

Supplemental Educational Services as a Consequence of the NCLB Legislation: Evaluating its Impact on Student Achievement in a Large Urban District

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Supplemental Educational Services (SES), a federally mandated program, is designed to raise student achievement via the implementation of tutoring programs. Unfortunately, although the SES federal legislation has been adopted by school districts nationally, relatively limited empirical evidence from rigorous research studies exists regarding the effectiveness of SES in general, or of specific service providers in particular. Given the environment of high-stakes accountability associated with the No Child Left Behind (NCLB) legislation, the extent to which SES programs can demonstrate positive effects on reading and mathematics on the state assessment must be determined. This study evaluated the effects of SES programs on student achievement and participant satisfaction in an urban school district in Kentucky. Overall, findings showed nonsignificant effects in outcomes, as well as quality concerns in processes that are claimed as a core provision within the NCLB legislation. Results indicated that achievement results on the Kentucky Core Content Test in reading and mathematics were not significantly superior for the SES participants relative to matched control students. Questionnaire responses from parents, teacher, principals, and district coordinators indicated both areas for growth and areas of satisfaction with provider services. Implications for policy and future research are discussed.

The No Child Left Behind (NCLB, 2001) Act is sweeping federal legislation designed to help all children become proficient in reading and mathematics by 2013–2014. Given negotiations between state and federal agencies, however, the exact implementation of NCLB involving both the provision of educational services and accountability requirements varies on a state-by-state basis (Christie, 2004). Consistent with NCLB's emphasis on scientifically-based research, the Education Sciences Reform Act (ESRA, 2002) states that it is critically important to identify "what works" in bringing all students to proficiency levels in core subjects. NCLB requires that public schools use data to evaluate the effectiveness of instructional practices (Yeagley, 2003), and educational programs associated with NCLB must meet scientifically-based research standards to ensure that students are exposed to methods for which a strong evidence base exists.

A core aspect of NCLB is the offering of Supplemental Educational Services (SES). Through SES, students who (a) attend Title I schools in the second year or more of school improvement and (b) participate in the free/reduced-price meal program are eligible to receive this extra academic assistance at no cost to parents (Ross, Potter, & Harmon, 2006). The school districts involved are required to reserve 20% of their Title I funds to support these services and School Choice. At least 5% of these funds must go towards SES, and 5% must also go to Choice. The other 10% can be distributed between Choice and SES. The SES program offers tutoring before or after school hours, on weekends, and during the summer, by state-approved providers, including community-based, faith-based, and private organizations.

The use of individual tutoring has had a long history and extensive research support in K–12 education (Good & Brophy, 1987; Slavin, 2006; Tingley, 2001; Wasik, 1997). Expressing a view likely to be shared by most educational researchers and practitioners, Slavin (2006) stated, "One-to one adult-to-child tutoring is one of the most effective instructional strategies known, and it essentially solves the problem of appropriate levels of instruction" (p. 290). Although adult and peer tutoring are frequently found to improve learning 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), the effects of a broad-based program (e.g., SES) involving the use of multiple tutoring approaches in thousands of different sites are unknown (e.g., Sunderman, 2006). Specifically, the U.S. Department of Education (2006) recently estimated that in the 2005–2006 school year, about 2 million students nationally were eligible to receive SES services. Of these, 233,000 (11% of the total) enrolled to receive tutoring from the approximately 2,000 providers approved to offer SES by one or more states (Ascher, 2006). Not only is it of high importance scientifically and practically to determine educational outcomes associated with SES participation, federal policies explicitly require each state to evaluate SES effectiveness under

the criterion that SES providers that fail to raise student achievement for two successive years be removed from the state-approved list (U.S. Department of Education, 2005).

However, there is virtually no research on the effectiveness of SES (Burch, Steinberg, & Donovan, 2007). Several preliminary studies have, thus far, been conducted to respond to SES evaluation needs. A 2-year study of the SES program in Tennessee (Potter, Ross, Paek, et al., 2007) controlled for student prior achievement and teacher effects using two alternative analytical models (hierarchical linear modeling and matched SES-control student pairs) but found only two providers with effects that were statistically different than zero, both of which were negative. Similar predominantly nonsignificant findings were obtained in a quasi-experimental (SES-control group) design used to analyze 2004–2005 achievement data in Louisiana, with only one local provider showing significantly positive effects (Potter, Ross, Paek, Pribesh, & Nunnery, 2006).

A rigorous district-based evaluation of SES was conducted in 2004–2005 (Rickles & White, 2006) and 2005–2006 (Rickles & Barnhart, 2007) by the Los Angeles Unified School District. Given the district's access to specific SES enrollment data, a unique and powerful design feature of these studies was the ability to compare achievement outcomes, adjusted for prior performance, for the following subgroups of students: (a) eligible for SES but did not enroll, (b) enrolled in SES but did not participate, and (c) participated in SES but had low, moderate, or high attendance. Results in both years showed positive but very small gains (2–3 scale-score points) for SES students relative to the comparison groups. Greater attendance was moderately associated with higher achievement.

More favorable evidence comes from a recent evaluation of SES and another after-school tutoring program (Educational Assistance Program) in Pittsburgh (Zimmer, Christina, Hamilton, & Prine, 2006). Results showed small to moderate positive program effects in math, especially when students participated in both programs; the effects on reading, however, were limited.

Given the many confounding variables that can influence the results of field-based educational programs (Chatterji, 2005), isolating measurable impacts of SES is highly challenging for researchers. A multitude of uncontrollable factors, including characteristics of the tutoring setting, contamination from core academic and other support programs, student interest and motivation, and limitations of standardized achievement tests for sensitively measuring tutoring impacts, all can work to weaken or alter treatment impacts. Inability to randomly assign students to SES and control treatments, in particular, further allows for sampling differences to occur that would bias treatment comparisons. Finally, the limited duration of after-school tutoring relative to many other educational activities during the school year needs to be considered in gauging the likely degree of measurable impact on student achievement (Kane, 2004), especially on state-mandated high-stakes standardized tests used for NCLB accountability.

