



Center for Research in Educational Policy

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Supplemental Educational Services
in the State of North Carolina:
2007 – 2008
Student Achievement Analysis





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STUDY OF SUPPLEMENTAL EDUCATIONAL SERVICES PROVIDERS

NORTH CAROLINA: 2007-08 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. The purpose of this study was 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 (2006-07 and 2007-08) of North Carolina End-of-Grade (NCEOG) Mathematics and Reading Comprehension scale scores for students in grades 4-8 (as these are the only grades with two years of test data available), while for grade 3 Mathematics, the 2007-08 beginning (Pretest) and end-of-year (regular spring assessment) test scores were used. Third grade students did not have Reading Pretest scores and were dropped from all Reading analyses. 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=1,971) and Math (N=2,290) 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. It should be noted that no special education students or students designated as English Language Learners (ELL) were included in any of the analyses.

What is critically important with special education students is the nature of their disability. For example, without access to the students' Individualized Educational Plan (IEP), we could potentially end up matching a mildly learning disabled student to a severe ADHD student who is three years older, and falsely conclude that the provider benefits or does not benefit students with disabilities.

Similar to the problem with special education students, ELL students have various degrees of fluency. Unless we can identify the specific level of fluency, we run the risk of matching SES and control students with potentially great differences in fluency (e.g., non-fluent vs. exited from the ELL program and is only being monitored), and falsely conclude that the provider benefits or does not benefit ELL students.

Results

Math (Grades 3-8)

- Based on initial analyses, there were no statistical differences in prior year (grades 4-8) or Pretest (grade 3) 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 2007-08 NCEOG Math achievement scores compared to its control group.
- One SES Math provider with at least 10 students to analyze, Communities in Schools: Brunswick County, had a significantly lower average adjusted 2007-08 NCEOG Math achievement scores compared to its control group after controlling for prior year achievement.

Reading (Grades 4-8)

- 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 2007-08 NCEOG Reading achievement scores compared to its control group.
- One SES provider with at least 10 students to analyze, MasterMind Prep, had significantly lower average adjusted 2007-08 NCEOG Reading achievement scores compared to its control group 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 it served. On the other hand, one SES Reading provider with at least 10 students to analyze (MasterMind Prep) and one SES Math provider with at least 10 students to analyze (Communities in Schools: Brunswick County) was each found to have a statistically significant negative impact on the students they served, with students receiving SES services being outperformed by controls. Although not statistically significant, for the full group of 26 Reading providers, 35% (N=9) had positive adjusted effect sizes, and for the full group of 28 Math providers, 46% (N=13) had positive adjusted effect sizes, indicating a trend favoring the impact of these particular providers over their matched controls.

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 many providers. In both Reading and Math, less than a quarter of the providers had 100 or more students to analyze, and the majority of providers had less than 50 students. 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
- Appendix B: Sample Selection
- Appendix C: Statistical Outcomes

STUDY OF SUPPLEMENTAL EDUCATIONAL SERVICES PROVIDERS NORTH CAROLINA: 2007-08 STUDENT ACHIEVEMENT ANALYSES

Evaluation Report

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 was 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 (2006-07 and 2007-08) of North Carolina End-of-Grade (NCEOG) Mathematics and Reading Comprehension scale scores for grades 4-8 provided by the North Carolina Department of Public Instruction (DPI). For these analyses, the student samples were restricted to grades 4-8 as these were the only grades with the necessary pre-program (i.e., prior year) scores available from 2006-2007. For students in grades 4-8, the prior school year (grades 3-7 in 2006-07) NCEOG scores were used in the analyses to adjust the outcomes for prior year achievement. For third grade students, North Carolina Pretest (NCP) scale scores in Math from the beginning of the 2007-08 school year were used as the prior achievement measure, and the NCEOG Mathematics scale score from spring 2008 was used as the outcome measure. Third grade students did not have NCP scores in Reading, therefore all Reading analyses only included grades 4-8. It is important to have a prior achievement score in order to determine whether the SES and control students were similar in their abilities before tutoring. Without that information, any significant differences between the achievement of SES and control students could not be directly attributed to the SES program, but could be the result of one group being superior to the other based on demonstrated prior ability. It should be noted that no special education students or students designated as English Language Learners (ELL) were included in any of the analyses.

What is critically important with special education students is the nature of their disability. For example, without access to the students' Individualized Educational Plan (IEP), we could potentially end up matching a mildly learning disabled student to a severe ADHD

student who is three years older, and falsely conclude that the provider benefits or does not benefit students with disabilities.

Similar to the problem with special education students, ELL students have various degrees of fluency. Unless we can identify the specific level of fluency, we run the risk of matching SES and control students with potentially great differences in fluency (e.g., non-fluent vs. exited from the ELL program and is only being monitored), and falsely conclude that the provider benefits or does not benefit ELL students.

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. While students in grades 3-8 were tested in 2007-08, only students in grades 4-8 had had a previous year's test score (2006-07) needed for the analyses. Grade 3 students did not have pre-scores from 2006-07, but were given a baseline test (the North Carolina Pretest) in Math only at the beginning of the 2007-08 school year. This baseline score was used as the prior achievement score for all 3rd grade Math students. As a result, grades 3-8 were included in the analyses for Math, while only grades 4-8 were included in the Reading analyses. 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, and as well as the Mathematics scores of students contracted for services in both Reading and Math.

There were initially 8,943 North Carolina students (12,662 records) in grades 3-8 who received SES tutoring services in Reading, Math, or both Reading and Math in 2007-08 from 44 providers across 55 school districts. The final SES samples used in the analyses included 2,290 Math students and 1,971 Reading students from 31 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 1,071,504 records initially available for control student selection that contained NCEOG scores for both 2006-07 and 2007-08 in Reading and Math. The final control groups used for matching to SES students included 401,411 students in Reading and 483,029 students in Math. In the end, the final matched samples for Reading (N=1,971) and Math (N=2,290) 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 2007-08 NCEOG Math and/or Reading scale scores, with students' prior year (2006-07) NCEOG scale score used as the covariate for grades 4-8. For grade 3, students' Pretest score in Math from the beginning of the 2007-08 year was used as the covariate and the 2007-08 NCEOG Math scale score from the spring administration was used as the outcome measure. ANCOVA statistically equates (adjusts the means of) the groups in 2007-08 on the covariate, meaning that any differences in achievement in 2007-08 can be evaluated as if the groups had similar prior achievement. Consequently, any significant differences in 2007-08 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. For unadjusted means, Cohen's *d* was computed as the mean difference (SES-control) divided by the pooled standard deviation. For adjusted means, the effect size was computed as the difference in adjusted means (SES_{adj}-control_{adj}) divided by the pooled standard error. 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 (2006-07 and 2007-08) were used in the analyses for grades 4-8, independent T-Tests were conducted on pre-score (2006-07) test data for both Reading and Math to ensure the comparability of the SES and control groups on previous achievement. Similar analyses were also conducted on the Pretest scores for SES and control students for grade 3 in Math. 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 (Grades 3-8)

- Based on initial analyses, there were no statistical differences in prior year (grades 4-8) or Pretest (grade 3) 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 2007-08 NCEOG Math achievement scores compared to its control group.
- One SES Math provider with at least 10 students to analyze, Communities in Schools: Brunswick County, had a significantly lower average adjusted 2007-08 NCEOG Math achievement scores compared to its control group after controlling for prior year achievement.

