

Running Head: SUPPLEMENTAL EDUCATIONAL SERVICES

Implementation and Outcomes of Supplemental Educational Services:
The 2007-2008 Tennessee State-Wide Evaluation Study

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Abstract

Supplemental Educational Services (SES) is a component of the *Elementary and Secondary Education Act (ESEA)*, as reauthorized by the *No Child Left Behind Act (NCLB)*, and is designed to provide extra academic assistance for eligible children. Students are eligible to receive SES if they are from low-income families and attend Title I schools in their second year of school improvement (i.e., have not made adequate yearly progress or “AYP” for three or more years), in corrective action, or in restructuring status. The present research evaluated SES in Tennessee to determine the: (a) impacts on student achievement and (b) perceptions of SES implementation and outcomes by district coordinators, principals/site coordinators, teachers and parents. Using value-added methodology, statistical analyses of achievement data controlled for both student ability and teacher effects in two alternative models. Principals/site coordinators were more positive than both district coordinators and teachers, but responding parents were by far the most positive respondent group. Achievement results from both analytical models yielded mostly small and nonsignificant provider effects. The implications of the findings for evaluating SES are discussed with regard to both research and policy issues.

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Supplemental Educational Services (SES) is a component of the *Elementary and Secondary Education Act* (ESEA), as reauthorized by the *No Child Left Behind Act* (NCLB), and is designed to provide extra academic assistance for eligible children. Specifically, students are eligible to receive SES if they are from low-income families and attend Title I schools in their second year of school improvement (i.e., have not made adequate yearly progress or “AYP” for three or more years), in corrective action, or in restructuring status. The services primarily take the form of individual or small-group tutoring in Reading/Language Arts (R/LA) and/or mathematics, which must take place outside of regular school hours. Each state is responsible for approving SES providers. Approved providers indicate the districts in which they are interested in working, and the districts, in turn, assume responsibility for disseminating the listing of available providers to the families of eligible students. Concerns have been voiced about low participation rates. Nation-wide, estimates suggest that only 17% of the 3.3 million SES-eligible students participated during 2006-07 (Vernez et al., 2009). Nonetheless, it is noteworthy that about 530,000 students were served in 2006-2007 (Stullich, Abrams, Eisner, & Lee, 2009). From 2003 to 2007, the number of approved SES providers has increased more than threefold, from 887 to 3,234 (Vernez et al., 2009).

Given the extensive scope, implementation demands, and costs of SES, the need for rigorous and comprehensive evaluation is essential (Burch, Steinberg, & Donovan, 2007; Ross, Potter, & Harmon, 2006; Sunderman, 2006; Ross et al., 2009). In this regard, an additional responsibility of states, as stipulated by NCLB policies, is to evaluate provider effectiveness after two years and remove from the approved list those who fail to (a) increase students’ achievement for two consecutive years, or (b) provide services consistent with applicable federal, state, and local health, safety, and civil rights requirements.

Determining the impact of 30 or 40 hours of tutoring on a child’s academic performance is highly challenging. With a lack of funding for evaluation, personnel, and expertise, it is little wonder that most states have been slow to monitor and evaluate provider effectiveness in accord with the NCLB requirement (Asher, 2006; Burch et al., 2007; Ross et al., 2009). Notably, Tennessee has emerged as a national leader in the SES monitoring and evaluating arena, having

been one of only a handful of states to initiate a comprehensive mixed-methods evaluation as early as 2003-04 (Potter, Ross, & McDonald, 2005) and continuing in each successive school year. In the 2003-04 and 2004-05 studies, multiple linear regression (MLR) analyses, controlling for prior-year achievement and selected student demographics (e.g., free or reduced-price lunch, gender, ethnicity), were conducted to compare SES-tutored and non-tutored students enrolled in the districts being served. Across both years, there were 42 separate analyses of provider effectiveness in R/LA and 37 in mathematics (Potter et al., 2005; Potter, Ross, McDonald, Nunnery, & Paek, 2006). None showed statistically significant effects. Although MLR is one of the recommended and most frequently used approaches in state SES evaluations (see Ross et al., 2006, and discussion in sections to follow), the inability to control for teacher and school effects, both highly influential sources of variance in achievement (Sanders & Horn, 1995; Teddlie & Reynolds, 2000), weakens the power to detect SES impacts.

Starting in 2005-06, the rigor of the achievement analyses conducted was increased by using value-added methodology (Sanders, Wright, & Rivers, 2006), which controls for the effects on achievement scores of both student ability (prior achievement) and teacher effectiveness. The 2005-06 evaluation utilized three models, including a match-pair approach, to analyze 10 providers each in R/LA and mathematics; one provider was found to have a significant and negative impact on student achievement in R/LA and another provider was found to have a significant and negative impact on performance in mathematics (Potter et al., 2007). The 2006-07 analysis also used a matched-pair design with the value-added methodology. For mathematics, one provider was significantly and positively associated with student achievement scores, while in R/LA, another provider was significantly and negatively associated with student achievement scores (Paek et al., 2008). The focus of the present research is the 2007-08 evaluation of SES in Tennessee. In alignment with the prior SES evaluations, the current study was designed to examine: (a) impacts on student achievement by the individual providers serving students in the state, and (b) perceptions of SES implementation and outcomes by district coordinators, principals/site coordinators, teachers, and parents.

Individual tutoring has long been regarded by researchers and practitioners as one of the most effective ways of adapting instruction to individual differences in school settings (Cohen, Kulik, & Kulik, 1982; Good & Brophy, 1987; Slavin, 2006; Tingley, 2001; Wasik, 1997). Classroom teachers often face the challenge of accommodating large classes of students

functioning at many different skill levels. Reducing student-teacher ratio increases the possibility for individualized instruction. Class size reduction research has found that smaller class sizes can yield meaningful benefits for student achievement (Finn & Achilles, 1999; Glass & Smith, 1978; Nye, Hedges, & Konstantopoulos, 2000; Robinson, 1990; Robinson & Wittebols, 1986; Slavin, 1989).

Additionally, prior studies of one-on-one tutoring frequently show positive effects on achievement in restricted and controlled contexts consisting of a small number of classrooms or schools (e.g., Fuchs, Fuchs, Yazdian, & Powell, 2002; Green, Alderman, & Liechty, 2004; Ismail & Alexander, 2005; Lauer et al., 2003; Wasik, 1997). Some studies of after-school academic tutoring suggest tutoring is effective not because it results in improved academic performance, but because it prevents a decline in performance (Morrison, Storino, Robertson, Weissglass, & Dondero, 2000; Tucker et al., 1995). Evaluating the effectiveness of statewide implementations of a federally-mandated program, such as SES, presents unique challenges as the instruction is not confined across providers to a standard instructional orientation delivered by tutors having similar backgrounds or training. Rather than studying targeted interventions for a small group of students, evaluations of SES encompass multiple providers, districts, schools, and stakeholder groups, which greatly reduces the ability of the researcher to control, measure, and adjust for implementation variables (Ross et al., 2006).

Realistically, intermittent tutoring has much less potential to yield measurable effects on student achievement than would more complex and time-intensive interventions, such as comprehensive school reform (CSR) models (Correnti & Rowan, 2007; Desimone, 2002; Kidron & Darwin, 2007) and regular classroom programs in reading and math (e.g., see Slavin & Fashola, 1998). For example, Borman, Hewes, Overman, and Brown (2003) concluded from a meta-analysis of comprehensive school reform that the overall effects of the 29 most widely used models were between $d = .09$ and $d = .15$. Further, a synthesis by Borman and D'Agostino (1996) of the results from all federal evaluations of Title I programs yielded an overall effect size of only $d = .11$. In addition, an evaluation of the 21st Century Community Learning Centers Program in Louisiana by Jenner and Jenner (2007) found that the impact was an effect size of $d = 0.13$ on a combined measure of reading, math, and language test scores.

Is it reasonable to expect that 30-40 hours of tutoring (comparable in duration to about 6 extra days of school) would produce effects even that high? In the case of SES evaluations, the

potential impacts of treatment are likely to be attenuated further from the contamination produced by multiple extraneous variables (e.g., regular school programs and curricula, teacher effects, other after-school programs) and their lack of sensitivity for measuring incremental or specific types of learning growth, particularly when state achievement tests are used as the outcome measure (Linn & Miller, 2005; Schaps, 2007). Not surprisingly, prior evaluation studies of SES (McKay, Paek, Harrison, Zoblotsky, et al., 2008; Muñoz et al., 2007; Nunnery 2008a, 2008b; Pribesh & Nunnery, 2007; Zoblotsky & Huang, 2008) have obtained mostly nonsignificant and small provider effects on student achievement. The most positive findings come from a recent national study (Zimmer, Gill, Razquin, Booker, & Lockwood, 2007) in which participation in Supplemental Educational Services across seven school districts had a small but significant positive effect ($d = .08$ to $.09$) on students' achievement in reading and math. Students participating for multiple years experienced larger gains. Interpretation of these effects as a benchmark for expected SES impacts should be made cautiously, however, given that (a) the comparison students in the study, while analytically equated via the multiple regression models used, appeared to represent a higher-performing population than SES participants; (b) no qualitative or descriptive data were collected on the nature or quality of tutoring interventions; and (c) analyses aggregated data from students serviced by multiple providers.

