small negative effects, and 5 had negligible negative effects. Negative

effects indicate a negative trend in that SES group adjusted means were slightly lower than control group means. For the full group of 17 Math providers, 29% (N=5) had positive adjusted effect sizes and 71% (N=12) had negative adjusted effect sizes.

**Table C4: Math Relative Effect Sizes (Cohen's *d*) by Provider**

<b>Provider</b>	<b>N</b>	<b>Adj. Effect Size (<i>d</i>)</b>	<b>Relative Size of Cohen's <i>d</i></b>
Sylvan Learning Center Elizabeth City	22	-0.73	Medium Negative Effect
Bright Futures Learning Center	16	-0.69	Medium Negative Effect
BrainWorks Learning Center	10	-0.38	Small Negative Effect
North Carolina Central University Community Education Durham	71	-0.31	Small Negative Effect
Public Schools	21	-0.30	Small Negative Effect
Huntington Learning	33	-0.22	Small Negative Effect
Academics By Venture	148	-0.18	Small Negative Effect
Sylvan Ace It Bladen, Brunswick, Columbus, Lumberton, Robeson	61	-0.14	Negligible Negative Effect
University Instructors	86	-0.13	Negligible Negative Effect
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	80	-0.09	Negligible Negative Effect
Sylvan Learning Center Charlotte University	32	-0.08	Negligible Negative Effect
Brame Institute	16	-0.07	Negligible Negative Effect
Club Z	16	0.06	Negligible Positive Effect
MasterMind Prep	63	0.34	Small Positive Effect
Southridge Learning Center	10	0.39	Small Positive Effect
Sylvan Learning Center Robeson	16	0.39	Small Positive Effect
Sylvan Learning Center Columbus	14	0.43	Medium Positive Effect

## North Carolina End-of-Grade (NCEOG) in Reading Comprehension Results by Provider

The ANCOVA revealed a significant difference in 2006-07 adjusted mean scale scores between the SES and control group for Bright Futures Learning Center and Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern, after controlling for prior year achievement. SES student's adjusted mean for Bright Futures Learning Center (248.19) and Sylvan Ace It (248.23) was significantly lower than the control group's adjusted mean for Bright Futures Learning Center (249.57) and Sylvan Ace It (249.72). No other statistically significant differences for SES Reading providers were found.

**Table C5: Reading ANCOVA Outcomes by Provider**

Provider	SES Students				Control Students				F	p	Effect Size ( <i>d</i> )	Adj. Effect Size ( <i>d</i> )
	N	M	SD	Adj. M	M	SD	Adj. M					
Academics By Venture	255	249.82	8.73	249.82	250.55	8.05	250.55	2.70	0.10	-0.09	-0.15	
Academics Plus, Inc	59	248.90	7.29	248.90	248.20	7.83	248.20	0.48	0.49	0.09	0.13	
Brame Institute	26	244.77	8.34	244.77	244.77	9.97	244.77	0.00	1.00	0.00	0.00	
Bright Futures Learning Center	169	248.19	8.25	248.19	249.57	8.74	249.57	5.17	0.02*	-0.16	-0.25	
Club Z	15	251.60	7.19	251.60	250.87	6.42	250.87	0.12	0.74	0.11	0.13	
Community Education Durham												
Public Schools	21	245.62	10.18	245.62	247.24	10.16	247.24	0.80	0.38	-0.16	-0.28	
Education Station	224	249.15	8.75	249.15	248.92	7.60	248.92	0.22	0.64	0.03	0.04	
Failure Free Reading	49	250.73	9.36	250.74	251.88	8.92	251.88	0.93	0.34	-0.13	-0.20	
Huntington Learning	48	248.81	8.53	248.82	247.67	7.38	247.66	1.14	0.29	0.14	0.22	
MasterMind Prep	153	249.50	9.17	249.50	248.84	9.24	248.85	1.11	0.29	0.07	0.12	
North Carolina Central University	130	247.75	9.69	247.75	248.16	9.35	248.16	0.30	0.59	-0.04	-0.07	
Prime Time for Kids	12	247.92	5.13	247.92	249.75	6.78	249.75	0.71	0.41	-0.32	-0.36	
Southridge Learning Center	12	248.08	8.79	248.08	248.08	8.23	248.08	0.00	1.00	0.00	0.00	
Sylvan Ace It Bladen, Brunswick, Columbus, Lumberton, Robeson	127	248.46	7.90	248.46	249.42	8.09	249.42	2.21	0.14	-0.12	-0.19	
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	224	248.23	8.81	248.23	249.72	8.41	249.72	8.03	.01*	-0.17	-0.27	
Sylvan Ace It Harnett, Wayne, Wilson	100	250.08	7.16	250.08	250.81	8.95	250.81	0.96	0.33	-0.09	-0.14	
Sylvan Ace It Henderson and Roanoke Rapids	66	253.41	7.73	253.41	253.15	7.74	253.15	0.09	0.76	0.03	0.05	
Sylvan Ace It Wake	39	248.51	8.54	248.51	248.59	7.07	248.59	0.01	0.95	-0.01	-0.02	
Sylvan Learning Center Charlotte University	97	250.28	8.28	250.28	249.44	8.94	249.44	1.19	0.28	0.10	0.16	
Sylvan Learning Center Columbus	10	252.70	11.18	252.70	256.00	10.30	256.00	1.49	0.24	-0.32	-0.57	
Sylvan Learning Center Elizabeth City	105	247.32	8.44	247.32	247.91	9.08	247.91	0.55	0.46	-0.07	-0.10	
Sylvan Learning Center Robeson	10	253.40	7.93	253.40	249.70	8.67	249.70	2.58	0.13	0.47	0.76	
University Instructors	133	249.23	9.02	249.23	250.55	8.49	250.55	3.80	0.05	-0.15	-0.24	