Reading (Grades 4-8)

- 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 2007-08 NCEOG Reading achievement scores compared to its control group.
- One SES provider with at least 10 students to analyze, MasterMind Prep, had significantly lower average adjusted 2007-08 NCEOG Reading achievement scores compared to its control group after controlling for prior year achievement.

Summary and Conclusions

The purpose of this study was to enable the North Carolina Department of Public Instruction (DPI) to meet federal evaluation/monitoring requirements by gauging the impact of SES provider services on student outcomes. This was measured through ANCOVA analyses that controlled for prior achievement (in 2006-07 for grades 4-8, and on the Pretest for grade 3) on 2007-08 North Carolina End-of-Grade scale scores in Mathematics and Reading Comprehension. While the positive effect sizes of some SES providers were small, indicating a trend favoring the impact of those particular providers, no SES providers with at least 10 students to analyze had a significant positive effect on the students they served.

On the other hand, one SES Reading provider with at least 10 students to analyze (MasterMind Prep) and one SES Math provider with at least 10 students to analyze (Communities in Schools: Brunswick County) was each found to have a statistically significant negative impact on the students they served, with students receiving SES services being outperformed by controls. Although not statistically significant, for the full group of 26 Reading providers, 34.6% (N=9) had positive adjusted effect sizes, and for the full group of 28 Math providers, 46.4% (N=13) had positive adjusted effect sizes, indicating a trend favoring the impact of these particular providers over their matched controls. See Table C7 in Appendix C for a summary of the provider level outcomes. Overall, a higher percentage of both Math and Reading providers had negative, yet non-significant impacts on the students they served.

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 many providers. In both Reading and Math, less than a quarter of the providers had 100 or more students to analyze, and the majority of providers had less than 50 students. 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 students from low-performing schools. Therefore, it is not surprising that more statistically significant differences in achievement between SES and control students were not discovered. 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
- Appendix B: Sample Selection
- Appendix C: Statistical Outcomes

Appendix A

SES Provider Services

Initial Sample File

There were 8,943 North Carolina students in grades 3-8 in the initial sample who received SES tutoring services in 2007-08 from 44 providers across 55 school districts. As shown in Table A1:

- Academics Plus, Inc. served the largest number of individual students (N=1,314, 14.7%) followed by MasterMind Prep (N=1,073, 12.0%).
- Academics Plus, Inc. was also the largest provider of tutoring contracts (N=2,406, 19%) followed by MaterMind Prep (N=1,548, 12.2%). 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.
- Sylvan Learning Center Ace It! Onslow County was the smallest provider, serving only 1 student with 1 contract.
- Four 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 8,943 SES students receiving services, 1,813 were tutored in Math only, 3,411 were tutored in Reading only, and 3,719 were tutored in both Math and Reading.

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

Provider	Math Only	Reading Only	Both Reading and Math	Number of Students	Number of Contracts
Academics Plus, Inc.	121	101	1,092	1,314	2,406
Academics By Venture	46	26	120	192	312
Brainfuse	0	0	20	20	40
BrainWorks Learning Center	79	34	7	120	127
Brame Institute	8	21	516	545	1,061
Bright Futures Learning Center	58	495	93	646	739
Bright Sky Learning	1	1	0	2	2
Community Education Durham Public Schools	0	0	12	12	24
Communities in Schools: Brunswick County	37	4	0	41	41
Community Technology Learning Center	0	1	20	21	41
Education Station	5	433	3	441	444
Failure Free Reading	0	141	0	141	141
It's Simply English	1	66	9	76	85
MasterMind Prep	229	369	475	1,073	1,548
North Carolina Central University	74	100	168	342	510
Prime Time for Kids	0	13	6	19	25
Southridge Learning Center	0	1	10	11	21
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	201	156	69	426	495
Sylvan Ace It Henderson and Roanoke Rapids	46	57	62	165	227
Sylvan Learning Center Charlotte University	0	0	14	14	28
Sylvan Learning Center Hickory	64	40	0	104	104
Sylvan Learning Center Mount Airy	25	17	11	53	64
A to Z In Home Tutoring	0	0	1	1	2
Achieve Success Tutoring	229	121	196	546	742
Beaufort County 21st Century Community Learning Center	0	1	32	33	65
Capitol Education Support	25	1	132	158	290
Carter Reddy and Associates	1	4	35	40	75
Cool Kids Learn, Inc.	2	105	49	156	205
East Carolina Educational Center	3	19	23	45	68
Glosso Speech Language and Education Services, Inc.	0	16	1	17	18
I Can Kids, Inc	0	8	99	107	206
Measurement, Inc.	0	2	33	35	68
RICCE, Inc.	0	15	0	15	15
S & L Consultants	121	1	0	122	122

Table A1 (Cont): Initial Sample – Number of Students Served by Provider and Subject Area

Provider	Math Only	Reading Only	Both Reading and Math	Number of Students	Number of Contracts
Sylvan Learning Center	0	0	14	14	28
Sylvan Learning Center Charlotte	132	405	28	565	593
Sylvan Learning Center Ace It! Clinton	19	69	87	175	262
Sylvan Learning Center Ace It! Elizabeth City	21	212	98	331	429
Sylvan Learning Center Ace It! Lumberton	145	210	9	364	373
Sylvan Learning Center Ace It! Onslow County	1	0	0	1	1
Sylvan Learning Center Ace It! Whiteville	113	59	1	173	174
TCAL Center for Accelerated Learning	6	80	150	236	386
UCPS/21st CCLC/TEAM/FROGS	0	7	1	8	9
TRAC Enrichment Center, Inc.	0	0	23	23	46
Totals	1,813	3,411	3,719	8,943	12,662

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.

Based on data provided for students who received tutoring in Math only:

- S & L Consultants had the highest average number of hours contracted (40.0), followed by TCAL Center for Accelerated Learning (38.0).
- East Carolina Educational Center had the highest average hours of tutoring attended in Math (31.3), followed by Capitol Education Support and Sylvan Learning Center Ace It! Lumberton (27.0).

For students who received tutoring in Reading only:

- UCPS/21st CCLC/TEAM/FROGS had the highest average number of hours contracted (100) followed by Beaufort County 21st Century Community Learning Center (84.0).
- UCPS/21st CCLC/TEAM/FROGS also had the highest average hours of tutoring attended (60.2) followed by Beaufort County 21st Century Community Learning Center (43.5).

For students who received services in both Reading and Math:

- Sylvan Learning Center Mount Airy had the highest average number of hours contracted (80.2), followed by I Can Kids, Inc (70.7).
- Whiteville had the highest average hours of tutoring attended (36.0), followed by Community Technology Learning Center (31.8).