Given the above considerations, the rationale for the present study and its methodology is based on several assumptions. First, it remains an open and critically important question, both scientifically and educationally, as to whether SES programs in individual states and nationally are positively impacting student achievement. Even if the true effect sizes of SES are small, they should be measurable over time, as sample sizes and statistical power increase (e.g., see Zimmer et al., 2007). Therefore, each new study adds to existing data for a particular provider and context (e.g., state or school district) and the potential for making valid conclusions about provider effectiveness. Second, because state-mandated achievement assessments are presently the basis for evaluating schools under NCLB and requiring them to offer SES, it is logical to examine what, if any, impacts of the tutoring experiences are demonstrated on such measures. However, the absence of conclusive student achievement evidence would not necessarily indicate that the tutoring experiences are ineffective in engendering educational benefits for other types of learning or psychosocial development. Third, because the measurement of SES effects is challenging for the reasons previously described, it is important to explore analytical methods

that potentially provide increased power and precision. Fourth, use of a mixed-method design (Chatterji, 2005; Johnson & Onwuegbuzie, 2004) can provide insights into how SES was implemented by providers and a basis for interpreting student achievement outcomes.

Because it is not feasible to randomly assign students to SES and non-SES treatments given the central NCLB requirement of offering parental choice, researchers have struggled with selecting and implementing suitably rigorous quasi-experimental designs. Most frequently used are multiple regression-type designs, which examine student achievement controlling for prior achievement, SES participation, and other student variables; and matched-pair designs that contrast achievement outcomes for highly similar SES students and matched counterparts. In the present study, the SAS EVAAS (Educational Value-Added Assessment System) methodology and databases, which constitute core components of the Tennessee Comprehensive Assessment Program (TCAP), were used for analyzing provider effects in a highly rigorous manner. Specifically, linkages to teacher effects data permitted this major source of variance in student achievement to be controlled statistically by the analytical model. Further, to provide a reliability sub-study, our research design also included a matched-pair analysis. Thus, research questions addressed (a) the effects of provider services on student achievement, and (b) perceptions of district and school SES coordinators, parents, and teachers regarding the benefits and implementation of the tutoring services.

Method

Overall Design

Two complementary studies were conducted to address the research questions. The first study examined how students served by SES providers performed, compared to other students in their schools and grade levels, in terms of R/LA and mathematics. As will be described below, two statistical analysis models were employed: (a) one taking into account students' prior achievement and accounting for teacher effects so that the provider or tutoring effect was estimated free of the teacher effect and (b) a second model matching similar SES and control students within the same classroom (teacher). The basic design for the second study consisted of surveying the following groups of respondents: (a) the state SES coordinator, (b) district SES coordinators, (c) principals/site coordinators in participating SES schools, (d) teachers of students receiving SES, (e) parents of students receiving SES, and (f) SES providers.

Achievement Study

Achievement measure and sampling. The Tennessee Comprehensive Assessment Program (TCAP) is a criterion-referenced multiple-choice test (CRT) administered each spring. The test is mandated by the State of Tennessee for assessing AYP in the subjects of Reading/Language Arts (R/LA) and mathematics, in Grades 3-8, in compliance with NCLB policies. For the present achievement analyses, respective end-of-year 2008 TCAP scale scores in each subject (measured in state units) were modeled as a function of a student's predicted score based on two years of previous test scores, the student's grade level, the service provider, and the teacher (Sanders, Wright, & Rivers, 2006). Because this model used predicted scores based on prior TCAP achievement (first available in Grade 3), only data from Grades 4-8 could be modeled. There also were data for some SES students in Grades 9-12, but the sample sizes by provider were much too small to support valid inferences.

The model also restricted the analysis to students (a) having teacher linkages where there is a primary teacher of record with a "claim percentage" (i.e., responsibility) for at least 50% of the student's allocated instruction in the tested subjects (b) having predicted scores (some students may not have sufficient prior scores to provide a predicted score), and (c) receiving tutoring from a provider with at least 10 students analyzed in grades 4-8. The requirement of a minimum of 10 students total (i.e., across all school districts) was to ensure that a sufficient number of students were in the analysis so as to provide a reliable estimate for a provider.

Based on prior studies (see Ross et al., 2009) parameters were used for selecting SES students to be included in the analysis and SES providers to be included in the student achievement evaluation. The parameters established for students excluded all students who had completed less than 50% of their contracted hours or completed more than 100% of their contracted hours, were special education (SPED), or were limited English proficient (LEP). Students receiving a low tutoring dosage have little chance of showing effects, and students whose records reflected tutoring dosage over 100% of their contracted hours were considered to be inaccurate and were thus omitted from the analysis. SPED and LEP students have unique needs and characteristics that preclude valid matching to non-SES students. In the 2007-2008 school year, data for 3,638 students receiving tutoring in math, R/LA, or both subjects were obtained. Due to the nature of the analyses, many of these students were not able to be included in the assessment. The exclusion criteria described in the preceding paragraph eliminated a large

number of students from the analyses. In addition, to be eligible for the assessment analyses, a student needed to be in grades 4-8, have a TCAP score in the subject tutored, have a teacher linkage, and have at least three prior TCAP scores in the previous two years. The exclusion process went as follows. First, 62 students were removed due to a missing provider, multiple providers, duplicate records, or invalid tutoring subject (subject was not math or R/LA). Next, students were removed based on SPED status (405 students), LEP status (781 students), amount of tutoring was less than 50% of the contracted time (1166 students), or tutoring occurred more than 100% of the contracted time (706 students). Finally, students who were not found in the Tennessee TCAP database were removed. Note that these exclusions were done simultaneously as a student may be flagged for exclusion due to meeting any one of the exclusion criteria. After applying the above criteria, a total of 547 students were eligible to be used in the analysis. Once the student dataset was established, determination was made regarding whether the student had a TCAP score in the appropriate subject, an existing teacher linkage, and at least three prior scores. These processes left 248 students for the math analysis and 335 students for the reading analysis.

During the 2007-2008 school year, five districts/local educational agencies (LEAs) in Tennessee offered Supplemental Educational Services. Within these districts, 54 Title I schools were designated SES-eligible, based on the fact that they were in their second year of school improvement (i.e., have not made adequate yearly progress or “AYP” for three or more years), in corrective action, or in restructuring status. For the 2007-2008 evaluation, LEAs offering SES in Tennessee provided the records of the students in their districts who received SES. Due to requirements for student data to be included in the analyses, several providers were eliminated from the achievement analyses because the students they tutored were not able to be included.

Analysis models. In the 2007-08 school year, two out of the five school districts (i.e. LEAs) offering SES in Tennessee had sufficient numbers of students (after our application of the exclusion parameters) to be included in this study: Davidson County (Metro-Nashville) and Memphis City Schools. For each district, schools that had tutored students in 2007-08 were identified. The test data (2006-2008) for the students attending these schools were then extracted from the database. Students are tested each year in four subjects: math, R/LA, science, and social studies. Therefore, most students had either 4 or 8 historical scores for use as predictors for the current analyses of math and R/LA achievement. The tutoring information was then merged with the student data, and each student was matched with the 2007-08 teacher of record.

Teacher matches were maintained for the primary teacher; that is, when the teacher claimed responsibility for at least 50% of the student's instruction in the tested subjects.

For analyses purposes, a predicted score was calculated for each student. The predicted score takes into account the prior achievement of the student using the previous two years of test data in the four tested subjects. These predicted scores are derived from SAS EVAAS methodology (Sanders et al., 2006). The prediction parameters were developed using all students at the schools in each district that had tutored students. The predicted score is, therefore, what the student would be expected to score on the 2007-08 math or R/LA tests assuming that the student had the "average schooling experience" within the subset of district schools having tutored students. The outcome measure used was Normal Curve Equivalent (NCE) scores. Provider effects are represented as "estimated" differences between the tutored (SES) and non-tutored comparison students in NCE units.

A model using a matched-pair approach was fitted. Each block (pair) used in the model consisted of a tutored student and a non-tutored student. The matched counterpart for each tutored student was the non-tutored student having the closest predicted scores (within a 10-unit maximum difference) in the same classroom (i.e., taught by the same teacher). Note that it was not possible to find a match for each tutored student. This limitation was due to missing teachers, clustering of tutored students with no non-tutored classmates, or simply not finding a suitable match (i.e., greater than a 10-unit difference in predicted scores).