Despite the described research issues and challenges, if one-on-one tutoring is truly beneficial to students' learning and motivation, measurable achievement gains, even if modest in size, should be evidenced over time as sample sizes and exposure to SES increase. One key variable influencing success naturally is implementation fidelity (Desimone, 2002; Ross, 2007). That is, are SES providers delivering the required services as documented in their proposals? A second factor, based on the large body of literature addressing successful school reform, is the degree to which teachers are centrally involved in and supportive of the tutoring services (Datnow, Hubbard, & Mehan, 2002; Desimone, 2002; Ross et al., 2004). A key factor concerning the nature of typical SES practices and their potential to improve achievement, therefore, is the degree of connectedness that occurs between providers and teachers with regard to lesson content, planning, and feedback on student progress.

RESEARCH PURPOSE

In concert with its emphasis on accountability for schools, NCLB (2001) explicitly advocated the use of rigorous scientifically-based research for determining which educational programs work to raise student achievement (Eisenhart & Towne, 2003; Feuer, Towne, & Shavelson, 2002). The primary purpose of this study, therefore, was to examine the effectiveness of SES in general and of specific SES providers in raising student achievement in a large urban district. Other purposes were to determine the perceptions of varied SES participants and stakeholders—district coordinators, principals/site coordinators, teachers, and parents—regarding SES activities, implementation processes, and educational outcomes.

We addressed the major research question regarding student achievement effects via a quantitative analysis of student-level scores on state-mandated tests in reading and mathematics. A randomized field trial, potentially the most rigorous research design, could not be implemented due to the SES program's emphasis on parents' ability to choose whether to enroll their children in SES and which providers to choose, should they enroll. Accordingly, two alternate types of designs have been recommended as likely to provide suitable rigor in the absence of opportunity to randomize treatment-comparison group assignments (Ross et al., 2004). One involves using multiple linear regression modeling to determine whether SES students' obtained scores significantly exceed their predicted scores based on prior achievement and demographic characteristics such as gender and ethnicity. A second, potentially more rigorous option (Ross, 2007), and the one adopted in this study, is a quasi-experimental design (Cook & Campbell, 1979; Shadish, Cook, & Campbell, 2002) using closely matched program and control students with multiple student-level covariates.

The second research question guiding this study was: What are the perceptions of SES providers from district coordinators, principals/site coordinators, teachers, and parents? We addressed this question via an online survey system for the district coordinator, principals/site coordinators, and teachers at SES schools, and paper-based surveys for parents of SES students served. Although the focus of this study was on student academic outcomes in reading and mathematics, capturing perceptions of multiple stakeholders is a key element to data triangulation (Mathison, 1988) and avoiding “black box” evaluations (Muñoz, 2005, p. 34).

RESEARCH CONTEXT

The context for this study was all SES participants in the Jefferson County Public Schools (JCPS) in Louisville, Kentucky. The district is the 26th largest school district in the nation. It is located in a large metropolitan area and has 150 schools, serving more than 96,000 students; 30 of these schools were required to offer SES during the 2005–2006 school year. SES is an expensive component of the Title I budget, with estimates of costs of approximately \$4.5 million for a school year. JCPS educates a high percentage of at-risk urban students with high poverty levels (i.e., over 53% subsidized meals, 54% single-parent homes). It has a student assignment plan based on managed choice, which facilitates the racial desegregation of its schools by providing students with transportation from their home neighborhoods to other parts of the district.

METHOD

The design consisted of a descriptive study of SES provider perceptions from involved stakeholders and a quasi-experimental design in which each SES participant was matched to a highly similar control student (Cook & Campbell, 1979; Ross et al., 2004; Shadish et al., 2002). The analysis of program impacts on criterion-referenced test scores was the focus of the study and basis for the methodology described below. Given the relatively small sample sizes for provider X grade-level groups, it was decided to aggregate data across all 22 service providers for this initial research on SES outcomes in the district and state.

The basic design for the descriptive study consisted of surveying the following groups of respondents: (a) the district SES coordinator, (b) principals/site coordinators in participating SES schools, (c) teachers of students receiving SES, and (d) parents of students receiving SES.

Participants and Matching Procedure

District data identified the SES providers from which each eligible student received services during the 2005–2006 school year. Providers serving students in Jefferson County, KY ranged from large national companies to local community-based organizations. A typical tutoring session lasted 1 hr after school, two days per week. Provider programs had a variety of methods of instruction. Some had one-on-one or small-group instruction; others tutored in the home of the student or online. Most programs lasted for several weeks, with the majority of tutoring taking place in the second (spring) semester of the school year.

The SES provider data were combined with databases containing student demographics, formative assessment results, and state assessment results for students in Grades 2–11. Of the 4,515 students who were eligible to receive SES services, 3,208 had valid state assessment data in reading or mathematics. Of these, 2,006 students actually received services, whereas 1,202 had applied for, but did not participate in, SES. The shrinkage in sample size is due largely to the characteristics of the state assessment in Kentucky. Only fourth-, seventh-, and tenth-graders take the annual state assessment in reading, whereas only fifth-, eighth-, and eleventh-graders take the state assessment in mathematics. Because no previous achievement baseline assessment was available for eleventh-graders, these students were not included in the analyses.