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		Total Number of Students
	Avg. Hours Contracted	Avg. Hours Attended	Avg. Hours Contracted	Avg. Hours Attended	Avg. Hours Contracted	Avg. Hours Attended	
Academics Plus, Inc.	25.8	15.9	28.2	18.4	26.7	20.5	1,314
Academics By Venture	26.1	12.1	29.9	18.7	29.0	21.8	192
Brainfuse	NA	NA	NA	NA	29.3	16.7	20
BrainWorks Learning Center	28.9	23.9	28.5	22.6	30.0	27.6	120
Brame Institute	22.0	22.0	29.4	27.3	29.8	23.3	545
Bright Futures Learning Center	24.0	20.5	28.1	21.9	26.1	23.5	646
Bright Sky Learning	28.5	24.0	25.8	24.0	NA	NA	2
Community Education Durham Public Schools	NA	NA	NA	NA	23.0	14.2	12
Communities in Schools: Brunswick County	24.8	19.9	22.5	13.9	NA	NA	41
Community Technology Learning Center	NA	NA	21.0	30.0	32.0	31.8	21
Education Station	30.0	19.2	30.0	18.8	30.0	22.0	441
Failure Free Reading	NA	NA	31.3	19.6	NA	NA	141
It's Simply English	22.0	21.0	29.6	20.7	22.8	23.6	76
MasterMind Prep	27.7	17.3	27.9	21.8	29.4	20.2	1,073
North Carolina Central University	27.3	23.2	31.9	23.2	30.9	24.7	342
Prime Time for Kids	NA	NA	26.7	27.6	30.0	25.4	19
Southridge Learning Center	NA	NA	30.0	30.0	30.0	21.6	11
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	22.5	18.0	30.6	17.8	38.6	16.1	426
Sylvan Ace It Henderson and Roanoke Rapids	33.2	17.5	33.6	25.9	30.0	28.3	165
Sylvan Learning Center Charlotte University	NA	NA	NA	NA	31.5	25.8	14
Sylvan Learning Center Hickory	36.0	20.7	36.0	24.8	NA	NA	104

Table A2 (Cont.): Initial Sample – Average Hours Contracted and Average Hours Attended by Provider and Subject Area

Provider	Math Only		Reading Only		Both Math and Reading		Total Number of Students
	Avg. Hours Contracted	Avg. Hours Attended	Avg. Hours Contracted	Avg. Hours Attended	Avg. Hours Contracted	Avg. Hours Attended	
Sylvan Learning Center Mount Airy	23.4	19.0	22.8	22.1	80.2	23.6	53
A to Z In Home Tutoring	NA	NA	NA	NA	27.0	24.0	1
Achieve Success Tutoring	25.4	17.4	25.7	22.4	27.6	18.3	546
Beaufort County 21st Century Community Learning Center	NA	NA	84.0	43.5	60.9	30.8	33
Capitol Education Support	34.0	27.0	34.0	5.0	33.1	22.5	158
Carter Reddy and Associates	22.0	22.0	25.0	19.1	22.9	19.2	40
Cool Kids Learn, Inc.	18.3	3.0	19.7	14.6	22.7	16.2	156
East Carolina Educational Center	32.0	31.3	30.6	17.2	30.7	18.0	45
Glosso Speech Language and Education Services, Inc.	NA	NA	30.0	25.2	30.0	30.0	17
I Can Kids, Inc	NA	NA	16.5	13.5	70.7	25.9	107
Measurement, Inc.	NA	NA	30.5	31.5	29.1	21.0	35
RICCE, Inc.	NA	NA	32.1	20.3	NA	NA	15
S & L Consultants	40.0	21.9	40.0	3.0	NA	NA	122
Sylvan Learning Center	NA	NA	NA	NA	31.7	25.9	14
Sylvan Learning Center Charlotte	34.5	26.2	34.8	24.4	28.0	23.8	565
Sylvan Learning Center Ace It! Clinton	33.6	23.2	34.0	28.0	28.1	22.9	175
Sylvan Learning Center Ace It! Elizabeth City	27.0	22.1	31.0	22.6	34.2	23.3	331
Sylvan Learning Center Ace It! Lumberton	35.3	27.0	34.8	23.3	30.0	25.1	364
Sylvan Learning Center Ace It! Onslow County	36.0	4.0	NA	NA	NA	NA	1

Table A2 (Cont.): Initial Sample – Average Hours Contracted and Average Hours Attended by Provider and Subject Area

Provider	Math Only		Reading Only		Both Math and Reading		Total Number of Students
	Avg. Hours Contracted	Avg. Hours Attended	Avg. Hours Contracted	Avg. Hours Attended	Avg. Hours Contracted	Avg. Hours Attended	
Sylvan Learning Center Ace It! Whiteville	32.9	24.4	32.5	25.1	36.0	36.0	173
TCAL Center for Accelerated Learning	38.0	11.8	32.2	21.6	42.0	18.1	236
UCPS/21st CCLC/TEAM/FROGS	NA	NA	100.0	60.2	30.0	24.0	8
TRAC Enrichment Center, Inc.	NA	NA	NA	NA	24.0	19.1	23

Final Sample File

Once the SES sample file was restricted (see Table B1), there were 3,256 North Carolina students who received SES tutoring services in 2007-08 from 31 different providers. As shown in Table A3, Academics Plus, Inc. (N=483, 14.8%) served the largest number of individual students followed by MasterMind Prep (N=365, 11.2%). Academics Plus, Inc. also was the largest provider with 903 contracts. Although MasterMind Prep served a higher number of individual students compared to Brame Institute, Brame Institute was the next largest provider in terms of tutoring contracts, with 558. Based on the number of contracts, the smallest provider was Failure Free Reading, providing services to 19 students with 19 contracts.

Of the 3,256 SES students receiving services, 785 were tutored in Math only, 961 were tutored in Reading only, and 1,510 were tutored in both Math and Reading. Not all students who were tutored in both Reading and Math had pre- and post NCEOG scores available for both subject areas. This is especially true for third grade students who did not have Reading pre-scores. Table A3 shows the NCEOG scores available by subject area tutored.

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

Provider	Received Tutoring Services			Number of Students	Number of Contracts	NCEOG Scores Available		
	Math Only	Reading Only	Both Reading and Math			Math Only	Reading Only	Both Reading and Math
Academics Plus, Inc.	38	25	420	483	903	178	25	280
Academics By Venture	14	10	63	87	150	50	10	27
Brainfuse	0	0	0	0	0	0	0	0
BrainWorks Learning Center	46	12	7	65	72	47	12	6
Brame Institute	7	7	272	286	558	77	7	202
Bright Futures Learning Center	25	125	32	182	214	37	125	20
Bright Sky Learning	0	0	0	0	0	0	0	0
Community Education Durham Public Schools	0	0	0	0	0	0	0	0
Communities in Schools: Brunswick County	22	0	0	22	22	22	0	0
Community Technology Learning Center	0	0	15	15	30	15	0	0
Education Station	0	86	2	88	90	0	88	0
Failure Free Reading	0	19	0	19	19	0	19	0
It's Simply English	0	26	2	28	30	0	28	0
MasterMind Prep	74	123	168	365	533	118	124	123
North Carolina Central University	34	28	87	149	236	65	28	56
Prime Time for Kids	0	0	0	0	0	0	0	0
Southridge Learning Center	0	0	0	0	0	0	0	0
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	103	48	20	171	191	107	48	16
Sylvan Ace It Henderson and Roanoke Rapids	19	23	29	71	100	24	23	24
Sylvan Learning Center Charlotte University	0	0	0	0	0	0	0	0
Sylvan Learning Center Hickory	25	10	0	35	35	25	10	
Sylvan Learning Center Mount Airy	17	9	2	28	30	17	9	2
A to Z In Home Tutoring	0	0	0	0	0	0	0	0
Achieve Success Tutoring	94	37	85	216	301	117	37	62
Beaufort County 21st Century Community Learning Center	0	0	0	0	0	0	0	0
Capitol Education Support	16	0	53	69	122	28	0	41
Carter Reddy and Associates	1	1	15	17	32	5	1	11
Cool Kids Learn, Inc.	0	35	22	57	79	8	35	14
East Carolina Educational Center	1	0	12	13	25	13	0	0

Table A3 (Cont.): Final Sample – Number of Students Served by Provider and Subject Area