Two types of models were fitted to these data. In all models, only students with predicted scores and teacher linkages from the set of providers with at least 10 tutored students were used. Each model was fitted separately with individual providers and with a tutoring indicator. The models with a tutoring indicator were used to assess the overall difference between a tutored student and non-tutored student. This effect represents an average effect of the providers.

1. Model 1: Fixed effects were predicted score, grade, and provider or tutoring indicator. Teacher nested within grade was used in the model as a random effect. This model accounted for the teacher effect so that the provider effect was estimated free of the teacher effect.

$$\text{Score} = \text{predicted_score} + \text{grade} + \text{provider} + \text{teacher}(\text{grade}).$$

2. Model 2: Fixed effects were grade and provider indicator. Block, nested within grade, was used as a random effect. Each block consists of a pair of students, one receiving tutoring and one not receiving tutoring, matched within the classroom (teacher) by the nearest classmate using the predicted score. This model estimates the provider, or tutoring, effect free of the teacher effect.

$$\text{Score} = \text{grade} + \text{provider/tutored} + \text{block}(\text{grade}).$$

Implementation and Participant Satisfaction Analyses

Six survey instruments were used, one for each stakeholder group: (1) SES state coordinator, (2) district coordinators in participating SES districts/counties, (3) principals or SES coordinators in participating SES schools, (4) teachers of students receiving SES, (5) parents of students receiving SES, and (6) SES providers. The questionnaires used in this study were adapted from those originally developed by Ross, Potter, and Harmon (2006) and field-tested and validated in the SES evaluations conducted in Tennessee (Potter et al., 2005; 2006), and Louisiana (Potter et al., 2006). The 2007-2008 was the first year state coordinators surveys used in the evaluation. All surveys contained a common core set of questions for all groups (e.g., experiences with SES and providers) to facilitate triangulation of findings. All respondent groups, with the exception of parents, were surveyed using an on-line questionnaire. Parents received a paper survey. The instruments are briefly described below.

The State of Tennessee, Supplemental Educational Services State Coordinator Questionnaire. The state coordinator survey contained one question asking the respondent to select the activities that occurred as part of the SES implementation process during the 2007-2008 school year, and two Likert-type questions asking the about the state coordinator's satisfaction with level of cooperation and involvement from providers and district coordinators (Paek, McKay, McDonald & Ross, 2008a).

The State of Tennessee Supplemental Educational Services District Coordinator Questionnaire. This questionnaire was used to assess the perceptions of SES provider services by the district SES coordinators or LEAs (Paek, McKay, McDonald & Ross, 2008b). The questionnaire contained 13 Likert-type items evaluating providers in areas such as communication, adherence to federal and local laws, ability to serve both special education and

English Language Learner students, and overall satisfaction. In addition, two questions addressed perceptions on state implementation and assistance. An open-ended comment section was also included.

The State of Tennessee, Supplemental Educational Services Principal/Site Coordinator Questionnaire. This questionnaire was used to assess the perceptions of SES by the *school leader* most familiar with the SES services provided at the school (Paek, McKay, McDonald & Ross, 2008c). It contained 11 Likert-type items dealing with provider communications, coordination of services with classroom instruction, and other key aspects of tutoring activities and their associated benefits for students. An open-ended comment section was also provided.

The State of Tennessee, Supplemental Educational Services Teacher Questionnaire. Similar to the principal/site coordinator questionnaire, this instrument contained 11 Likert-type items, with wording changes to reflect the different respondent group targeted (Paek, McKay, McDonald & Ross, 2008d).

The State of Tennessee, Supplemental Educational Services Parent Questionnaire. This instrument was the only paper-based survey in the evaluation. It contained 7 Likert-type items on topics such as provider communication, progress reports, student achievement, and overall satisfaction with provider services (Paek, McKay, McDonald & Ross, 2008e). The survey also contained an open-ended section and 3 Likert-type questions regarding parent satisfaction with district support and communication concerning the SES program.

The State of Tennessee, Supplemental Educational Services Provider Questionnaire. The provider survey collected data about the provider's activities, services, and stakeholder participation, together with multiple opportunities for targeted comments (Paek, McKay, McDonald & Ross, 2008f). The first section of the survey instrument contained 8 questions asking respondents to describe aspects of their tutoring services. The second section included 16 Likert-type items on provider perceptions of implementation and tutoring activities. The final section asked providers to respond to 3 open-ended questions regarding their overall impressions of SES in the districts they served.

Procedure

SES provider representatives received individual email notifications containing their unique login information and instructions for completing the provider surveys. The evaluators also provided district coordinators with their online survey login information. Likewise, login

information and instructions for the online surveys were sent to district coordinators to disseminate to SES principals/site coordinators and the teachers. All personnel were instructed to complete a separate online survey for each provider currently providing services to students in their districts (district coordinators), schools (principal/site coordinators) or classes (teachers). At the school level, either the principal or the site coordinator completed the survey, depending on which had the most contact with the SES tutoring program. Each district coordinator, principal/site coordinator, or teacher survey was counted as a separate response.

Parent surveys were shipped to each district having schools expected to offer SES services, together with distribution and return instructions. Districts then dispersed parent surveys to their schools with students receiving SES services. Each parent envelope contained the survey, presented in English and Spanish, an introductory letter, and a master list of all the SES providers authorized by the state. Parents were asked to identify the provider that had tutored his/her child, and mark the provider's number on the survey. Parents were asked to return the completed survey to the school sealed in the provided envelope. Each school bundled the returned parent surveys and mailed them to CREP using postage-paid return envelopes. Comments on parent surveys were transcribed verbatim, and identifying names were removed. Spanish comments were translated into English as they were transcribed. All respondent groups were given several weeks to complete the surveys near the end of the academic year.

District coordinators from all five districts that offered SES services completed surveys. In total, 44% of the SES eligible schools ($n = 24/54$) were represented by either a principal/site coordinator or teacher survey. A slightly higher percentage of the 54 schools (56%; $n = 30/56$) had parents who responded to the paper survey. As described by Muñoz et al., (2008), return rates for the respondent groups (except for the district coordinators) were difficult to measure, due to the unknown factors of "number of students tutored" or how many teachers had SES students in their classrooms when the surveys were distributed. Therefore, the school leader, teacher, and parent responses could be biased in either a positive or negative direction, and thus were interpreted cautiously where not clearly triangulated by other data.

Results

Student Participation in Achievement Analyses

For the purpose of this study, a total of 248 students who received tutoring in math and 335 who received tutoring in Reading/Language Arts (R/LA) in Tennessee were included in the analyses. Due to the requirement of students having prior achievement scores, the analysis sample was restricted to grades 4 through 8. Descriptive results showing the frequencies of students served by different providers and having the required data for the statistical analyses of provider effectiveness are summarized in Tables 1-3. Specifically, Table 1 presents a summary of the number of students receiving tutoring in 2007-08 for Math and R/LA for grades 4-8 by district (Davidson County and Memphis City Schools). In Davidson County, there were 11 providers that tutored students in math, R/LA, or both; while in Memphis City Schools there were 13 providers.

Table 2 presents a summary of the data that were used in the analyses. To be included in the analyses, a provider was required to have tutored at least 10 students across both districts with a primary teacher linkage and a predicted score. Attrition from the Table 1 frequencies was due to the elimination of students who lacked either a predicted score or an available primary teacher linkage.

Table 3 presents a summary of the matched pairs used in Model 2, broken out by provider within district. The match rate was based on the proportion of tutored students who were successfully matched with a non-tutored student within the classroom. The match rates were fairly high, ranging from 67% to 100%, with an average of about 92% in math and 84% in R/LA.

Table 1. Summary of Students Receiving Tutoring in Tennessee in 2007-2008

Davidson County			N					Total
Provider #	Year	Subject	Grade					
			4	5	6	7	8	N
A to Z In-Home Tutoring, LLC	2008	Math		4	3	5	3	15
		Reading/Language		5	4	4	3	16
AlphaBEST	2008	Math	4					4
		Reading/Language	4					4
ATS Project Success	2008	Math			2			2
		Reading/Language			2			2
Bright Sky Learning	2008	Math	1	18	20	8	8	55
		Reading/Language	1	18	20	8	8	55
Cool Kids Learn, Inc.	2008	Math	4	9	7	1	1	22
		Reading/Language	4	9	7	1	1	22
Education Station	2008	Math				4	1	5
		Reading/Language	3	1	3	1	1	9
Huntington Learning Center	2008	Math		1				1
		Reading/Language		2	1	5		8
Kastle Instruction Recovery, LLC	2008	Math	3	8	6	3	6	26
		Reading/Language	3	8	6	3	6	26
Knowledge Points of Middle Tennessee	2008	Math		10	10	16	7	43
		Reading/Language	1	46	28	25	24	124
The Learning Zone	2008	Math		2	4		2	8
		Reading/Language		2	4	1	2	9
Success Educational Services	2008	Math		1	1	1		3
		Reading/Language		1	1	1		3