\*Significant at  $p < .05$

Adjusted effect sizes (Cohen's *d*) ranged from -0.57, a medium negative effect to +0.76, a large positive effect. For the remaining 21 SES Reading providers who did not have significantly different means for SES and control group students, 1 had a large positive effect, 2

had small positive effects, and 5 had negligible positive effects. Positive effects indicate that although the difference was not significant, SES group adjusted means were slightly higher than control group means, indicating a positive trend. Additionally, 1 provider had a medium negative effect, 7 had small negative effects, and 5 had negligible negative effects. Negative effects indicate a negative trend in that SES group adjusted means were slightly lower than control group means. For the full group of 23 Reading providers, 35% (N=8) had positive adjusted effect sizes, 57% (N=13) had negative adjusted effect sizes and 9% (N=2) had no effect.

**Table C6: Reading Relative Effect Sizes (Cohen's *d*) by Provider**

<b>Provider</b>	<b>N</b>	<b>Adj. Effect Size (<i>d</i>)</b>	<b>Relative Size of Cohen's <i>d</i></b>
Sylvan Learning Center Columbus	10	-0.57	Medium Negative Effect
Prime Time for Kids	12	-0.36	Small Negative Effect
Community Education Durham Public Schools	21	-0.28	Small Negative Effect
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	224	-0.27	Small Negative Effect
Bright Futures Learning Center	169	-0.25	Small Negative Effect
University Instructors	133	-0.24	Small Negative Effect
Failure Free Reading	49	-0.20	Small Negative Effect
Sylvan Ace It Bladen, Brunswick, Columbus, Lumberton, Robeson	127	-0.19	Small Negative Effect
Academics By Venture	255	-0.15	Small Negative Effect
Sylvan Ace It Harnett, Wayne, Wilson	100	-0.14	Negligible Negative Effect
Sylvan Learning Center Elizabeth City	105	-0.10	Negligible Negative Effect
North Carolina Central University	130	-0.07	Negligible Negative Effect
Sylvan Ace It Wake	39	-0.02	Negligible Negative Effect
Brame Institute	26	0.00	No Effect
Southridge Learning Center	12	0.00	No Effect
Education Station	224	0.04	Negligible Positive Effect
Sylvan Ace It Henderson and Roanoke Rapids	66	0.05	Negligible Positive Effect
MasterMind Prep	153	0.12	Negligible Positive Effect
Academics Plus, Inc	59	0.13	Negligible Positive Effect
Club Z	15	0.13	Negligible Positive Effect
Sylvan Learning Center Charlotte University	97	0.16	Small Positive Effect
Huntington Learning	48	0.22	Small Positive Effect
Sylvan Learning Center Robeson	10	0.76	Large Positive Effect