Provider	Received Tutoring Services			Number of Students	Number of Contracts	NCEOG Scores Available		
	Math Only	Reading Only	Both Reading and Math			Math Only	Reading Only	Both Reading and Math
Glosso Speech Language and Education Services, Inc.	0	0	0	0	0	0	0	0
I Can Kids, Inc	0	0	47	47	94	47	0	0
Measurement, Inc.	0	0	18	18	36	0	0	18
RICCE, Inc.	0	0	0	0	0	0	0	0
S & L Consultants	39	0	0	39	39	39	0	0
Sylvan Learning Center	0	0	0	0	0	0	0	0
Sylvan Learning Center Charlotte	69	118	8	195	203	70	118	7
Sylvan Learning Center Ace It! Clinton	11	36	28	75	103	18	36	21
Sylvan Learning Center Ace It! Elizabeth City	17	70	49	136	185	33	70	33
Sylvan Learning Center Ace It! Lumberton	91	70	3	164	167	93	70	1
Sylvan Learning Center Ace It! Onslow County	0	0	0	0	0	0	0	0
Sylvan Learning Center Ace It! Whiteville	21	18	1	40	41	21	18	1
TCAL Center for Accelerated Learning	1	25	35	61	96	7	25	29
UCPS/21st								
CCLC/TEAM/FROGS	0	0	0	0	0	0	0	0
TRAC Enrichment Center, Inc.	0	0	15	15	30	4	0	11
Totals	785	961	1,510	3,256	4,766	1,285	966	1,005

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:

- S & L Consultants had the highest average number of hours contracted (39.0), followed by Sylvan Learning Center Hickory with 36.0.
- East Carolina Educational Center had the highest average hours attended (32.0), followed by Sylvan Learning Center Ace It! Lumberton with 31.4.

For students who received tutoring in Reading only:

- Sylvan Learning Center Hickory had the highest average number of hours contracted (36.0), followed by Sylvan Learning Center Ace It! Lumberton (35.0).

- Clinton had the highest average hours of tutoring attended (30.9), followed by Sylvan Learning Center Ace It! Lumberton (30.5).

For students who received services in both Reading and Math:

- I Can Kids, Inc. had the highest average number of hours contracted (41.1), followed by TCAL Center for Accelerated Learning (39.8).
- Whiteville had the highest average hours of tutoring attended (36.0), followed by Community Technology Learning Center (31.9).

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		Total Number of Students
	Avg. Hours Contracted	Avg. Hours Attended	Avg. Hours Contracted	Avg. Hours Attended	Avg. Hours Contracted	Avg. Hours Attended	
Academics Plus, Inc.	26.7	22.5	28.8	23.8	26.9	23.5	483
Academics By Venture	26.5	21.3	32.0	25.4	29.2	24.7	87
Brainfuse	NA	NA	NA	NA	NA	NA	0
BrainWorks Learning Center	28.9	25.9	28.6	24.7	30.0	27.6	65
Brame Institute	23.1	23.1	30.0	29.0	29.8	27.3	286
Bright Futures Learning Center	26.0	2.9	28.3	24.3	27.5	25.2	182
Bright Sky Learning	NA	NA	NA	NA	NA	NA	0
Community Education Durham Public Schools	NA	NA	NA	NA	NA	NA	0
Communities in Schools: Brunswick County	24.4	21.8	NA	NA	NA	NA	22
Community Technology Learning Center	NA	NA	NA	NA	32.0	31.9	15
Education Station	NA	NA	30.0	24.0	30.0	18.8	88
Failure Free Reading	NA	NA	31.1	22.5	NA	NA	19
It's Simply English	NA	NA	29.0	23.3	30.0	30.0	28
MasterMind Prep	27.1	22.3	27.9	23.0	29.5	25.4	365
North Carolina Central University	28.9	26.9	31.9	27.4	31.2	27.9	149
Prime Time for Kids	NA	NA	NA	NA	NA	NA	0
Southridge Learning Center	NA	NA	NA	NA	NA	NA	0
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	25.3	21.7	30.7	24.1	22.3	21.0	171
Sylvan Ace It Henderson and Roanoke Rapids	32.9	25.6	33.8	29.2	30.0	29.0	71
Sylvan Learning Center Charlotte University	NA	NA	NA	NA	NA	NA	0
Sylvan Learning Center Hickory	36.0	28.0	36.0	27.8	NA	NA	35
Sylvan Learning Center Mount Airy	23.9	20.5	22.7	22.0	23.0	21.0	28

Table A4 (Cont.): Final Sample – Average Hours Contracted and Average Hours Attended by Provider and Subject Area

Provider	Math Only		Reading Only		Both Math and Reading		Total Number of Students
	Avg. Hours Contracted	Avg. Hours Attended	Avg. Hours Contracted	Avg. Hours Attended	Avg. Hours Contracted	Avg. Hours Attended	
A to Z In Home Tutoring	NA	NA	NA	NA	NA	NA	0
Achieve Success Tutoring	25.6	21.3	27.8	24.6	26.3	23.4	216
Beaufort County 21st Century Community Learning Center	NA	NA	NA	NA	NA	NA	0
Capitol Education Support	34.0	30.4	NA	NA	32.9	27.1	69
Carter Reddy and Associates	22.0	22.0	25.0	21.8	22.5	19.4	17
Cool Kids Learn, Inc.	NA	NA	19.7	16.7	23.3	18.5	57
East Carolina Educational Center	32.0	32.0	NA	NA	30.3	22.2	13
Glosso Speech Language and Education Services, Inc.	NA	NA	NA	NA	NA	NA	0
I Can Kids, Inc	NA	NA	NA	NA	41.1	28.4	47
Measurement, Inc.	NA	NA	NA	NA	28.9	24.4	18
RICCE, Inc.	NA	NA	NA	NA	NA	NA	0
S & L Consultants	39.0	30.0	NA	NA	NA	NA	39
Sylvan Learning Center	NA	NA	NA	NA	NA	NA	0
Sylvan Learning Center Charlotte	24.5	29.6	34.8	28.6	31.6	24.0	195
Sylvan Learning Center Ace It! Clinton	34.0	30.2	34.0	30.9	32.0	28.9	75
Sylvan Learning Center Ace It! Elizabeth City	27.0	23.6	31.5	25.7	33.5	27.3	136
Sylvan Learning Center Ace It! Lumberton	35.3	31.4	35.0	30.5	30.0	27.3	164
Sylvan Learning Center Ace It! Onslow County	NA	NA	NA	NA	NA	NA	0
Sylvan Learning Center Ace It! Whiteville	33.0	26.2	31.8	28.1	36.0	36.0	40
TCAL Center for Accelerated Learning	33.0	24.5	31.7	24.2	39.8	24.0	61
UCPS/21st CCLC/TEAM/FROGS	NA	NA	NA	NA	NA	NA	0
TRAC Enrichment Center, Inc.	NA	NA	NA	NA	24.0	23.2	15

Appendix B

Sample Selection

To examine the North Carolina SES provider program effect on student achievement in the 2007-08 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.

What is critically important with special education students is the nature of their disability. For example, without access to the students' Individualized Educational Plan (IEP), we could potentially end up matching a mildly learning disabled student to a severe ADHD student who is three years older, and falsely conclude that the provider benefits or does not benefit students with disabilities.

Similar to the problem with special education students, ELL students have various degrees of fluency. Unless we can identify the specific level of fluency, we run the risk of matching SES and control students with potentially great differences in fluency (e.g., non-fluent vs. exited from the ELL program and is only being monitored), and falsely conclude that the provider benefits or does not benefit ELL students.

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, 2008, the NCEOG test date.