Table 1, continued

Memphis			N					Total
			Grade					
Provider #	Year	Subject	4	5	6	7	8	N
A to Z In-Home Tutoring, LLC	2008	Math	2		4	6	3	15
		Reading/Language	3	2	5	12	3	25
AlphaBEST	2008	Math	6	16				22
		Reading/Language	6	16				22
Applied Scholastics	2008	Reading/Language			1			1
Bright Sky Learning	2008	Math			1	4	2	7
		Reading/Language			1	4	2	7
Club Z! In-Home Tutoring	2008	Math			1	5	2	8
		Reading/Language		2		5	1	8
Education Station	2008	Math			5	5		10
		Reading/Language	1			5		6
Educational Enterprises	2008	Math				4	2	6
		Reading/Language				5	2	7
Learning 4 Today "I Can Do This"	2008	Math	1			1		2
		Reading/Language	1			1		2
Project Achieve: Intervention Assistance for Students	2008	Reading/Language			3	9	1	13
The Street Academy	2008	Math	19	19	3	2		43
		Reading/Language	19	19	3	2		43
Success Educational Services	2008	Math		1	9	5	11	26
		Reading/Language		2	8	5	5	20
Total Learning Center	2008	Reading/Language	2	1		1		4
X-CEL Operating Foundation	2008	Math	1		3	3	1	8
		Reading/Language	1		3	3	1	8

Table 2. Summary of Students Receiving Tutoring with Predicted Scores and Teacher Linkages

				N					Total
				Grade					
District	Provider #	Year	Subject	4	5	6	7	8	N
Davidson County	A to Z In-Home Tutoring	2008	Math		4	3	4	3	14
			Reading		4	4	2	2	12
	AlphaBEST	2008	Math	4					4
			Reading	4					4
	Bright Sky Learning	2008	Math	1	15	17	3	2	38
			Reading	1	16	17	7	5	46
	Cool Kids Learn, Inc.	2008	Math	4	7	6	1	1	19
			Reading	4	8	6	1	1	20
	Education Station	2008	Math				3	1	4
			Reading	3	1	3	1	1	9
	Kastle Instruction Recovery, LLC	2008	Math	3	5	6	2	5	21
			Reading	3	7	6	2	5	23
	Knowledge Points of Middle Tennessee	2008	Math		8	8	11	5	32
			Reading		31	24	17	20	92
Success Educational Services	2008	Math		1	1	1		3	
		Reading		1	1	1		3	
Memphis	A to Z In-Home Tutoring	2008	Math	2		4	4	3	13
			Reading	3	2	5	8	3	21
	AlphaBEST	2008	Math	5	15				20
			Reading	5	15				20
	Bright Sky Learning	2008	Math			1	4	2	7
			Reading			1	4	2	7
	Education Station	2008	Math			4	4		8
			Reading				5		5
	Project Achieve: Intervention Assistance for Students	2008	Reading			3	8	1	12
	The Street Academy	2008	Math	19	19	2	2		42
			Reading	19	19	2	2		42
	Success Educational Services	2008	Math		1	8	4	10	23
Reading				2	8	4	5	19	

Table 3. Summary of Students Used in the Matched-Pairs Analysis

District	Provider #	Year	Subject	N Total	N Matched	Pct Matched
Both Districts		2008	Math	248	228	91.9
			Reading	335	282	84.2
Davidson County	A to Z In-Home Tutoring	2008	Math	14	14	100.0
			Reading	12	12	100.0
	AlphaBEST	2008	Math	4	4	100.0
			Reading	4	4	100.0
	Bright Sky Learning	2008	Math	38	38	100.0
			Reading	46	43	93.5
	Cool Kids Learn, Inc.	2008	Math	19	16	84.2
			Reading	20	18	90.0
	Education Station	2008	Math	4	4	100.0
			Reading	9	6	66.7
	Kastle Instruction Recovery, LLC	2008	Math	21	21	100.0
			Reading	23	22	95.7
	Knowledge Points of Middle Tennessee	2008	Math	32	29	90.6
			Reading	92	67	72.8
	Success Educational Services	2008	Math	3	3	100.0
			Reading	3	3	100.0
Memphis	A to Z In-Home Tutoring	2008	Math	13	12	92.3
			Reading	21	19	90.5
	AlphaBEST	2008	Math	20	18	90.0
			Reading	20	15	75.0
	Bright Sky Learning	2008	Math	7	6	85.7
			Reading	7	7	100.0
	Education Station	2008	Math	8	8	100.0
			Reading	5	5	100.0
	Project Achieve: Intervention Assistance for Students	2008	Reading	12	11	91.7
	The Street Academy	2008	Math	42	33	78.6
			Reading	42	32	76.2
	Success Educational Services	2008	Math	23	22	95.7
Reading			19	18	94.7	

Achievement Outcomes

Interpretation of tabular data. Tables 4 and 5 present the summary of the statistical analyses for the two models for math and R/LA. The models tend to agree on the assessments. The top portion of the tables indicates, for each model, the significance of: (a) the contribution of the predictor variables to the State NCE scores, (b) differences in State NCE scores between the grade levels examined, and (c) differences in NCE scores between participating providers. Although obtaining a highly significant predictor variable effect is both desirable and expected, there was no particular interest in, or rationale for, finding differences between grade levels or providers. Such differences may occur in given years due to true effects (e.g., tutoring is more effective in certain grades or by certain providers) or to extraneous variables involving, for example, student sampling, district characteristics, or testing factors. Also, there was no interest in the present study to directly compare individual providers. The bottom portion of the tables, labeled “Variance Component Estimates,” presents estimates of the teacher variance within grades.

The Comparisons section provides the statistical comparison of each provider with the control group (the non-tutored students in the district). An effect size represents the magnitude of an experimental (or treatment) program’s impact in standard deviation units. An effect size of 0.50, for example, would indicate an average advantage of one-half standard deviation for program students compared to control students. In education, effect sizes approximating +.20 or higher are considered moderately strong to strong in impact and educationally meaningful. Given the fairly limited number of tutoring hours in SES (e.g., only 20-60 per year for the typical student), prior studies have found more modest effect sizes in the .06 to .10 range (e.g., Ross, Paek, & McKay, 2008; Zimmer et al., 2007).

Individual provider mathematics and R/LA outcomes. For math, the p -value for the provider effect was significant (Model 1: $p = 0.010$; Model 2: $p = 0.014$), meaning that there were differences among providers. More critically, the individual comparisons of providers with the control group found several significant differences. To increase the reliability of findings regarding provider effectiveness, we judged a provider to be significantly different from the control only when the comparison was significant for *both* models. For math, there were three providers that were significantly lower than the control group: A to Z In-Home Tutoring, LLC (Model 1: $p = 0.049$; Model 2: $p = 0.026$), Kastle Instruction Recovery, LLC (Model 1: $p =$

0.043; Model 2: $p = 0.022$) and Success Educational Services (Model 1: $p = 0.025$; Model 2: $p = 0.011$). There were no providers that were significantly better than the control group.

For R/LA, the p -value for the provider effect was not significant (Model 1: $p = 0.645$; Model 2: $p = 0.366$), indicating relatively stable effects across providers. The individual comparisons of providers with the control group found no significant differences for both models. In other words, no providers were significantly better or worse than the control students in both models.

Table 4. Analyses for 2007-2008 Math Grades 4-8 – Comparing Each Provider with the Control

Effect	Response Variable=Scale Score (in state NCE units)							
	Model 1				Model 2			
	Fixed Effects and Random Teacher within Grade				Random Block (pairs matched by predicted score within teacher)			
	Num DF	Den DF	F-Value	<i>p</i> -value	Num DF	Den DF	F-value	<i>p</i> -value
Predicted Score	1	9824	18668.0	0.000				
Grade	4	253	1.11	0.353	4	223	1.20	0.312
SES Provider Code	9	9824	2.40	0.010	9	219	2.38	0.014

Comparisons	Est. ¹	SE ²	<i>p</i> -value ³	Eff. Size ⁴	Est.	SE	<i>p</i> -value	Eff. Size
A to Z In-Home Tutoring, LLC vs. Control	-3.53	1.79	0.049	-0.38	-5.19	2.32	0.026	-0.57
AlphaBEST vs. Control	-1.50	2.09	0.473	-0.16	-4.42	2.47	0.075	-0.48
Bright Sky Learning vs. Control	-3.24	1.41	0.022	-0.35	-1.43	1.80	0.427	-0.16
Cool Kids Learn, Inc. vs. Control	-0.75	2.16	0.730	-0.08	-2.51	2.88	0.384	-0.28
Education Station vs. Control	0.45	2.68	0.868	0.05	-3.40	3.41	0.320	-0.37
Kastle Instruction Recovery, LLC vs. Control	-4.12	2.04	0.043	-0.45	-5.87	2.55	0.022	-0.64
Knowledge Points of Middle Tennessee vs. Control	2.72	1.70	0.111	0.30	0.34	2.20	0.877	0.04
The Street Academy vs. Control	-1.00	1.59	0.530	-0.11	-2.51	2.04	0.221	-0.27
Success Educational Services vs. Control	-4.10	1.83	0.025	-0.45	-6.13	2.40	0.011	-0.67

¹ The column labeled “Est.” contains the estimate of the provider effect: the average difference in scores between the students tutored by the provider and the non-tutored students. A positive effect means that the students tutored by the provider scored higher on average than non-tutored students. A negative effect means that the students tutored by the provider scored lower on average than non-tutored students.