Reading participants. The sample included SES participants and SES-eligible, nonparticipating matched control students. The participating service providers began implementing SES services in the 2005–2006 school year. Table 1 illustrates the key characteristics by which the treatment and control students were matched at the beginning of the school year for the analysis of reading outcomes. As shown, the matches were based on five variables, including previous diagnostic test scores in reading, gender, race, participation in the free or reduced-price lunch program, and single-parent homes. The comparability of the matches was evaluated using chi-square tests for categorical variables, gender, $\chi(1, N = 1085) = .80, p = .37$; race, $\chi(1, N = 1085) = 6.23, p = .01$; poverty, $\chi(1, N = 1085) = 9.66, p = .01$; family structure, $\chi(1, N = 1085) = .81, p = .37$, and ANOVAs for continuous variables, previous test scores, $F(1, 1083) = 1.17, p = .28$. As indicated in Table 1, the comparison sample tended to include more minority and disadvantaged students than did the SES sample. As a result, we included these two variables, along with previous test scores, as covariates in the posttest analysis.

Mathematics participants. Table 2 presents the key characteristics by which the treatment and control students were matched at the beginning of the school year (2005–2006) for the analysis of mathematics outcomes. As in the case of the reading sample, the comparability of the matches on the five key variables was

TABLE 1
Treatment and Comparison Students Matched on Key Characteristics
(N = 1085)

	<i>SES Students</i>				<i>Comparison Students</i>			
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>%</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>%</i>
Previous Test	52.27	19.36	677		50.97	19.02	408	
Gender								
Female			308	45.49			197	48.28
Male			369	54.51			211	51.72
Race								
Minority			412	60.86			279	68.38
Nonminority			265	39.14			129	31.62
Poverty								
Free/reduced lunch			478	70.61			323	79.17
Paid lunch			199	29.39			85	20.83
Family Structure								
Single-parent home			467	68.98			292	71.57
Dual-parent home			210	31.02			116	28.43

Note. Only students with complete demographic and testing data were included in the analysis. An aggregated matching procedure was utilized.

TABLE 2
Treatment and Comparison Students Matched on Key Characteristics
(N = 916)

	<i>SES Students</i>				<i>Comparison Students</i>			
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>%</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>%</i>
Previous Test	49.28	20.48	583		48.73	20.74	333	
Gender								
Female			291	49.91			178	53.45
Male			292	50.09			155	46.55
Race								
Minority			311	53.34			279	69.37
Nonminority			272	46.66			129	30.63
Poverty								
Free/Reduced lunch			370	63.46			258	77.48
Paid lunch			213	36.54			75	22.52
Family Structure								
Single-parent home			373	68.98			210	36.02
Dual-parent home			225	67.57			108	32.43

Note. Only students with complete demographic and testing data were included in the analysis. An aggregated matching procedure was utilized.

evaluated using chi-square tests for categorical variables (gender, $\chi[1, N = 916] = 1.06, p = .30$; race, $\chi[1, N = 916] = 22.53, p = .001$; poverty, $\chi[1, N = 916] = 19.31, p = .001$; family structure, $\chi[1, N = 916] = 1.20, p = .27$) and ANOVAs for continuous variables (previous test scores, $F[1, 916] = .15, p = .70$). As in the case of the reading sample matching analyses, the comparison sample tended to include more minority and disadvantaged students than did the SES sample. Thus, we again included these two variables and previous test scores as covariates in the posttest analysis.

Instrumentation

Achievement measures. The achievement measure employed was the Kentucky Core Content Test (KCCT) in Reading and Mathematics, with each subtest consisting of 24 multiple choice and 6 constructed response items. The diagnostic test, used for matching SES and control students on prior achievement and as the pretest covariate, was the Predictive Assessment Series (PAS), which consisted of 24 multiple-choice items. The PAS ThinkLink benchmark test (ThinkLink, 2007) is considered a reliable predictor of student performance on criterion referenced tests. ThinkLink PAS results can be used to gauge progress toward proficiency levels as defined by each state under the requirements of NCLB. KCCT Reading and Mathematics contribute 14.5% of the 100% accountability formula used as part of the annual state assessment (Kentucky Department of Education, 2005). All criterion (KCCT in Reading and Mathematics) tests were group-administered and scored following standardized procedures.

Only the students who had complete data encompassing the PAS and KCCT Reading and Mathematics served as the basis for the student-level matching component (Rossi, Freeman, & Lipsey, 1999). The PAS was administered to fourth-, fifth-, seventh-, eighth-, ninth-, and tenth-graders at the beginning of the school year (2005–2006). At the end of the 2005–2006 school year, fourth-, seventh-, and tenth-graders took the KCCT Reading subtest, and fifth-, eighth-, and eleventh-graders took the KCCT Mathematics subtest. Eleventh-graders were not included in this study due to the lack of a baseline test in mathematics. A summary of the tests and analyses employed is provided in Table 3.

District coordinator (LEA) questionnaire. Questionnaires used in this study were exact or slightly modified versions of those developed by the second and third authors for national use in SES evaluations by states (Ross, 2007). Accordingly, they had received extensive content and face validation by numerous stakeholder groups including other SES evaluators; SES administrators or coordinators at the district, state, and federal levels; and SES providers. Further, the instruments had been piloted and used formerly in evaluations conducted in Tennessee and Louisiana.

TABLE 3
 Summary of Analyses Comparing Supplemental Educational Services
 to Control Students on Student Achievement

<i>Outcome Measure</i>	<i>Year</i>	<i>Analysis</i>	<i>Covariate(s)</i>
4th, 7th, and 10th Grade KCCT Reading	2005–2006	ANCOVA	Prior achievement (beginning of 4th, 7th, and 10th Grade PAS), race, and free or reduced lunch
5th and 8th Grade KCCT Mathematics	2005–2006	ANCOVA	Prior achievement (beginning of 5th and 8th Grade PAS), race, and free or reduced lunch

Note. KCCT = Kentucky Core Content Test; ANCOVA = analysis of covariates; PAS = Predictive Assessment Series.