There were 12,662 contracts for 8,943 SES students in grades 3-8 initially available who were designated as receiving services in the content areas of Math only, Reading only, or both Math and Reading (see Table B1). Students could have multiple contracts 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 (1,413 records) or English Language Learners (839 records) were deleted first. Any SES students who had less than 18 hours of tutoring and/or attended less than 50% of contracted hours (2,132 records) were also excluded. There were 465 students deleted for having more hours attended than hours contracted (i.e., greater than 100% attendance). An additional 189 SES students had invalid service start dates and were excluded from the file. As shown in Table B1, this left 5,535^a contracts for 3,905^b students: 852^c students who received tutoring in Math only, 1,423^d in Reading only, and 1,630^e 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 2,482 Math contracts, and 3,053 Reading contracts.

Table B1: SES Student File Selection Process

Students	Contracts	Action Taken
8,943	12,662	Initial file including only content areas 1,2,3 (Math, Reading, Math & Reading) in grades 3-8
-1,413		Delete Special Education Students
-839		Delete ELL Students
-2,132		Delete students with LT 18 hours of tutoring and/or attended LT 50% of contracted hours
-465		Delete student with GT 100% of contract met
-189		Delete students with invalid service start dates
3,905 ^b	5,535 ^a	Total Number
852 ^c		Math Only
1,423 ^d		Reading Only
1,630 ^e		Both Reading and Math
		Split file into 2 groups - Math and Reading
	2,482	All Math
	3,053	All Reading
	5,535	Total
	2,482	All Math
	-97	Delete grade repeaters and test level doesn't match grade level
	-44	Delete students without pre and current scores
	-51	Delete providers with LT 10 students
	2,290	Final Math File
	3,053	All Reading
	-975	Delete grade repeaters, test level doesn't match grade level, 3rd grade without pre-scores
	-50	Delete students without pre and current scores
	-57	Delete providers with LT 10 students
	1,971	Final Reading File
		Analysis files (Students having available NCEOG scores)
1,285	1,285	Math Only
966	966	Reading Only
1,005	2,010	Both Reading and Math
3,256	4,261	Total

For the Math file, starting with 2,482 students, 97 were deleted because they were grade level repeaters or because the grade level and test level did not match, 44 were deleted because they lacked pre or post score data, and 51 were deleted because the providers were left with less than 10 student contracts to analyze. This left 2,290 student contracts in the Math file for matching and analyses.

For the Reading file, starting with 3,053 students, 975 were deleted because they were grade level repeaters, the grade level and test level did not match, or they were 3rd graders without pre-scores, 50 were deleted because they lacked pre or post score data, and 57 were deleted because the providers were left with less than 10 student contracts to analyze. This left 1,971 student contracts in the Reading file for matching and analyses. The SES student file contained a total of 4,261 contracts for 3,256 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 1,268,051 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 (188,621 records). Special Education students were excluded from the control file (95,934 records), as well as English Language Learner students (68,066 records). This left a total of 907,504 student records. The control student file was then split into the two content areas of Math (N=495,279) and Reading (N=412,225). For the Math file, starting with 495,279 records, students with duplicate ID numbers were deleted (402), students who repeated a grade or where the grade level and test level did not match were deleted (6,338), and students who appeared in the SES file as receiving services were deleted (5,510), leaving a total of 483,029 students records in the Math control student file for matching. For the Reading file, starting with 412,225 records, students with duplicate ID numbers were deleted (307), students who repeated a grade or where the grade level and test level did not match were deleted (6,345), and students who appeared in the SES file as receiving services were deleted (4,162), leaving a total of 401,411 student records in the Reading control student file for matching.

Table B2: Control Group Matching File

Students	Contracts	Action Taken
	1,268,051	Initial file including only scores from content areas of Math or Reading
	-188,621	Delete students without pre and current scores
	-95,934	Delete Special Education Students
	-68,066	Delete ELL Students
	907,504	Total
		Split into 2 Groups - Math and Reading
495,279		All Math
-402		Delete students with duplicate IDs
-6,338		Delete grade repeaters and test level doesn't match grade level
-5,510		Delete students who received SES services
483,029		Final Math file for Matching
412,225		All Reading
-307		Delete students with duplicate IDs
-6,345		Delete grade repeaters and test level doesn't match grade level
-4,162		Delete students who received SES services
401,411		Final Reading file for Matching

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) for grades 4-8
- Pretest scale score in Math (+/-3) for grade 3
- Free/reduced priced lunch status
- Ethnicity
- Gender
- LEA
- School

The first three criteria were required to be satisfied for all matching. Matching on ethnicity, gender, LEA, and school were highly desirable, but not required. 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 Math	N Reading	Matching Criteria
Step 1	584	642	Grade level, Pre Scale Score, Free/Reduced Lunch, Race, Gender, LEA, School
Step 2	336	273	Grade level, Pre Scale Score, Free/Reduced Lunch, Race, LEA, School
Step 3	979	726	Grade level, Pre Scale Score, Free/Reduced Lunch, Race, Gender, LEA
Step 4	122	98	Grade level, Pre Scale Score, Free/Reduced Lunch, LEA, School
Step 5	123	98	Grade level, Pre Scale Score, Free/Reduced Lunch, Race, LEA
Step 6	144	132	Grade level, Pre Scale Score, Free/Reduced Lunch, Race, Gender
Step 7	1	1	Grade level, Pre Scale Score (+ or - 3) Free/Reduced Lunch, Race, LEA, School
Step 8	1	1	Grade level, Pre Scale Score, Free/Reduced Lunch, Gender

All 2,290 SES Math students and all 1,971 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 being slightly larger than that of control students in both content areas.

Table B4: SES and Control Group Characteristics

Demographic Characteristic	Math		Reading	
	SES	Control	SES	Control
Female	55.2	54.6	54.6	52.1
Male	44.8	45.4	45.4	47.9
Eligible for Free/Reduced Lunch	96.5	96.5	97.1	97.1
American Indian	1.7	1.8	2.0	1.6
Asian	0.3	0.3	0.5	0.4
Hispanic	3.7	3.1	3.8	3.5
Black	77.2	77.5	79.0	79.5
White	13.2	14.5	11.8	12.7
Multi-Racial	3.8	2.8	3.0	2.4
3rd Grade	29.4	29.4	0.0	0.0
4th Grade	26.6	26.6	38.8	38.8
5th Grade	25.8	25.8	34.1	34.1
6th Grade	8.6	8.6	13.4	13.4
7th Grade	5.6	5.6	8.2	8.2
8th Grade	4.0	4.0	5.4	5.4

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 (2006-07 and 2007-08) were used in the analyses for grades 4-8, independent T-Tests were conducted on pre-score (2006-07) test data to ensure the comparability of the SES and control groups on previous achievement. Similar analyses were also conducted on the Pretest scores for SES and control students for grade 3 in Math. 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 .47 to .88.