² The column labeled “SE” contains the standard error of the estimate.

³ The column labeled “*p*-value” contains the statistical level of significance for the comparison. A *p*-value less than 0.05 indicates that the provider effect is significantly different from the control group.

⁴ The column labeled “Eff. Size” contains the estimate of the effect size, defined to be the effect estimate divided by the square root of the residual error.

Table 4, continued

Variance Component Estimates	Estimate	Estimate
Grade 4	30.96	52.57
Grade 5	23.50	118.10
Grade 6	18.24	145.52
Grade 7	8.69	134.61
Grade 8	12.50	256.42
Residual	83.98	83.21

Table 5. Analyses for 2007-2008 Reading/LA Grades 4-8 – Comparing Each Provider with the Control

Effect	Response Variable=Scale Score (in state NCE units)							
	Model 1				Model 2			
	Fixed Effects and Random Teacher within Grade				Random Block (pairs matched by predicted score within teacher)			
	Num DF	Den DF	F-value	p-value	Num DF	Den DF	F-value	p-value
Predicted Score	1	9979	16478.0	0.000				
Grade	4	347	0.70	0.594	4	277	7.03	0.000
SES Provider Code	10	9979	0.78	0.645	10	272	1.09	0.366

Comparisons	Est.	SE	p-value	Eff. size	Est.	SE	p-value	Eff. size
A to Z In-Home Tutoring, LLC vs. Control	-0.21	1.56	0.894	-0.02	0.55	1.86	0.766	0.07
AlphaBEST vs. Control	-0.65	1.93	0.734	-0.07	0.82	2.38	0.732	0.10
Bright Sky Learning vs. Control	-1.96	1.24	0.115	-0.22	-2.25	1.48	0.131	-0.28
Cool Kids Learn, Inc. vs. Control	1.50	2.01	0.456	0.17	0.50	2.43	0.838	0.06
Education Station vs. Control	0.43	2.41	0.857	0.05	-1.83	3.08	0.554	-0.23
Kastle Instruction Recovery, LLC vs. Control	0.74	1.86	0.691	0.08	0.66	2.21	0.765	0.08
Knowledge Points of Middle Tennessee vs. Control	0.84	0.98	0.391	0.10	1.74	1.29	0.181	0.22
Project Achieve: Intervention Assistance for Students vs. Control	1.68	2.61	0.520	0.19	-0.28	3.09	0.929	-0.03
The Street Academy vs. Control	0.00	1.46	0.999	0.00	-1.95	1.85	0.293	-0.24
Success Educational Services vs. Control	-3.41	1.91	0.074	-0.39	-4.95	2.26	0.030	-0.62

Variance Component Estimates	Estimate	Estimate
Grade 4	2.56	63.80
Grade 5	6.11	131.78
Grade 6	6.64	106.89
Grade 7	5.85	86.02
Grade 8	4.39	139.35
Residual	77.49	64.62

Overall tutoring effects. Tables 6 and 7 present the summaries of the Model 1 and Model 2 statistical analyses in math and R/LA for all providers combined. The overall test of the tutoring effect was significant for math (Model 1: $p = 0.004$; Model 2: $p < 0.001$) but not significant for R/LA (Model 1: $p = 0.735$; Model 2: $p = 0.501$).⁵ For math, the overall effects of tutoring were estimated to be -1.81 and -3.18 units in the two models. The effect sizes for math were significant, and moderate in size (-0.20 and 0.35, respectively) in both models, indicating an overall negative impact of SES tutoring on achievement. The effect sizes for R/LA were not large in either model, indicating little overall impact of SES tutoring on achievement in R/LA.

Table 6. Analyses for 2007-2008 Math Grades 4-8 – Comparing Tutored and Non-tutored Students

Response Variable=Scale Score (in state NCE units)								
Model 1					Model 2			
Fixed Effects and Random Teacher within Grade					Random Block (pairs matched by predicted score within teacher)			
Effect	Num DF	Den DF	F-value	p-value	Num DF	Den DF	F-value	p-value
Tutored	1	9832	8.34	0.004	1	227	13.71	0.000
Predicted Score	1	9832	18658.9	0.000				
Grade	4	253	1.13	0.341	4	223	1.24	0.295

Comparisons	Est.	SE	p-value	Eff. size	Est.	SE	p-value	Eff. size
Tutored vs. NonTutored	-1.81	0.63	0.004	-0.20	-3.18	0.86	0.000	-0.35

Table 7. Analyses for 2007-2008 Reading Grades 4-8 – Comparing Tutored and Non-tutored Students

Response Variable=Scale Score (in state NCE units)								
Model 1					Model 2			
Fixed Effects and Random Teacher within Grade					Random Block (pairs matched by predicted score within teacher)			
Effect	Num DF	Den DF	F-value	p-value	Num DF	Den DF	F-value	p-Value
Tutored	1	9988	0.11	0.735	1	281	0.45	0.501
Predicted Score	1	9988	16481.5	0.000				
Grade	4	347	0.69	0.599	4	277	6.83	0.000

Comparisons	Est.	SE	p-value	Eff. Size	Est.	SE	p-value	Eff. Size
Tutored vs. NonTutored	-0.18	0.52	0.735	-0.02	-0.46	0.68	0.501	-0.06

⁵ These effects are summarized in two places in Tables 6 and 7: (a) in the "tutored" row under Effect, and (b) in "tutored vs. non-tutored section" of Comparisons.

Dosage effects. Tables 8 and 9 present the summaries of the Model 1 and Model 2 statistical analyses for math and R/LA for all providers combined and a *dosage* effect based on a comparison of three conditions: control (no tutoring), low dose (attendance of 50%-75% of contracted hours), and high dose (attendance of more than 75% of contracted hours). The overall test for a dose*tutoring effect for math was significant for both models (Model 1: $p = 0.012$; Model 2: $p = 0.001$). The low dose effect was estimated to be -2.49 NCE units and was significantly less than the control ($p = .027$). The high dose effect was estimated to be -1.54 NCE units and was also significantly less than the control ($p = 0.035$). These results, while not easily explainable, reflect a pattern in which the greater the dosage of tutoring for a group, the smaller the achievement deficit relative to control students. The overall test for the tutoring dosage effect for R/LA was not significant for either model (Model 1: $p = 0.554$; Model 2: $p = 0.572$). Thus, there was no dosage effect for R/LA.

Table 8. Analyses for 2007-2008 Math Grades 4-8 – Assessing Overall Dose Effect

Effect	Response Variable=Scale Score (in state NCE units)							
	Model 1				Model 2			
	Fixed Effects and Random Teacher within Grade				Random Block (pairs matched by predicted score within teacher)			
	Num DF	Den DF	F-value	p -value	Num DF	Den DF	F-value	p -value
Predicted Score	1	9831	18658.5	0.000				
Grade	4	253	1.14	0.339	4	223	1.24	0.295
Tutored*dose	2	9831	4.43	0.012	2	226	6.84	0.001

Comparisons	Est.	SE	p -value	Eff. size	Est.	SE	p -value	Eff. size
Tutored High vs. Nontutored	-1.54	0.73	0.035	-0.17	-3.14	0.99	0.002	-0.34
Tutored Low vs. Nontutored	-2.49	1.13	0.027	-0.27	-3.29	1.48	0.027	-0.36

Table 9. Analyses for 2007-2008 Reading Grades 4-8 – Assessing Overall Dose Effect

	Response Variable=Scale Score (in state NCE units)							
	Model 1				Model 2			
	Fixed Effects and Random Teacher within Grade				Random Block (pairs matched by predicted score within teacher)			
Effect	Num DF	Den DF	F-value	p-value	Num DF	Den DF	F-value	p-value
Predicted Score	1	9987	16478.3	0.000				
Grade	4	347	0.68	0.603	4	277	6.78	0.000
Tutored*dose	2	9987	0.59	0.554	2	280	0.56	0.572

Comparisons	Est.	SE	p-value	Eff. size	Est.	SE	p-value	Eff. size
Tutored High vs. Nontutored	0.12	0.59	0.841	0.01	-0.16	0.77	0.838	-0.02
Tutored Low vs. Nontutored	-1.04	0.98	0.290	-0.12	-1.29	1.22	0.294	-0.16

Participant/Stakeholder Perceptions

Results from the questionnaires administered to the stakeholder/participant groupings are presented in the sections below. Since this evaluation focused on SES implementation in one state, results from the state coordinator survey are not discussed as the survey was directed to one identifiable respondent.