The State of Kentucky, Supplemental Educational Services District Coordinator Questionnaire was used to assess the perceptions of SES provider services by the district SES coordinators, or LEAs (Potter, Ross, & McDonald, 2006a). These LEAs write the contracts with SES providers and oversee their services throughout the district. The questionnaire contains items asking for feedback on the subject area tutored and start date of services, as well as 14 items on provider topics such as communication, adherence to federal and local laws, the ability to serve both special education and English language learner students, and overall satisfaction with providers. Responses are scored through the use of Likert-type ratings ranging from 1 (*don't know*) to 4 (*frequently*) and 1 (*strongly disagree*) to 5 (*strongly agree*). An open-ended comment section gives district coordinators the opportunity to comment on other provider issues that were not addressed by the survey items. Most items on the LEA questionnaire are also addressed in surveys for other groups (teachers, principals, and parents), to allow for triangulation. One item on the LEA survey that differs from those of other respondent groups is “Once the district finalized the contract with this provider, the provider started services: (1) after a month, (2) within one month, (3) within two weeks, or (4) immediately.”

Teacher questionnaire. The State of Kentucky, Supplemental Educational Services Teacher Questionnaire (Potter, Ross, & McDonald, 2006d) was used to assess teacher perceptions of SES provider services. The questionnaire contains items asking for background service information, as well as 13 items on provider topics such as communication, adherence to federal and local laws, the ability to serve both special education and English language learner students, and overall satisfaction with providers. Responses are scored through the use of Likert-type ratings ranging from 1 (*don't know*) to 4 (*frequently*) and 1 (*strongly disagree*) to 5 (*strongly agree*). An open-ended comment section gives teachers the opportunity to comment on other SES issues that they feel would be pertinent to the evaluation.

Teachers are also asked to respond to the question, “Do you work for the provider for which you are completing this survey (yes or no)”, because many providers use teachers as a resource for tutoring students.

Principal/site coordinator questionnaire. The State of Kentucky, Supplemental Educational Services Principal/Site Coordinator Questionnaire (Potter, Ross, & McDonald, 2006c) was used to assess the perceptions of SES by a school leader aware of provider services to students at that school. The questionnaire contains items identical to the teacher questionnaire (as described previously), with wording changes to reflect the different respondent group targeted. An open-ended comment section gives principals and/or site coordinators the opportunity to comment on other aspects of SES they feel are important.

Parent questionnaire. The State of Kentucky, Supplemental Educational Services Parent Questionnaire (Potter, Ross, & McDonald, 2006b) was used to assess the perceptions of the parents on the provider services given to their children. The questionnaire (the only paper-based survey in the evaluation) contains 7 items on topics such as provider communication, progress reports sent home on student goals achieved, and overall provider satisfaction. The questionnaire also asks three questions about parent satisfaction with the district—such as, “I was given enough information about my rights under the No Child Left Behind Law”—and overall satisfaction with the way the district helped them obtain provider services for their child. The Likert-type rating scales employed were identical to those in the other SES surveys. An open-ended comment section was also provided.

Design and Procedure

The research design employed a matched treatment-control pretest—posttest design (Cook & Campbell, 1979; Rossi et al., 1999; Shadish et al., 2002). To control for prior achievement, student-level data were analyzed via ANCOVA, with the treatment condition as the between-subjects factor; the PAS pretest scores, race, and poverty were used as covariates. The fourth-, seventh-, and tenth-grade KCCT Reading and fifth- and eighth-grade KCCT Mathematics scores as the dependent variables (see Table 3).

The descriptive study used data collected from the instruments developed for participating (a) district coordinators, (b) school principals/site coordinators, (c) teachers, and (d) parents. The instruments were oriented around the evaluation questions and, to permit triangulation of data, contained a common core set of questions for all groups (e.g., experiences with SES and providers) and specific questions geared to specific groups (e.g., reactions to particular providers, the respondent’s role as a teacher, principal).

District coordinators were e-mailed login information to take their surveys online during the spring semester of 2006. Teachers and principals received their online login information in a letter enclosed with the box of parent surveys sent to each school. Parent surveys were sent home with students, completed by parents, and returned to the school for mailing back to the Center for Research in Educational Policy.

Return rates for all respondents were difficult to measure, due to the unknown factor of the number of students tutored when the surveys were distributed. Individual school data on student participation were not known before the student achievement analysis was done during the summer (after test-score data were released). Many schools received surveys and did not have any students served, so the number of surveys made available to each school could not be used as a factor in the return rate. Similarly, there was no way to determine how many teachers had SES students in their classroom, so if five teachers in a school responded to their survey, this might have represented 100% participation or only 10% for the school, according to the number of teachers exposed to SES students in their classrooms. More accurate methods of estimating student participation in each school should make the response rate easier to determine in future evaluations. Although district coordinator surveys should be representative of the full population, the school liaison, teacher, and parent responses could be biased in either positive or negative direction, and thus were interpreted cautiously where not clearly triangulated by other data.

RESULTS

Table 4 displays a summary of the KCCT Reading and Mathematics student achievement analyses. The direction of the means slightly favored the SES treatment group over the control group.

KCCT Reading Test Scores

The ANCOVA performed on KCCT Reading posttest scores yielded significance for the PAS covariate, $F(1, 1080) = 613.26, p < .001$, race, $F(1, 1080) = 1.39, p = .24$, and poverty status, $F(1, 1080) = .02, p = .90$, were not significant covariates. More important, the Program effect $F(1, 1080) = 1.64, p = .20$, was nonsignificant, indicating no differences between the SES and the comparison students.

As a follow-up, a subgroup analysis by school level (i.e., elementary, middle, high) was conducted, using previous test scores as a covariate. The ANCOVA performed on KCCT Reading by school level yielded significance for the PAS covariate in elementary school, $F(1, 274) = 226.32, p < .001$; middle school, $F(1, 689) = 449.37, p < .001$; and high school $F(1, 113) = 47.98, p < .001$, analyses.