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

Provider	SES			Control		t	p	Effect Size (d)	R
	N	M	SD	M	SD				
Academics Plus, Inc.	458	334.11	13.79	334.11	13.79	0.00	1.00	0.00	0.72
Academics By Venture	77	330.01	12.27	330.01	12.27	0.00	1.00	0.00	0.76
BrainWorks Learning Center	53	338.06	15.66	338.06	15.66	0.00	1.00	0.00	0.87
Brame Institute	279	335.11	11.80	335.11	11.80	0.00	1.00	0.00	0.78
Bright Futures Learning Center	57	333.81	12.61	333.81	12.61	0.00	1.00	0.00	0.83
Communities in Schools: Brunswick County	22	328.64	11.38	328.64	11.38	0.00	1.00	0.00	0.71
Community Technology Learning Center	15	326.60	14.71	326.60	14.71	0.00	1.00	0.00	0.81
MasterMind Prep	241	338.49	13.28	338.48	13.25	0.01	1.00	0.00	0.81
North Carolina Central University	121	333.54	12.44	333.54	12.44	0.00	1.00	0.00	0.78
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	123	334.27	13.34	334.27	13.34	0.00	1.00	0.00	0.74
Sylvan Ace It Henderson and Roanoke Rapids	48	338.92	12.65	338.92	12.65	0.00	1.00	0.00	0.88
Sylvan Learning Center Hickory	25	345.40	10.28	345.40	10.28	0.00	1.00	0.00	0.76
Sylvan Learning Center Mount Airy	19	337.74	10.21	337.74	10.21	0.00	1.00	0.00	0.70
Achieve Success Tutoring	179	336.47	13.59	336.47	13.59	0.00	1.00	0.00	0.79
Capitol Education Support	69	333.61	10.69	333.61	10.69	0.00	1.00	0.00	0.73
Carter Reddy and Associates	16	331.63	11.93	331.63	11.93	0.00	1.00	0.00	0.82
Cool Kids Learn, Inc.	22	330.59	11.30	330.59	11.30	0.00	1.00	0.00	0.78
East Carolina Educational Center	13	327.46	13.28	327.46	13.28	0.00	1.00	0.00	0.76
I Can Kids, Inc	47	320.11	7.96	320.11	7.96	0.00	1.00	0.00	0.72
Measurement, Inc.	18	337.22	7.18	337.22	7.18	0.00	1.00	0.00	0.66
S & L Consultants	39	341.41	10.82	341.41	10.82	0.00	1.00	0.00	0.80
Sylvan Learning Center Charlotte	77	342.26	12.27	342.26	12.27	0.00	1.00	0.00	0.80
Sylvan Learning Center Ace It! Clinton	39	337.18	12.15	337.18	12.15	0.00	1.00	0.00	0.80
Sylvan Learning Center Ace It! Elizabeth City	66	334.27	9.86	334.27	9.86	0.00	1.00	0.00	0.68
Sylvan Learning Center Ace It! Lumberton	94	338.74	12.41	338.74	12.41	0.00	1.00	0.00	0.80
Sylvan Learning Center Ace It! Whiteville	22	344.18	8.45	344.18	8.45	0.00	1.00	0.00	0.80
TCAL Center for Accelerated Learning	36	339.06	10.68	339.06	10.68	0.00	1.00	0.00	0.80
TRAC Enrichment Center, Inc.	15	331.87	11.13	331.87	11.13	0.00	1.00	0.00	0.77

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

Provider	SES			Control		t	p	Effect Size (d)	R
	N	M	SD	M	SD				
Academics Plus, Inc.	305	245.91	8.35	245.91	8.35	0.00	1.00	0.00	0.75
Academics By Venture	37	247.59	7.53	247.59	7.53	0.00	1.00	0.00	0.77
BrainWorks Learning Center	18	246.56	9.06	246.56	9.06	0.00	1.00	0.00	0.85
Brame Institute	209	245.38	7.84	245.38	7.84	0.00	1.00	0.00	0.76
Bright Futures Learning Center	145	245.89	8.26	245.89	8.26	0.00	1.00	0.00	0.76
Education Station	88	247.69	6.81	247.69	6.81	0.00	1.00	0.00	0.72
Failure Free Reading	19	250.47	7.11	250.47	7.11	0.00	1.00	0.00	0.74
It's Simply English	28	243.82	6.63	243.82	6.63	0.00	1.00	0.00	0.47
MasterMind Prep	247	247.58	8.65	247.58	8.65	0.00	1.00	0.00	0.81
North Carolina Central University	84	246.96	8.29	246.96	8.29	0.00	1.00	0.00	0.76
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	64	246.63	8.75	246.63	8.75	0.00	1.00	0.00	0.67
Sylvan Ace It Henderson and Roanoke Rapids	47	245.00	8.44	245.00	8.44	0.00	1.00	0.00	0.72
Sylvan Learning Center Hickory	10	250.00	8.55	250.00	8.55	0.00	1.00	0.00	0.81
Sylvan Learning Center Mount Airy	11	245.45	8.80	245.45	8.80	0.00	1.00	0.00	0.80
Achieve Success Tutoring	99	247.11	8.14	247.11	8.14	0.00	1.00	0.00	0.77
Capitol Education Support	41	242.20	8.06	242.24	7.91	-0.03	0.98	-0.01	0.58
Carter Reddy and Associates	12	242.58	6.67	242.58	6.67	0.00	1.00	0.00	0.48
Cool Kids Learn, Inc.	49	245.96	8.69	245.96	8.69	0.00	1.00	0.00	0.76
Measurement, Inc.	18	245.94	8.52	245.94	8.52	0.00	1.00	0.00	0.77
Sylvan Learning Center Charlotte	125	248.45	8.77	248.45	8.77	0.00	1.00	0.00	0.78
Sylvan Learning Center Ace It! Clinton	57	248.74	7.41	248.74	7.41	0.00	1.00	0.00	0.77
Sylvan Learning Center Ace It! Elizabeth City	103	246.91	7.97	246.91	7.97	0.00	1.00	0.00	0.78
Sylvan Learning Center Ace It! Lumberton	71	245.69	8.16	245.69	8.16	0.00	1.00	0.00	0.71
Sylvan Learning Center Ace It! Whiteville	19	250.68	7.87	250.68	7.87	0.00	1.00	0.00	0.78
TCAL Center for Accelerated Learning	54	246.57	8.62	246.63	8.50	-0.03	0.97	-0.01	0.81
TRAC Enrichment Center, Inc.	11	244.45	6.53	244.45	6.53	0.00	1.00	0.00	0.64

To control (or adjust the means) for influences on 2007-08 test scores other than SES participation (i.e., prior achievement), an analysis of covariance (ANCOVA) statistical procedure was employed. Cohen's d effect size is also provided as an indication of the difference in achievement between groups. For unadjusted means, Cohen's d was computed as the mean difference of achievement scale scores (SES-control) divided by the pooled standard deviation. For adjusted means, the effect size was computed as the mean difference of adjusted achievement scale scores (SES_{adj}-control_{adj}) divided by the pooled standard error. Each effect size (or d) indicates the number of standard deviations by which the SES mean differs from the control group mean. 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 2007-08 adjusted mean scale scores between the SES and control group for Communities in Schools: Brunswick County, after controlling for prior year achievement. SES student's adjusted mean (338.82) was significantly lower than the control group's adjusted mean (344.50), with a large negative adjusted effect size (-1.01) that favored control students. No other statistically significant differences for Math providers for students in grades 3-8 were found.