District coordinator questionnaire. In 2007-2008, district coordinators were asked to complete a separate survey for each provider serving students from the school district. A total of 60 district coordinator surveys were received from all five districts providing SES. District coordinator surveys evaluated 31 individual providers. Aggregate results are presented in Table 10 and summarized below.

Three-quarters of district coordinator submissions (75.0%; $n = 45/60$) noted that providers frequently or occasionally communicated with them during the school year; in contrast, just one-fourth indicated the providers collaborated with them to set goals for student growth (25.0%; $n = 15/60$). More than one-third of the responses from district coordinators (36.7%; $n = 22/60$) reported that providers communicated frequently or occasionally with teachers and parents; however, almost half of the responses (48.3%; $n = 29/60$) indicated a lack

of knowledge concerning communication between tutors and teachers or between tutors and parents. Half of the responses (50.0%; $n = 30/60$) agreed that providers met the obligations for conducting tutoring sessions, though 20% ($n = 12/60$) disagreed.

Of those responding to the survey, 41.7% ($n = 25/60$) reported that the provider adapted tutoring services to each school's curriculum and integrated the services with classroom learning activities. A similar percentage of respondents (43.3%; $n = 26/60$) indicated they did not know whether this was occurring. Less than half of the responses agreed that providers aligned their services with state and local standards (46.6%; $n = 28/60$); however, nearly forty percent of district coordinators (38.3%; $n = 23/60$) selected "Don't Know" in response to this item. While a majority of responses from district coordinators (51.6%; $n = 31/60$) noted that providers made efforts to service special education and ELL students; many respondents (38.3%; $n = 23/60$) indicated they were unsure whether this was the case. Half of the responses from district coordinators (50.0%; $n = 30/60$) expressed overall satisfaction with the services of the provider they were rating. Slightly less than half (48.4%; $n = 29/60$) agreed that services offered by the provider positively impacted student achievement. Comments from district coordinators were mixed, with respondents' positive comments indicating consistent communication; while negative comments noted poor communication, delayed start, and problems following district protocol.

Table 10. Summary of District Coordinator Responses, Aggregated for All Providers

Supplemental Educational Services District Coordinator Report in 2007-2008 for All Providers					
Total number of respondents: 60					
How often did the provider...	% Frequently	% Occasionally	% Not at all		
1. Communicate with you during the school year?	38.3	36.7	23.3		
2. Collaborate with you to set goals for student growth?	18.3	6.7	73.3		
	% Frequently	% Occasionally	% Not at all	% Don't Know	
3. Communicate with teachers during the year?	23.3	13.3	13.3	48.3	
4. Communicate with parents during the year?	25.0	11.7	13.3	48.3	
5. Meet the obligations for conducting tutoring sessions?	40.0	10.0	20.0	28.3	
The provider...	% Strongly Agree	% Agree	% Disagree	% Strongly Disagree	% Don't Know
6. Adapted the tutoring services to this school's curriculum.	18.3	23.3	3.3	10.0	43.3
7. Integrated the tutoring services with classroom learning activities.	15.0	26.7	3.3	10.0	43.3
8. Aligned their services with state and local standards.	23.3	23.3	3.3	8.3	38.3
9. Offered services to Special Education and ELL students.	23.3	28.3	3.3	5.0	38.3
10. Complied with applicable federal NCLB laws.	25.0	38.3	5.0	15.0	15.0
11. Complied with applicable state and local (health, safety, civil rights) laws.	18.3	26.7	3.3	6.7	41.7
Overall provider assessment:	% Strongly Agree	% Agree	% Disagree	% Strongly Disagree	% Don't Know
12. I believe the services offered by this provider positively impacted student achievement.	16.7	31.7	5.0	20.0	23.3
13. Overall, I am satisfied with this provider's services.	18.3	31.7	15.0	23.3	10.0

Principal/Site coordinator questionnaire. A total of 61 principal/site coordinator surveys were received from 22 of the 54 schools (40.7%) required to offer SES. Principal/site coordinator surveys evaluated 17 individual providers. Responses (82.0%; $n = 50/61$) largely noted satisfaction with the way the school district helped their school implement services. Aggregate results are presented in Table 11 and summarized below.

Most submissions from principals/site coordinators (82.0%; $n = 50/61$) reported that providers frequently or occasionally communicated with them during the school year. The majority (67.2%; $n = 41/61$) stated that providers collaborated with them to set goals for student growth. Of the 61 principal/site coordinator responses, 50 agreed (82.0%) that providers met the obligations for conducting tutoring sessions, while four respondents (6.6%) disagreed. While the majority of responses (63.9%; $n = 39/61$) agreed that the provider started tutoring soon after the registration process was complete; thirty percent ($n = 18/60$), disagreed with this survey item.

Most responses (65.6%; $n = 40/61$) agreed that providers adapted the tutoring services to the school's curriculum and integrated the tutoring services with classroom learning activities. A large majority agreed that providers offered services to special education and ELL students (82.0%; $n = 50/61$). Finally, over sixty-five percent (65.6%; $n = 40/61$) of the responses expressed overall satisfaction with the services of the provider they were rating and agreed that services offered by the provider positively impacted student achievement (67.2%; $n = 41/61$). Respondents' positive comments indicated satisfaction with communication provided regarding student progress and provider professionalism; negative comments noted poor communication, delayed start, and disorganization.

Table 11. Summary of Principal/Site Coordinator Responses, Aggregated for All Providers

Supplemental Educational Services Principal/ Site Coordinator Report in 2007-2008 for All Providers					
Total number of respondents: 61					
1. Are you employed by the provider for which you are completing this survey?					
			Number	Percent	
Yes			2	3.3	
No			58	93.4	
How often did the provider...		%	%	%	
		Frequently	Occasionally	Not at all	
2. Communicate with you during the school year?		49.2	32.8	18.0	
3. Collaborate with you to set goals for student growth?		31.1	36.1	32.8	
		%	%	%	%
		Frequently	Occasionally	Not at all	Don't Know
4. Communicate with teachers during the year?		24.6	44.3	13.1	18.0
5. Meet the obligations for conducting tutoring sessions?		57.4	24.6	6.6	11.5
The provider...		%	%	%	%
		Strongly Agree	Agree	Disagree	Strongly Disagree
					Don't Know
6. Started tutoring soon after the registration process was complete.		31.1	32.8	13.1	16.4
7. Adapted the tutoring services to this school's curriculum.		19.7	45.9	8.2	8.2
8. Integrated the tutoring services with classroom learning activities.		18.0	47.5	9.8	8.2
9. Offered services to Special Education and ELL students.		36.1	45.9	1.6	6.6
Overall provider assessment:		%	%	%	%
		Strongly Agree	Agree	Disagree	Strongly Disagree
					Don't Know
10. I believe the services offered by this provider positively impacted student achievement.		26.2	41.0	8.2	8.2
11. Overall, I am satisfied with this provider's services.		31.1	34.4	9.8	14.8
District Assessment:		%	%	%	%
		Strongly Agree	Agree	Disagree	Strongly Disagree
					Don't Know
12. Overall, I am satisfied with the way the school district helped our school implement services from this provider.		37.7	44.3	8.2	1.6

Teacher questionnaire. A total of 134 teacher surveys were received from 13 of the 54 schools (24.1%) required to offer SES. Teacher surveys evaluated 18 individual providers. Aggregate results are presented in Table 12 and summarized below.

Over half of the responding teachers (56.7%; $n = 76/134$) reported that providers frequently or occasionally communicated with them during the school year; however over forty

percent (43.3%; $n = 58/134$) indicated providers did not communicate with them. In addition, over forty-five percent (47.0%; $n = 63/134$) of the submissions from teachers indicated that providers collaborated with them to set goals for student growth. Also nearly half of the teachers' responses (49.3%; $n = 66/134$) agreed that providers adapted tutoring services to the school's curriculum and 41.1% ($n = 55/134$) reported that the tutoring services were integrated with classroom learning activities. Some teacher responses indicated being unaware of whether integration with the school's curriculum (43.3%; $n=58/134$) or integration with classroom activities (40.3%; $n=54/134$) were occurring. Just over half of the teacher submissions (53.0%; $n = 71/134$) agreed that tutors adapted the tutoring services to meet the needs of individual students; however, 37.3% ($n = 50/134$) selected "Don't Know." Finally, the majority of teachers' responses (56.7%; $n = 76/134$) expressed overall satisfaction with the services of the provider they were rating and agreed that services offered by the provider positively impacted student achievement (61.2%; $n = 82/134$).