TABLE 4
 Unadjusted and Adjusted Means and Standard Deviations
 for Supplemental Educational Services (SES) and Matched-Control
 Comparisons on Kentucky Core Content Test (KCCT) Scale Scores
 in 2005–2006

<i>Comparison Group and Test</i>	<i>N</i>	<i>M</i>	<i>M_{adj}</i>	<i>SD</i>	<i>ES</i>	<i>ES_{adj}</i>
2005–2006 KCCT Reading						
SES	677	511.24	510.61	38.70	+0.11	+0.07
Control	408	507.21	508.26	33.80		
2005–2006 KCCT Mathematics						
SES	333	530.62	530.00	45.89	+0.07	+0.03
Control	583	527.49	528.57	45.64		

However, no statistically significant effect was found between treatment and comparison groups at the elementary, $F(1, 274) = .20, p = .65$; middle, $F(1, 689) = 1.27, p = .26$; and high, $F(1, 113) = .06, p = .81$, school levels.

KCCT Mathematics Test Scores

As in the preceding analyses of Reading outcomes, an ANCOVA using the baseline (Fall, 2005) PAS scores, race, and free or reduced lunch price as covariates, was conducted on the KCCT Mathematics subtest scores. Results indicated that the PAS, $F(1, 911) = 503.97, p < .001$, and race, $F(1, 911) = 5.80, p < .001$, covariates were significant, but again the Program effect was not significant, $F(1, 911) = .33, p = .57$. Participation in the free or reduced-price lunch program was not a significant covariate, $F(1, 911) = .02, p = .89$.

As a follow-up, a subgroup analysis by school level (i.e., elementary, middle, high) was conducted, using pretest scores as a covariate. The ANCOVA performed on KCCT Mathematics by school level yielded significance for the PAS covariate in elementary, $F(1, 76) = 53.95, p < .001$; middle, $F(1, 684) = 429.32, p < .001$; and high, $F(1, 147) = 85.51, p < .001$ school analyses. However, no statistically significant effect was found between treatment and comparison groups at the elementary, $F(1, 76) = .42, p = .52$; middle, $F(1, 684) = .64, p = .43$; and high, $F(1, 147) = 1.62, p = .21$ school levels.

Performance Categories

Another way of analyzing the data for reading and mathematics is to use chi-square analyses with the state performance categories (i.e., Novice, Appren-

TABLE 5
Treatment and Comparison Students and Their Proficiency Levels

	<i>SES Students</i>		<i>Comparison Students</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Reading (<i>N</i> = 1085) Baseline				
Novice	204	30.1	132	32.4
Apprentice	287	42.4	176	43.1
Proficient/Distinguished	186	27.5	100	24.5
Reading (<i>N</i> = 1085) After Treatment				
Novice	123	18.2	84	20.6
Apprentice	285	42.1	173	42.4
Proficient/Distinguished	269	39.7	151	37.0
Mathematics (<i>N</i> = 916) Baseline				
Novice	249	42.7	142	42.6
Apprentice	238	40.8	132	39.6
Proficient/Distinguished	96	16.5	59	17.7
Mathematics (<i>N</i> = 916) After Treatment				
Novice	239	41.0	163	48.9
Apprentice	212	36.4	103	30.9
Proficient/Distinguished	132	22.6	67	20.1

tice, Proficient/Distinguished). Table 5 compares for SES and comparison students the percentages in each proficiency level for the baseline PAS test and after SES tutoring was provided. The chi-square analysis on reading yielded no statistically significant difference for baseline, $\chi(2, N = 1085) = 1.29, p = .53$, and after treatment, $\chi(2, N = 1085) = 1.28, p = .53$. Similarly, no statistically significant differences were found between treatment and comparison students in mathematics proficiency levels before, $\chi(2, N = 916) = .27, p = .87$, and after $\chi(2, N = 916) = 5.50, p = .06$, SES services.

Linear Regression Analyses

Linear regression analyses controlling for prior achievement were conducted to assess the impact of specified service providers on reading and mathematics test scores. Analyses were only conducted for service providers with a high sample size (i.e., 100 students) in reading ($n = 3$ providers) and mathematics ($n = 3$ providers). The procedure included the use of dummy-coded variables for each provider. Most of the variance was captured by the statistically significant PAS, but no service provider showed a statistically significant impact on student achievement as measured by the state assessments in reading and mathematics.

Questionnaire Results

District coordinator. The district coordinator of SES completed a survey for 16 different providers in the district (see Table 6). He expressed satisfaction with the way some providers were meeting their obligations to students and conducting business with the district. In the open-ended comment section following the district survey, he wrote, “[Provider name omitted] have worked diligently to provide quality services to all students. Parent approval of services is very high. They have gone above and beyond in sharing the progress of their students by exit conferences at the school level.” Details about the high accuracy rate of provider records and ease of contract negotiation were also mentioned.

In the area of communication, the LEA mostly agreed (75.0%) that providers communicated with him during the school year. When asked if providers worked with him to set goals for student growth, the LEA overwhelmingly (93.8%) indicated they did “not at all.” He did not believe that any providers refused to offer services to both special education and ELL students.

Some providers did not receive high praise from the district coordinator. Of one, he wrote, “[Provider name omitted]’s business practices were anything but professional. Inappropriate canvassing of neighborhoods, registering non-eligible students, falsification of application, etc.” He also described the difficulties with online service providers and how they were very difficult to monitor. He consistently (100.0%) agreed with the item asking if all providers complied with federal and state laws. His belief that provider services were raising student achievement was more split, with agreement at 56.3%. When asked about overall provider satisfaction, the LEA strongly agreed (25.0%) or agreed (37.5%, or two-thirds of the total) that he was satisfied with provider services.