**Table C7: Summary of Provider-Level Analysis Findings**

Provider	Reading	Math
Academics By Venture	Yellow	Yellow
Academics Plus, Inc	Yellow	Grey
AlphaBEST Education	Grey	NA
Brainfuse	Grey	Grey
BrainWorks Learning Center	Grey	Yellow
Brame Institute	Yellow	Yellow
Bright Futures Learning Center	Red	Yellow
Bright Sky Learning	Grey	NA
Club Z	Yellow	Yellow
Community Education Durham Public Schools	Yellow	Yellow
Communities in Schools: Brunswick County	Grey	NA
Educational Enterprises	Grey	NA
Education Station	Yellow	Grey
Failure Free Reading	Yellow	Grey
Huntington Learning	Yellow	Yellow
It's Simply English	Grey	NA
MasterMind Prep	Yellow	Yellow
Monroe 21st Century Community Learning Center	Grey	Grey
North Carolina Central University	Yellow	Yellow
Prime Time for Kids	Yellow	NA
Sky Link	Grey	Grey
Southridge Learning Center	Yellow	Yellow
Sweethearts 21st Century Catawba County Schools	Grey	NA
Sylvan Ace It Bladen, Brunswick, Columbus, Lumberton, Robeson	Yellow	Yellow
Sylvan Ace It Duplin and Sampson	Grey	Grey
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	Red	Yellow
Sylvan Ace It Harnett, Wayne, Wilson	Yellow	Grey
Sylvan Ace It Henderson and Roanoke Rapids	Yellow	Grey
Sylvan Ace It Wake	Yellow	Grey
Sylvan Learning Center Charlotte University	Yellow	Yellow
Sylvan Learning Center Columbus	Yellow	Yellow
Sylvan Learning Center Elizabeth City	Yellow	Red
Sylvan Learning Center Hickory	Grey	Grey
Sylvan Learning Center Mooresville	Grey	NA
Sylvan Learning Center Mount Airy	Grey	Grey
Sylvan Learning Center Robeson	Yellow	Yellow
University Instructors	Yellow	Yellow

Green = SES statistically significantly better  
 Yellow = No statistically significant difference  
 Red = SES statistically significantly worse  
 Grey = Not able to test due to sample size less than 10  
 Blue = No sample available after dropping students who did not meet the sample criteria.  
 NA = Did not offer tutoring service

## Summary and Conclusions

The purpose of this study is to enable the North Carolina Department of Public Instruction (DPI) to meet federal evaluation/monitoring requirements by gauging the impact of provider services on student outcomes. This report focused on the impact of SES services on student academic achievement. This was measured through ANCOVA analyses that controlled for previous achievement in 2005-06 on 2006-07 North Carolina End-of-Grade tests in Mathematics and Reading Comprehension scale scores, and found that while the positive effect sizes of some SES providers were small to large, indicating a trend favoring the impact of those particular providers, no SES providers had a significant positive effect on the students they served. However, one Math provider and two Reading providers were shown to have had significantly negative effects on the students they served. See Table C7 for a summary of the provider level outcomes. A higher percentage of both Math and Reading providers had negative, yet nonsignificant impacts on the students they served.

However, the reader should interpret these results with caution. Small sample size, which reduces the ability (power) to detect statistical significance and the reliability of outcomes in general, was a limiting factor for some providers. In Reading, less than half of the providers had 100 or more students to analyze, and in Math, only one had more than 100 students to analyze (with most having less than 50). As rigorous achievement analyses are conducted in future years which take into account multiple years of achievement results, the ability to detect reliable trends for individual providers will continue to increase. More pervasive and substantive issues are the degree to which state assessments have adequate sensitivity to detect the contribution of only a limited number of hours of tutoring during an entire school year, and the expectation that a limited number of hours of tutoring can make dramatic changes in the achievement level of Title I students. Therefore, it is not surprising that more statistically significant differences in achievement between SES and control students were not discovered.