Table 12. Summary of Teacher Responses, Aggregated for All Providers

Supplemental Educational Services Teacher Report in 2007-2008 for All Providers					
Total number of respondents: 134					
1. Are you employed by the provider for which you are completing this survey?					
			Number	Percent	
Yes			27	20.1	
No			107	79.9	
How often did the provider...		% Frequently	% Occasionally	% Not at all	
2. Communicate with you during the school year?		30.6	26.1	43.3	
3. Collaborate with you to set goals for student growth?		24.6	22.4	53.0	
The provider...	% Strongly Agree	% Agree	% Disagree	% Strongly Disagree	% Don't Know
4. Adapted the tutoring services to this school's curriculum.	14.2	35.1	3.0	4.5	43.3
5. Adapted the tutoring services to meet the needs of individual students.	16.4	36.6	3.0	6.7	37.3
6. Integrated the tutoring services with classroom learning activities.	14.2	26.9	9.0	9.7	40.3
Overall Assessment:	% Strongly Agree	% Agree	% Disagree	% Strongly Disagree	% Don't Know
7. I believe the services offered by this provider positively impacted student achievement.	15.7	45.5	9.7	6.0	23.1
8. Overall, I am satisfied with this provider's services.	14.9	41.8	13.4	9.0	20.9

Parent questionnaire. Parents identified the tutoring company serving their child by selecting the company name from a list of statewide approved providers. Parent surveys were received from 30 of the 54 schools (56%) required to make SES available to the students. Parent surveys evaluated 22 individual providers. Aggregate results are presented in Table 13 and summarized below.

Responding parents were the most satisfied group among the surveyed stakeholders, with 90.7% ($n = 313/345$) indicating they were pleased with the services their children received. A large majority of respondents also indicated their belief that the tutoring services helped their child's achievement (88.7%; $n = 306/345$). Of the 345 respondents, 82.9% ($n = 286/345$) reported that providers spoke with them about their child's progress throughout the year either frequently or occasionally, and 76.3% ($n = 263/345$) received frequent or occasional written communication from providers. Parents also agreed that the provider helped their child with subjects they worked on in the regular classroom (88.7%; $n = 306/345$).

An overwhelming majority of responding parents (95.6%; $n = 330/345$) noted that they were pleased with the way their school district helped them obtain SES for their child. Most also indicated that they were given information about their child's rights under the No Child Left Behind law (88.1%; $n = 304/345$) and that they were given enough time to decide which tutoring company they wanted for their child (88.4%; $n = 305/345$). The majority of responding parents were generally satisfied with the number of hours of free tutoring given to their child (87.5%; $n = 302/345$) and with the provider's ability to start and end tutoring sessions on time (87.3%; $n = 301/345$).

Table 13. Summary of Parent Responses, Aggregated for All Providers

Supplemental Educational Services Parent Report in 2007-2008 for All Providers					
Total number of respondents: 345					
How often did the tutoring company...	% A lot	% Sometimes	% Not at all		
1. Talk to you about your child's progress?	49.6	33.3	16.2		
2. Send letters or notes home about your child's progress?	38.0	38.3	20.0		
	% A lot	% Sometimes	% Not at all	% Don't Know	
3. Help your child with subjects s/he is working on in school?	69.9	18.8	4.9	5.8	
4. Start and end the tutoring sessions on time?	71.9	15.4	2.6	7.5	
Indicate how much you agree or disagree with each of the following items about the tutoring company.	% Strongly Agree	% Agree	% Disagree	% Strongly Disagree	% Don't Know
5. I am happy with the number of hours of free tutoring given to my child this year.	59.1	28.4	7.0	3.5	2.0
6. I believe that the free tutoring helped my child's achievement.	60.0	28.7	1.7	3.8	4.6
7. Overall, I am pleased with the services that my child received.	60.3	30.4	3.5	2.9	1.4
Indicate how much you agree or disagree with each of the following items about the school district.	% Strongly Agree	% Agree	% Disagree	% Strongly Disagree	% Don't Know
8. I was given information about my child's rights under the No Child Left Behind law.	55.9	32.2	4.6	0.9	4.6
9. I was given enough time to decide which tutoring company I wanted for my child.	53.9	34.5	4.9	1.4	3.2
10. I am pleased with the way my school district helped me get free tutoring for my child.	68.4	27.2	1.2	0.6	0.9

Provider questionnaire. Representatives from 23 companies offering SES services in Tennessee in 2007-2008 completed the online provider survey. Aggregate results are presented in Table 14 and summarized below.

Participating providers overwhelmingly indicated satisfaction with district coordinator cooperation and involvement (95.7%; $n = 22/23$) and state SES coordinator cooperation and involvement (87.0%; $n = 20/23$). Providers (73.9%; $n = 17/23$) were generally satisfied with principal/site coordinator cooperation. Fewer provider respondents (56.5%; $n = 13/23$) indicated satisfaction with parent and teacher cooperation and involvement. Slightly more than half of the responding providers (52.2%; $n = 12/23$) reported being satisfied with student attendance; however, a large majority (91.3%; $n = 21/23$)

indicated satisfaction with student attitudes. Most providers (87.0%; $n = 20/23$) noted satisfaction with success at raising student achievement to desired levels.

All but one of the providers who responded to the survey (95.7%; $n = 22/23$) indicated that their tutors communicated student progress frequently or occasionally with parents; and 82.6% of the participating providers ($n = 19/23$) indicated their tutors communicated students' progress either frequently or occasionally with classroom teachers. Most providers (87.0%; $n = 20/23$) indicated that tutors integrated their services with classroom learning activities either frequently or occasionally. However, 52.2% ($n = 12/23$) reported that the tutors showed their lesson plans or materials used for tutoring to the homeroom or subject teachers of the children they tutored. All responding providers (100%; $n = 23/23$) agreed that services were aligned with state academic and achievement standards. Most (87.0%; $n = 20/23$) indicated that services were offered to students with disabilities and English Language Learners.

Table 14. Summary of Provider Responses, Aggregated for All Providers

Supplemental Educational Services Provider Report in 2007-2008				
All Providers				
Total number of respondents: 23*				
Provider Perceptions and Activities	% Frequently	% Occasionally	% Not at all	% Don't Know
1. Tutors communicated with teachers regarding progress of their student(s).	34.8	47.8	17.4	0.0
2. Tutors communicated with parents/guardians regarding their child's progress.	69.6	26.1	4.3	0.0
3. Tutors showed their lesson plans or materials used for tutoring to the homeroom/subject teacher of each child they worked with.	8.7	43.5	30.4	17.4
4. The provider aligned the supplemental services with the state academic content and achievement standards.	91.3	8.7	0.0	0.0
5. The provider integrated the tutoring services with classroom learning activities.	56.5	30.4	13.0	0.0
6. The provider adapted the supplemental services to each school's curriculum.	56.5	26.1	8.7	8.7
7. The provider offered instruction to students with disabilities and English Language Learners.	60.9	26.1	4.3	8.7

Table 14, continued

Provider Satisfaction with:	% Highly Satisfied	% Satisfied	% Dissatisfied	% Highly Dissatisfied	% Don't Know
8. Student attendance	13.0	39.1	39.1	8.7	0.0
9. Student attitudes (e.g., cooperation, motivation)	21.7	69.6	4.3	4.3	0.0
10. The ease of developing lessons aligned with the district or school curriculum	34.8	52.2	0.0	0.0	8.7
11. Parent cooperation/involvement	13.0	43.5	34.8	8.7	0.0
12. Teacher cooperation/involvement	8.7	47.8	13.0	13.0	13.0
13. Principal/Site Coordinator cooperation/involvement	17.4	56.5	0.0	8.7	17.4
14. District SES coordinator cooperation/involvement	43.5	52.2	0.0	4.3	0.0
15. State SES Coordinator cooperation/involvement	34.8	52.2	0.0	0.0	13.0
16. Success at raising student achievement to desired levels	21.7	65.2	4.3	0.0	8.7

*A total of 29 providers submitted survey. However, four providers (Building Educated Leaders for Life, Exceptional Parent Connection, Failure Free Reading, and JBHM Education Group Supplemental Educational Services) indicated on their surveys that they did not provide services in Tennessee in the 2007-2008 school year, and two providers that submitted surveys did not offer services to the school districts offering Supplemental Educational Services in Tennessee in 2007-2008 school year. Therefore, these six surveys were not included in the aggregate provider report. Though no achievement data was presented for the Martha O'Bryan Center for Reading Achievement Program, the provider's survey was included in the aggregate as the stakeholder surveys indicated that the company did provide services in 2007-2008.

Cross-group comparison. The responses of district coordinators, principals/site coordinators, teachers, and parents to comparable questionnaire items on their respective surveys are summarized in Table 15. As shown, provider communications were perceived to occur more frequently by parents and principals/site coordinators than by and district coordinators and teachers. Parents were clearly the most positive respondent group and teachers and district coordinators the least positive respondent group regarding the effectiveness of the tutoring in general and the impact tutoring had on improving student achievement.