Table C3: Math ANCOVA Outcomes by Provider

Provider	SES			Control			t	p	Effect Size (d)	R
	N	M	SD	M	SD					
Academics Plus, Inc.	458	334.11	13.79	334.11	13.79	0.00	1.00	0.00	0.72	
Academics By Venture	77	330.01	12.27	330.01	12.27	0.00	1.00	0.00	0.76	
BrainWorks Learning Center	53	338.06	15.66	338.06	15.66	0.00	1.00	0.00	0.87	
Brame Institute	279	335.11	11.80	335.11	11.80	0.00	1.00	0.00	0.78	
Bright Futures Learning Center	57	333.81	12.61	333.81	12.61	0.00	1.00	0.00	0.83	
Communities in Schools: Brunswick County	22	328.64	11.38	328.64	11.38	0.00	1.00	0.00	0.71	
Community Technology Learning Center	15	326.60	14.71	326.60	14.71	0.00	1.00	0.00	0.81	
MasterMind Prep	241	338.49	13.28	338.48	13.25	0.01	1.00	0.00	0.81	
North Carolina Central University	121	333.54	12.44	333.54	12.44	0.00	1.00	0.00	0.78	
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	123	334.27	13.34	334.27	13.34	0.00	1.00	0.00	0.74	
Sylvan Ace It Henderson and Roanoke Rapids	48	338.92	12.65	338.92	12.65	0.00	1.00	0.00	0.88	
Sylvan Learning Center Hickory	25	345.40	10.28	345.40	10.28	0.00	1.00	0.00	0.76	
Sylvan Learning Center Mount Airy	19	337.74	10.21	337.74	10.21	0.00	1.00	0.00	0.70	
Achieve Success Tutoring	179	336.47	13.59	336.47	13.59	0.00	1.00	0.00	0.79	
Capitol Education Support	69	333.61	10.69	333.61	10.69	0.00	1.00	0.00	0.73	
Carter Reddy and Associates	16	331.63	11.93	331.63	11.93	0.00	1.00	0.00	0.82	
Cool Kids Learn, Inc.	22	330.59	11.30	330.59	11.30	0.00	1.00	0.00	0.78	
East Carolina Educational Center	13	327.46	13.28	327.46	13.28	0.00	1.00	0.00	0.76	
I Can Kids, Inc	47	320.11	7.96	320.11	7.96	0.00	1.00	0.00	0.72	
Measurement, Inc.	18	337.22	7.18	337.22	7.18	0.00	1.00	0.00	0.66	
S & L Consultants	39	341.41	10.82	341.41	10.82	0.00	1.00	0.00	0.80	
Sylvan Learning Center Charlotte	77	342.26	12.27	342.26	12.27	0.00	1.00	0.00	0.80	
Sylvan Learning Center Ace It! Clinton	39	337.18	12.15	337.18	12.15	0.00	1.00	0.00	0.80	
Sylvan Learning Center Ace It! Elizabeth City	66	334.27	9.86	334.27	9.86	0.00	1.00	0.00	0.68	

Table C3 (Cont.): Math ANCOVA Outcomes by Provider

Provider	N	SES		Control		t	p	Effect Size (d)	R
		M	SD	M	SD				
Sylvan Learning Center Ace It! Lumberton	94	338.74	12.41	338.74	12.41	0.00	1.00	0.00	0.80
Sylvan Learning Center Ace It! Whiteville	22	344.18	8.45	344.18	8.45	0.00	1.00	0.00	0.80
TCAL Center for Accelerated Learning	36	339.06	10.68	339.06	10.68	0.00	1.00	0.00	0.80
TRAC Enrichment Center, Inc.	15	331.87	11.13	331.87	11.13	0.00	1.00	0.00	0.77

Adjusted effect sizes (Cohen's *d*) ranged from -1.01, a large negative effect to +0.39, a small positive effect (see Table C4). For the remaining 27 Math providers who did not have significantly different means for SES and control group students, 5 had small positive effects and 8 had negligible positive effects (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, 1 had a small negative effect, and 11 had negligible negative effects. Negative effects indicate a negative trend in that SES group adjusted means were slightly lower than control group means. One provider had no effect, indicating that the adjusted group means were almost identical for SES and control groups. For the full group of 28 Math providers, 46.4% (N=13) had positive adjusted effect sizes, 50% (N=14) had negative adjusted effect sizes, and 3.6% (N=1) had no difference in the adjusted effect size. See Table C7 for a summary of the provider level outcomes.

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

Provider	N	Adj. Effect Size (<i>d</i>)	Relative Size of Cohen's <i>d</i>
Communities in Schools: Brunswick County	22	-1.01	Large Negative Effect
Sylvan Learning Center Mount Airy	19	-0.41	Medium Negative Effect
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	123	-0.22	Small Negative Effect
Measurement, Inc.	18	-0.13	Negligible Negative Effect
Sylvan Ace It Henderson and Roanoke Rapids	48	-0.12	Negligible Negative Effect
BrainWorks Learning Center	53	-0.09	Negligible Negative Effect
Capitol Education Support	69	-0.09	Negligible Negative Effect
Sylvan Learning Center Ace It! Whiteville	22	-0.08	Negligible Negative Effect
Academics By Venture	77	-0.06	Negligible Negative Effect
MasterMind Prep	241	-0.06	Negligible Negative Effect
Bright Futures Learning Center	57	-0.05	Negligible Negative Effect
Carter Reddy and Associates	16	-0.04	Negligible Negative Effect
Academics Plus, Inc.	458	-0.03	Negligible Negative Effect
I Can Kids, Inc	47	-0.02	Negligible Negative Effect
Achieve Success Tutoring	179	0.00	No Effect
Cool Kids Learn, Inc.	22	0.01	Negligible Positive Effect
Sylvan Learning Center Ace It! Lumberton	94	0.01	Negligible Positive Effect
Sylvan Learning Center Charlotte	77	0.05	Negligible Positive Effect
East Carolina Educational Center	13	0.06	Negligible Positive Effect
TRAC Enrichment Center, Inc.	15	0.06	Negligible Positive Effect
Brame Institute	279	0.08	Negligible Positive Effect
S & L Consultants	39	0.09	Negligible Positive Effect
Sylvan Learning Center Ace It! Elizabeth City	66	0.14	Negligible Positive Effect
Community Technology Learning Center	15	0.19	Small Positive Effect
TCAL Center for Accelerated Learning	36	0.21	Small Positive Effect
North Carolina Central University	121	0.22	Small Positive Effect
Sylvan Learning Center Ace It! Clinton	39	0.36	Small Positive Effect
Sylvan Learning Center Hickory	25	0.39	Small Positive Effect

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

The ANCOVA revealed a significant difference in 2007-08 adjusted mean scale scores between the SES and control group for MasterMind Prep, after controlling for prior year achievement. SES student's adjusted mean (342.94) was significantly lower than the control group's adjusted mean (344.16), with a small negative adjusted effect size (-0.24) that favored control students. No other statistically significant differences for SES Reading providers for students in grades 4-8 were found.