School-level questionnaire. The school-level questionnaire was designed to be completed by someone in the school (besides teachers) who had a working knowledge of what SES providers were doing with students. It could be completed by principals or SES site coordinators. Table 7 summarizes the closed-ended responses. Respondents indicated concerns over the lack of knowledge about providers and which students they were working with in the school. One of them wrote, “I am concerned because we did not receive consistent feedback. The program was on a computer, and families without a computer—I’m not sure if the company followed through on the promise.” Another respondent indicated that, “Parents commented that the services were helpful.”

When the respondents reflected back on their perceptions of SES providers for the year, only 26.3% indicated both that providers communicated with them during the school year and that providers frequently met the obligations for conducting tutoring services. The same low percentage (26.3%) also agreed that the provider had positively impacted student

TABLE 6
District Coordinator Questionnaire Responses

<i>District Coordinator Questionnaire Item (n = 16 Providers)</i>	<i>Percent</i>				
	<i>Frequently</i>	<i>Occasionally</i>	<i>Not at All</i>	<i>Don't Know</i>	
<i>How often does the provider:</i>					
1. Communicate with you during the school year?	0.0	75.0	0.0	25.0	
2. Meet the obligations for conducting tutoring sessions?	68.8	12.5	0.0	18.8	
3. Communicate with teachers during the year?	75.0	25.0	0.0	0.0	
4. Communicate with parents during the year?	12.5	68.8	0.0	18.8	
5. Collaborate with you to set goals for student growth?	0.0	0.0	93.8	6.3	
<i>District Coordinator Questionnaire Item (n = 16 Providers)</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Undecided</i>	<i>Disagree</i>	<i>Don't Know</i>
<i>The provider:</i>					
6. Adapted the tutoring services to this school's curriculum.	0.0	18.8	75.0	6.3	0.0
7. Integrated the tutoring services with classroom learning activities.	0.0	12.5	81.3	6.3	0.0
8. Aligned their services with state and local standard	12.5	87.5	0.0	0.0	0.0
9. Offered services to Special Education and ESL students.	18.8	81.3	0.0	0.0	0.0
10. Complied with applicable federal NCLB laws.	0.0	100.0	0.0	0.0	0.0
11. Complied with state and local laws.	0.0	100.0	0.0	0.0	0.0
<i>Overall assessment</i>					
12. I believe the services offered by this provider positively impacted student achievement.	25.0	31.3	37.5	0.0	6.3
13. Overall, I am satisfied with the services of this provider.	25.0	37.5	25.0	6.3	6.3

achievement and that they were, overall, satisfied with the provider services. Note that, as indicated in Table 7, many questions were answered as “undecided,” seemingly as a result of the principals or site coordinators not having direct knowledge of provider actions with students.

TABLE 7
Principal/Site Coordinator Questionnaire Responses

<i>Principal/Site Coordinator Questionnaire Item (n = 19 providers)</i>	<i>Percent</i>				<i>Don't Know</i>
	<i>Frequently</i>	<i>Occasionally</i>	<i>Not at All</i>	<i>Not at All</i>	
<i>How often does the provider:</i>					
1. Communicate with you during the school year?	0.0	26.3	10.5	63.2	
2. Meet the obligations for conducting tutoring sessions?	26.3	0.0	5.3	68.4	
3. Communicate with teachers during the year?	0.0	5.3	15.8	78.9	
4. Communicate with parents during the year?	21.1	0.0	0.0	78.9	
<i>Principal/Site Coordinator Questionnaire Item (n = 19 providers)</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Undecided</i>	<i>Disagree</i>	<i>Don't Know</i>
<i>The provider:</i>					
5. Adapted the tutoring services to this school's curriculum.	0.0	5.3	84.2	10.5	0.0
6. Integrated the tutoring services with classroom learning activities.	0.0	5.3	78.9	15.8	0.0
7. Aligned their services with state and local standard.	10.5	21.1	68.4	0.0	0.0
8. Offered services to Special Education and ESL students.	10.5	10.5	78.9	0.0	0.0
9. Complied with applicable federal, state, and local laws.	10.5	15.8	73.7	0.0	0.0
<i>Overall assessment</i>					
10. I believe the services offered by this provider positively impacted student achievement.	0.0	26.3	73.7	0.0	0.0
11. Overall, I am satisfied with the services of this provider.	0.0	26.3	68.4	5.3	0.0

Note. Some percentages may not add up to 100% due to not all principals/site coordinators answering the question.

Teacher questionnaire. Table 8 summarizes the responses from teachers at SES schools within the district. Results indicate that teachers of students served by SES providers were, in general, unaware of the services provided to their students. When asked if the provider communicated with them during the school year, the majority (71.9%) of teachers answered, "not at all." Many survey questions were answered "don't know" or "undecided," reflecting the lack of knowledge expressed by many teachers in their open-ended survey comments. One teacher wrote, "I had no

TABLE 8
Teacher Questionnaire Responses

<i>Teacher Questionnaire Item</i> (<i>n</i> = 56 providers)	<i>Percent</i>				<i>Don't Know</i>
	<i>Frequently</i>	<i>Occasionally</i>	<i>Not at All</i>		
How often does the provider:					
1. Communicate with you during the school year?	7.0	17.5	71.9		3.5
2. Meet the obligations for conducting tutoring sessions?	24.6	10.5	3.5		61.4
3. Communicate with teachers during the year?	8.8	12.3	12.3		66.7
4. Communicate with parents during the year?	19.3	10.5	3.5		66.7
<i>Teacher Questionnaire Item</i> (<i>n</i> = 56 providers)	<i>Strongly Agree</i>	<i>Agree</i>	<i>Undecided</i>	<i>Disagree</i>	<i>Don't Know</i>
The provider:					
5. Adapted the tutoring services to this school's curriculum.	7.1	33.9	55.4	0.0	3.6
6. Integrated the tutoring services with classroom learning activities.	7.1	35.7	42.9	1.8	12.5
7. Aligned their services with state and local standards.	8.9	32.1	55.4	0.0	3.6
8. Offered services to Special Education and ESL students.	5.4	28.6	62.5	0.0	3.6
9. Complied with applicable federal, state, and local laws.	5.7	32.1	58.5	0.0	3.8
Overall assessment					
10. I believe the services offered by this provider positively impacted student achievement.	17.5	36.8	36.8	0.0	8.8
11. Overall, I am satisfied with the services of this provider.	15.8	35.1	40.4	0.0	8.8