Table 15. Cross-group Comparison

Questionnaire Item	District Coordinator s	Principals/ Site Coordinator s	Teachers	Parents
	N=60	N=61	N=134	N=345
How often did the provider/tutoring company... Communicate with you during the school year? Talk to you about your child's progress? Send letters or notes home about your child's progress? Collaborate with you to set goals for student growth?	Percent Frequently or Occasionally 75.0	82.0	56.7	Percent A lot or Sometimes 82.9 76.3
The provider...	Percent Strongly Agree and Agree			
Adapted the tutoring services to each/this school's curriculum.	41.7	65.6	49.3	
Offered services to Special Education and ELL students.	51.6	82.0		
Overall assessment:	Percent Strongly Agree and Agree			
I believe that the services offered by this provider positively impacted student achievement.	48.4	67.2	61.2	
I believe that the free tutoring helped my child's achievement.				88.7
Overall, I am satisfied with the services of this provider.	50.0	65.6	56.7	
Overall, I am pleased with the services that my child received.				90.7

Discussion

Stakeholders participating in the evaluation indicated positive perceptions of the SES program and specific providers. Principals/Site coordinators were more positive than both district coordinators and teachers, but as was found in previous years' evaluations of SES in Tennessee and other states, responding parents were by far the most positive respondent group (Ford et al., 2009; McKay, Paek, Harrison, Ross, et al., 2008; McKay, Paek, Ross, et al., 2008; Paek et al., 2008; Potter et al., 2005; Potter, Ross, McDonald, et al., 2006; Potter, Ross, Paek, et al., 2007). When reviewing the stakeholders' perceptions in the past three evaluations of SES in Tennessee, district coordinators were the only respondent group whose opinions of overall provider effectiveness decreased. District coordinators were also the only group reporting less communication in 2007-08 compared to the two prior evaluations. Parents' positive perceptions remained constant, and principals/site coordinators' were more positive overall 2007-08 compared to 2006-07. Overall, teachers and providers expressed slightly more positive opinions than in the previous year. However, there were a few items in which provider responses were less positive than the previous year: adapting the supplemental services to each school's curriculum and satisfaction with student attendance, parent involvement, and teacher cooperation.

The student achievement analyses mostly showed small, nonsignificant effects of tutoring services offered by individual providers. Math results tended to show a more negative than positive pattern, and the amount of tutoring received (low vs. high dosage) had little impact on the results. These negative outcomes are difficult to interpret, and based on the survey responses, seem more attributable to sampling error and other extraneous factors than to the math tutoring actually being detrimental. In this NCLB choice context, it is certainly possible (given inability to randomly assign students to SES and non-SES groups) that the students who enroll in, and participate for the required number of hours in SES, are those experiencing the greatest difficulty learning, even though they match well statistically to non-SES students in predicted scores. However, in the case of math more than R/LA, one might theorize a potential detrimental effect if the problem-solving methodology and algorithms taught differed from those introduced in regular classroom instruction. Replication of the present results showing similar provider patterns in future years would add credence to this interpretation. In general, the achievement results are consistent with those of most prior studies (Muñoz et al., 2008; OREA, 2007; Rickles & Barnhart, 2007; Rickles & White, 2006). Although most state or district studies have found minimal or no effects on achievement (McKay et al., 2008; Muñoz et al., 2008; Nunnery,

2008a, 2008b; Pribesh & Nunnery, 2007; Zoblotsky & Huang, 2008), other studies (Nunnery, Huang, & Zoblotsky, 2008; Rickles & White, 2006; Zimmer, Christina, Hamilton, & Prine, 2006; Zimmer et al., 2007) have detected some significant effects, albeit small in magnitude.

A principal conjecture of the present study is that, even though theoretically and logically 30-40 hours of tutoring are not likely to produce strong effect sizes (particularly on high-stakes standardized assessments), it is both practically and scientifically important to conduct such analyses in the absence of opposing evidence. There is much logical and empirical justification for accepting one-on-one tutoring as a method of raising student achievement (Slavin, 2006; Tingley, 2001). However, it is still unclear whether or not SES is typically implemented in a means likely to engender such gains, and if so, the associated impacts on standardized AYP test performance in particular.

With regard to the implementation of SES, only indirect evidence reflecting the views of various participant and stakeholder groups was available in the present study. In general, the positive responses given indicate support by respondents for the activities of the SES providers and quality of the tutoring services. However, as with previous years, given the voluntary nature of participation in the surveys, the representativeness of the respondents in each stakeholder group certainly can be questioned. Respondents did indicate the need for more focused and frequent communication between teachers and providers. Interaction between tutors and teachers can best facilitate the extension of the learning occurring during the traditional classroom to the tutoring time. Generic types of tutoring not directly linked to everyday classroom learning may be poorly adapted to student needs (see Slavin & Fashola, 1998).

Even if the SES tutoring were highly adaptive to student needs, the low dosage of one-on-one tutoring model limits its potential to raise student achievement on standardized tests. Many factors, such as teacher effectiveness (Ross, Stringfield, Sanders, & Wright, 2003), school leadership (Datnow, Hubbard & Mehan, 2002), and interventions such as comprehensive school reform, extended-day, reduced class size (Desimone, 2002; Slavin & Fashola, 1998), or special reading and math programs (e.g., Correnti & Rowan, 2007) likely may exert much stronger effects on student learning or (minimally) serve as confounding variables that mask tutoring effects.

Based on prior research, it might be concluded that typical district implementations of SES yield a likely effect size for achievement gains on state assessments somewhere between $d = 0.0$ and $+0.10$. A possible argument is that this range underestimates the true SES effect because the quasi-experiments conducted thus far have lower internal validity and power for detecting

tutoring impacts than do randomized designs. A second, related argument is that power is further weakened substantially by the inability to account for the much larger variance in student achievement attributable to teachers, classrooms, and schools. Using the SAS EVAAS methodology in the present study, we were able to exert such controls in two models (teachers nested within grades and matched SES-control student pairs), and still found still generally weak, SES effects.

Policymakers and educational leaders tend to view achievement scores as the bottom line in judging whether educational interventions are working (Graczewski, Ruffin, Shambaugh, & Therriault, 2007). So, despite the positive perceptions of the surveyed parent, teacher, school, and state participants/stakeholders in Tennessee, the achievement benefits for SES will need to improve over those of the present and prior state studies to maintain public support for the tutoring as a justifiable use of Title I funding. Possible strategies for providers to increase effectiveness are given below.

First, connection of the tutoring to regular classroom instruction in accord with students' individual needs should be increased. The U.S. Department of Education recently sponsored updated guidance for implementation of SES, which emphasized the importance of provider communication with parents and teachers (Ross et al., 2009). While responding providers overwhelmingly indicated satisfaction with district-level implementation of SES, fewer providers noted satisfaction with teacher involvement. In addition, just over half of the responding providers completing surveys indicated that their tutors shared lesson plans with the student's teacher. Responses suggest the need for more focused and frequent communication between teachers and providers. District and principals/site coordinators should also encourage teachers and parents of SES students to cooperate with providers. Teachers could benefit from providers' insights regarding pre/post testing results, while providers in turn could benefit from teacher feedback on the students who were tutored.

Second, to the extent that the requirement for schools to offer SES is linked to their performance on state assessments, providers need to ensure that the tutoring directly addresses state standards and test content. This suggestion is not to imply that tutoring must be oriented to "teaching to the test," but rather that tutors should have explicit awareness of the content most likely to be assessed and the testing formats used (i.e., typically multiple choice). In this

evaluation, fewer than half of the district coordinator responses agreed that the provider being evaluated integrated the tutoring services with the school's curriculum and classroom learning activities.

Third, in accord with the extensive literature on program evaluation and school reform (Desimone, 2002; Ross, 2007), providers should concentrate on ensuring strong implementations of the tutoring services to maximize positive effects. The state should reach out to SES school leaders, teachers, parents, and providers to gather suggestions for improving tutoring completion rates, as greater attendance should increase the impact of SES.

A recommendation for future research, which might be implemented with subsamples of students and providers, is to conduct smaller, mixed-methods quasi-experiments in which SES outcomes can be interpreted more fully relative to contextual variables (e.g., the curriculum and other interventions) that impact both SES and comparison students. Such quasi-experiments should include some observation of actual tutoring sessions (visited randomly and unannounced if feasible) to obtain firsthand impressions of the pedagogy employed, tutor preparation and effectiveness, and student engagement. Also, although the present study solicited perceptions of different aspects of SES tutoring from multiple stakeholder groups, important voices that were not heard were those from the students who were tutored. SES may well have important positive impacts on students that extend beyond achievement gains on state assessments.

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Footnote

¹The effect size represents the number of standard deviations by which the SES student achievement mean differed from the non-tutored student mean. Generally, effect sizes of $+0.20$ or higher (indicating an advantage for the treatment group of at least one-fifth SD) are considered to be moderate to strong in impact, and educationally meaningful.

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