Table C5: Reading ANCOVA Outcomes by Provider

Provider	SES Students			Control Students			F	p	Effect Size (d)	Adj. Effect Size (d)	
	N	M	SD	Adj. M	M	SD					Adj. M
Academics Plus, Inc.	305	341.29	8.45	341.29	341.79	8.80	341.79	1.164	0.281	-0.06	-0.09
Academics By Venture	37	343.54	7.82	343.54	341.97	8.84	341.97	1.584	0.212	0.19	0.30
BrainWorks Learning Center	18	342.61	8.88	342.61	342.44	11.36	342.44	0.008	0.928	0.02	0.03
Brame Institute	209	341.10	7.65	341.10	341.43	8.38	341.43	0.399	0.528	-0.04	-0.06
Bright Futures Learning Center	145	341.24	8.08	341.24	341.88	8.69	341.88	0.996	0.319	-0.08	-0.12
Education Station	88	343.92	8.72	343.92	343.14	7.96	343.14	0.813	0.368	-0.09	0.14
Failure Free Reading	19	346.05	9.12	346.05	344.47	8.17	344.47	0.694	0.411	-0.19	0.28
It's Simply English	28	339.14	6.65	339.14	340.96	5.79	340.96	1.518	0.223	-0.30	-0.34
MasterMind Prep	247	342.94	8.91	342.94	344.16	9.00	344.16	6.834	.009*	-0.14	-0.24
North Carolina Central University	84	341.74	8.99	341.74	342.48	9.60	342.48	0.631	0.428	0.08	-0.12
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	64	341.69	14.01	341.69	342.70	9.41	342.70	0.415	0.521	-0.09	-0.11
Sylvan Ace It Henderson and Roanoke Rapids	47	339.36	8.50	339.36	340.43	7.95	340.43	0.810	0.371	-0.13	-0.19
Sylvan Learning Center Hickory	10	343.10	10.44	343.10	343.80	9.96	343.80	0.064	0.803	-0.07	-0.12
Sylvan Learning Center Mount Airy	11	343.64	8.30	343.64	344.27	9.76	344.27	0.073	0.790	-0.07	-0.12
Achieve Success Tutoring	99	342.01	9.55	342.01	342.86	8.87	342.86	1.031	0.311	-0.09	-0.15
Capitol Education Support	41	337.66	8.24	337.67	339.46	8.76	339.45	1.330	0.252	-0.21	-0.26
Carter Reddy and Associates	12	338.42	6.53	338.42	337.75	9.10	337.75	0.053	0.820	0.09	0.10
Cool Kids Learn, Inc.	49	342.67	8.71	342.67	342.16	8.70	342.16	0.194	0.661	0.06	0.09
Measurement, Inc.	18	342.28	8.75	342.28	341.89	8.78	341.89	0.043	0.837	0.05	0.07
Sylvan Learning Center Charlotte	125	344.90	8.41	344.90	344.30	9.72	344.30	0.700	0.404	0.07	0.11
Sylvan Learning Center Ace It! Clinton	57	343.02	9.25	343.02	344.18	8.64	344.18	1.147	0.287	-0.13	-0.20
Sylvan Learning Center Ace It! Elizabeth City	103	341.73	8.76	341.73	342.30	7.73	342.30	0.641	0.424	-0.07	-0.11
Sylvan Learning Center Ace It! Lumberton	71	341.45	7.88	341.45	341.13	9.00	341.13	0.104	0.748	0.04	0.05
Sylvan Learning Center Ace It! Whiteville	19	348.00	6.82	348.00	348.00	7.77	348.00	0.000	1.000	0.00	0.00
TCAL Center for Accelerated Learning	54	342.78	9.29	342.80	342.85	9.67	342.83	0.001	0.982	-0.01	0.00
TRAC Enrichment Center, Inc.	11	339.45	4.78	339.46	340.64	9.70	340.64	0.212	0.650	-0.16	-0.21

*Significant at p < .05

Adjusted effect sizes (Cohen's *d*) ranged from -0.34, a small negative effect to +0.30, a small positive effect. For the remaining 25 SES Reading providers who did not have significantly different means for SES and control group students, 2 had small positive effects, and 7 had negligible positive effects (see Table C6). 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, 6 providers had small negative effects, and 8 had negligible negative effects. Negative effects indicate a negative trend in that SES group adjusted means were slightly lower than control group means. An additional 2 providers evidenced no difference between SES and control adjusted group means. For the full group of 26 Reading providers, 34.6% (N=9) had positive adjusted effect sizes, 57.7% (N=15) had negative adjusted effect sizes and 7.7% (N=2) had no difference in the adjusted effect size. See Table C7 for a summary of the provider level outcomes.

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

Provider	N	Adj. Effect Size (<i>d</i>)	Relative Size of Cohen's <i>d</i>
It's Simply English	28	-0.34	Small Negative Effect
Capitol Education Support	41	-0.26	Small Negative Effect
MasterMind Prep	247	-0.24	Small Negative Effect
TRAC Enrichment Center, Inc.	11	-0.21	Small Negative Effect
Sylvan Learning Center Ace It! Clinton	57	-0.20	Small Negative Effect
Sylvan Ace It Henderson and Roanoke Rapids	47	-0.19	Small Negative Effect
Achieve Success Tutoring	99	-0.15	Small Negative Effect
Bright Futures Learning Center	145	-0.12	Negligible Negative Effect
North Carolina Central University	84	-0.12	Negligible Negative Effect
Sylvan Learning Center Hickory	10	-0.12	Negligible Negative Effect
Sylvan Learning Center Mount Airy	11	-0.12	Negligible Negative Effect
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern	64	-0.11	Negligible Negative Effect
Sylvan Learning Center Ace It! Elizabeth City	103	-0.11	Negligible Negative Effect
Academics Plus, Inc.	305	-0.09	Negligible Negative Effect
Brame Institute	209	-0.06	Negligible Negative Effect
Sylvan Learning Center Ace It! Whiteville	19	0.00	No Effect
TCAL Center for Accelerated Learning	54	0.00	No Effect
BrainWorks Learning Center	18	0.03	Negligible Positive Effect
Sylvan Learning Center Ace It! Lumberton	71	0.05	Negligible Positive Effect
Measurement, Inc.	18	0.07	Negligible Positive Effect
Cool Kids Learn, Inc.	49	0.09	Negligible Positive Effect
Carter Reddy and Associates	12	0.10	Negligible Positive Effect
Sylvan Learning Center Charlotte	125	0.11	Negligible Positive Effect
Education Station	88	0.14	Negligible Positive Effect
Failure Free Reading	19	0.28	Small Positive Effect
Academics By Venture	37	0.30	Small Positive Effect

Table C7: Summary of Provider-Level Analysis Findings

Provider	Math	Reading
Academics Plus, Inc.		
Academics By Venture		
Brainfuse		
BrainWorks Learning Center		
Brame Institute		
Bright Futures Learning Center		
Bright Sky Learning		
Community Education Durham Public Schools		
Communities in Schools: Brunswick County		
Community Technology Learning Center		
Education Station		
Failure Free Reading	NA	
It's Simply English		
MasterMind Prep		
North Carolina Central University		
Prime Time for Kids		
Southridge Learning Center		
Sylvan Ace It Greenville, Washington, Kinston, Jacksonville, New Bern		
Sylvan Ace It Henderson and Roanoke Rapids		
Sylvan Learning Center Charlotte University		
Sylvan Learning Center Hickory		
Sylvan Learning Center Mount Airy		
A to Z In Home Tutoring		
Achieve Success Tutoring		
Beaufort County 21st Century Community Learning Center		
Capitol Education Support		
Carter Reddy and Associates		
Cool Kids Learn, Inc.		
East Carolina Educational Center		
Glosso Speech Language and Education Services, Inc.		
I Can Kids, Inc		
Measurement, Inc.		
RICCE, Inc.	NA	
S & L Consultants		
Sylvan Learning Center		
Sylvan Learning Center Charlotte		
Sylvan Learning Center Ace It! Clinton		
Sylvan Learning Center Ace It! Elizabeth City		

Table C7 (Cont.): Summary of Provider-Level Analysis Findings

Provider	Math	Reading
Sylvan Learning Center Ace It! Lumberton	Yellow	Yellow
Sylvan Learning Center Ace It! Onslow County	Blue	NA
Sylvan Learning Center Ace It! Whiteville	Yellow	Yellow
TCAL Center for Accelerated Learning	Yellow	Yellow
UCPS/21st CCLC/TEAM/FROGS	Blue	Grey
TRAC Enrichment Center, Inc.	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