Note. Some percentages may not add up to 100% due to not all teachers answering the question.

idea the students were participating in this program;” another said, “I was only contacted by [provider name omitted] regarding two students. I had no idea 11 of my students were participating in the program.” Still another teacher noted, “The only contact I had with this provider was through periodic forms I had to complete. Other than that, no one made [an effort] to correlate services with classroom activities.” In contrast, one teacher was pleased by the services given to students and wrote, “I am familiar with the curriculum at [provider name omitted] and think it is excellent.”

Parent questionnaire. Parents of students served by SES had more positive perceptions of providers than other response groups in the district, although many who responded had problems with both communication and service delivery (see summary on Table 9). Specifically, many parents found tutors to be helpful, friendly, and engaging while challenging their students in areas of weakness. In the open-ended comment section, one parent wrote, “The tutoring was extremely helpful and much needed. My daughter’s tutor went above and beyond to assist with all subject areas.” Another parent, commenting on the close personal relationship between her child and provider, noted, “I am extremely pleased with our provider. My children really respect and love her. I appreciate this opportunity my children received to strengthen their education! Thank you. [Name removed].” Other parents, while pleased with the tutoring outcomes, felt that the online tutoring lacked a personal touch and computer problems added to the frustration. One parent wrote, “It was very impersonal. However, my child did very well in the program and it helped her quite a bit so overall I guess that’s what matters the most,” and a second parent noted, “Could not access email to get update about his progress. When I called I was told it was a ‘glitch’ in the system. Did not receive calls, letters, etc.”

Some providers appeared to delay the start of services and even asked parents to pay for continuation of services once the per-pupil allotment was expended. The majority of parents of SES students do not have the benefit of extensive formal education and may not be fully aware of their rights, such as the ability to change providers if the original one selected did not meet their needs. In this regard, one parent wrote:

My child started in October 2005 with [provider name omitted]. I was pleased with the provider until my child’s tutor stopped the sessions. She was unable to come, but the provider did not provide another tutor to replace her. I had to obtain another service which I have to pay for myself. I wish I had the option to change the provider when this happened. Therefore, I would not have the hardship of paying for the sessions.

On this same subject, another parent wrote, “The program is much too expensive for a low-income family. My child needs a great deal of help other than regular school, but I cannot afford this program.”

Many parents expressed frustration with provider communications. One parent wrote, “I signed my child up at the beginning of the 2005–2006 school year. It took the whole school year for them to contact me and just my child. He would have been put on another waiting list because the location I chose was overbooked.” Another parent noted, “He submitted forms for SES but after forms were forwarded by our school, the provider failed to contact us to follow through. We made numerous phone calls to representatives with [provider name omitted] inquiring about

TABLE 9
Parent Questionnaire Responses

<i>Parent Questionnaire Item</i> (<i>n</i> = 136 providers)	<i>Percent</i>				
	<i>Frequently</i>	<i>Occasionally</i>	<i>Not at All</i>	<i>Don't Know</i>	
How often does the provider:					
1. Talk to me about my child's progress?	35.3	36.0	24.3	3.5	
2. Talk to my child's teachers about his/her progress?	8.8	11.8	39.7	61.4	
3. Send letters or notes home to me about my child's progress?	21.3	27.9	45.6	66.7	
4. Help my child with subjects they are working on in their classroom at school?	35.3	22.8	28.7	66.7	
5. Start and end the tutoring sessions at the scheduled time?	80.1	8.1	5.1		
<i>Parent Questionnaire Item</i> (<i>n</i> = 136 providers)	<i>Strongly Agree</i>	<i>Agree</i>	<i>Undecided</i>	<i>Disagree</i>	<i>Don't Know</i>
Overall assessment					
6. I believe that the services offered have helped my child's achievement.	33.1	39.0	16.2	4.4	5.1
7. Overall, I am pleased with the services that my child received.	36.8	33.8	12.5	8.8	6.6
District assessment:					
8. I was given information about my child's rights under the No Child Left Behind law.	35.3	48.5	8.8	5.9	1.5
9. I was given enough time to decide which service provider I wanted for my child.	30.9	55.9	3.7	8.1	1.5
10. I am pleased with the way my school district helped me obtain Supplemental Educational Services for my child.	33.8	43.4	9.6	9.6	3.7

Note. Some percentages may not add up to 100% due to not all parents answering the question.

placement status for our child to no avail.” A complete listing of all parent comments can be found in the full statewide Kentucky SES Evaluation Report for 2005–2006 (Potter, Ross, Muñoz, Paek, & McKay, 2007).

Although parents struggled with provider issues, the majority (77.2%) of parents responding to selected survey questions agreed or strongly agreed that they were pleased with the way the district helped them obtain SES (see Table 9). Most parents also felt that they had enough information about their child’s rights and time to choose the provider. Communication problems mentioned in the open-ended comment section were also reflected in the selected questions answered, with almost one-half (45.6%) of parents indicating “not at all” when asked if letters or notes on their child’s progress were sent home by the provider.

DISCUSSION

Given the national interest in NCLB, and SES, in particular, it is important to examine the impact of the tutoring services provided on educational improvement and learning. Although studies conducted in fairly restrictive and controlled contexts often show positive benefits of individual and small-group tutoring, especially when provided by qualified adults (Fuchs et al., 2002; Green et al., 2004; Ismail & Alexander, 2005), the demonstration of, and ability to detect, similar benefits in a large scale, federally mandated program remain in question. Similar to other recent evaluations of SES (Potter, Ross, Muñoz, et al., 2007; Potter, Ross, Paek, et al., 2006), these results showed no achievement advantages for the SES participants on state-mandated test scores in reading and mathematics. Specifically, on the KCCT Reading subtest in the fourth, seventh, and tenth grades, and the KCCT Mathematics subtest in the fifth and eighth grades, SES participants were not significantly different than the matched control students.

One possible explanation for the absence of effects is the limited duration of the tutoring activity relative to regular school programs and other educational experiences. A second, related, explanation concerns the lack of sensitivity of high-stakes, standardized tests for assessing higher-order learning or gain on specific knowledge skills that may be taught (Linn & Miller, 2005). But a third, even more direct, cause of limited program impacts would be failure to implement the interventions strongly or fully in the first place. Although implementation quality was not evaluated directly in this study, the perceptions of teachers, the district coordinator, and school principals/SES coordinators did not show strong support for provider services at schools within the district. Parents indicated that they felt informed of their rights by the district, but many may have felt too intimidated to speak up if a provider failed to respond to their request for services or asked them to pay for services beyond their free tutoring. Those closest to the parents—school principals and teachers—could help by encouraging parents to communicate with

them when there is a problem with their chosen tutor. This may be difficult, however, due to the indication by teachers that providers do not communicate well with them, either.

The survey data relating to communications brought some interesting perceptions to light. Some respondent groups perceived providers as communicating more with others than with themselves. Specifically, whereas district coordinators believed that providers were communicating often with teachers, the opposite opinion was expressed by the teachers themselves. Provider communication with teachers is encouraged from both state and district levels, so it may be the case that some providers are exaggerating the close ties that they have with schools and in tailoring the students' goals to their weaknesses in classroom learning.

The strong suggestion from this research, and other studies cited previously in this article, is that the relatively little contact and communication between providers and teachers raises some concern and would seemingly help to explain, in part, the absence of SES effects on achievement. The literature on school reform and educational program evaluation strongly emphasizes the importance of teacher buy-in (Datnow et al., 2002; Desimone, 2002) and connection between the new intervention and everyday classroom practices (Herrmann, 2006). For example, a student may learn during a tutoring session to solve a math problem in a manner that differs from, and creates interference with, the strategy taught by the regular teacher. As Slavin and Fashola (1998) indicated, creating conditions in which practitioners are involved in selecting, implementing, and evaluating programs "must be the primary goal of the entire reform process; any reform that stops short of the classroom door is unlikely to affect student achievement" (p. 92). Presently, most SES tutoring appears to be far removed from the classroom, both literally and figuratively. The need for much stronger connections is strongly suggested if student achievement is to be impacted.

These findings are qualified by several factors. First, due to the inability to employ a randomized experimental design, firm causal conclusions cannot be reached. Sampling representativeness is limited by student choice in program enrollment and participation. As a result, it is difficult to isolate the impact of the SES program participation from other possible explanations for student achievement changes. For example, the participation and outcomes of students might be affected by teachers or parental involvement. Despite confounding variables, the systematic matching procedure and statistical controls should have established sufficiently strong internal validity for attributing differential group change more to the interventions than to potentially confounding intervening factors (Cook & Campbell, 1979; Shadish et al., 2002).

A second limiting factor was the shrinkage of sample sizes for both the SES and control groups due to incomplete testing data. Direct year-to-year comparisons of KCCT scale scores or proficiency levels are difficult because the reading and mathematics tests are given to particular grade levels. Our results indicate that only

a small subset of SES and comparable students had test scores on the accountability grades. Differences of this sort could limit to whom we might generalize our results and, thus, might compromise the study's external validity.

Finally, the focus on outcomes is not enough. Strong process-oriented evaluations might help explain the outcomes, but—more important—will ultimately lead to program improvements. The conclusions might be strengthened by additional data that capture, in more depth, SES program quality and customer satisfaction measures (Ross et al., 2006). Given the fact that information about program attendance was not available, one might expect that the high-attendance students might have different results than the students who attended on fewer occasions. Future research should include program attendance or amount of service hours to assess the impact of the “dosage” on student achievement.

States across the nation have developed their own SES provider lists and are required to evaluate provider effectiveness on student achievement. According to NCLB, at a minimum, states must remove providers from the approved list if they fail to increase student achievement for 2 consecutive years. In the high-stakes accountability environment, school districts are also examining their SES programs to ensure that students receive quality services that, in turn, demonstrate an increase in student achievement in reading and mathematics. Sound SES evaluation is extremely challenging due to the complexity of isolating the effects of a relatively small number of hours of tutoring relative to myriad school and outside interventions that impact student achievement. That is certainly why so few comprehensive SES evaluation studies have yet been completed. However, this is a challenge worth meeting. We need to test the assumption that requiring districts to contract with external organizations to provide remedial instruction to students in Title I schools will expand parents' choices and improve student achievement (Burch et al., 2007). It would be too easy—and a potential loss for at-risk and disadvantaged learners—to prematurely judge SES as unsuccessful because researchers do not yet have a preponderance of evidence to the contrary. So far, though, we need to point out the contradiction in the NCLB legislation in terms of expectations about the quality and effectiveness of SES and the actual empirical evidence. In particular, SES services under NCLB are running the risk of shortchanging, rather than expanding, the opportunities for the very students that NCLB aims to not leave behind.

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