Supplemental Educational Services

and Student Achievement in Waiver Districts:

Anchorage and Hillsborough

January 2009

U.S. Department of Education
Office of Planning, Evaluation and Policy Development
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STATEMENT FROM THE U.S. DEPARTMENT OF EDUCATION

Data were collected from the first year of the SES pilot (2005-06) in Chicago and Boston, but they are not included in this evaluation report or issued as part of a separate evaluation report because there were some issues with and some gaps in the data collected. Thus, this evaluation data was used for internal purposes only.

Subsequently, the Department took steps to improve data collection with participating districts. Specifically, the Department (a) clarified the data requirements with the participating districts; (b) instituted a process to contact the districts earlier in the school year for the background data; and (c) collected only the current year achievement data later in the year. Thus, the data collection process with the second group of waiver grantees that is described in this report was improved. A future evaluation and evaluation report will examine the implementation of supplemental educational services in all five waiver districts (Anchorage, Boston, Charlotte-Mecklenburg, Chicago, and Hillsborough) and will review all relevant data, but will focus on results from the 2006-07 school year through the 2008-09 school year.

EXECUTIVE SUMMARY

Under the *Elementary and Secondary Education Act of 1965 (ESEA)*, as amended by the *No Child Left Behind Act of 2001* (*NCLB*), Title I schools that do not make adequate yearly progress (AYP) for two consecutive years are identified for school improvement. If an identified Title I school does not make AYP while in that status and thus enters the second year of school improvement status, its district must offer students from low-income families in the school the opportunity to receive free supplemental educational services, such as tutoring, remediation or other academic enrichment that are provided in addition to instruction provided during the school day. The district must also offer supplemental educational services to students from low-income families in schools that continue not to make AYP and are identified for corrective action or restructuring. Parents of eligible students may choose a provider from the state-approved list and the school district pays for the services. Many types of organizations are eligible to apply to become state-approved supplemental educational service providers, including for-profit agencies, not-for-profit groups, faith-based and community-based organizations, private schools, and public schools and districts.

Under federal regulations, school districts that have been identified for improvement or corrective action are not eligible to be supplemental educational service providers. However, the U.S. Department of Education has granted waivers to five such districts, on a pilot basis, to allow those districts to provide supplemental educational services. Boston, Massachusetts and Chicago, Illinois received waivers beginning in the 2005–06 school year; Hillsborough County, Florida and Anchorage, Alaska received waivers beginning in the 2006–07 school year; and Charlotte-Mecklenburg, North Carolina received a waiver beginning in the 2008–09 school year. These pilot districts are eligible to serve as providers in exchange for expanding students' access to supplemental educational services and providing student achievement data for an evaluation to examine program effectiveness. The goals of this pilot program are to help ensure that more eligible students receive supplemental educational service, and to provide more accurate and comprehensive information to the U.S. Department of Education on the effectiveness of supplemental educational services in improving student academic achievement.

This report examines the implementation of supplemental educational services in two of the waiver districts, Anchorage and Hillsborough, in 2006–07, including issues relating to student participation, achievement gains, and communication with parents. A future report will examine the implementation of supplemental educational services in all five waiver districts (Anchorage, Boston, Charlotte-Mecklenburg, Chicago, and Hillsborough) through the 2008–09 school year.

The central evaluation question for this report is whether students served by the Anchorage and Hillsborough County district providers show achievement gains that are at least comparable to those of students served by non-district providers. This report also examines the effects of supplemental educational services more generally by evaluating whether, and to what extent, supplemental educational services participants in these two districts show achievement gains relative to students who do not participate. Finally, the report examines whether student achievement gains vary by individual provider or by student characteristics, such as race/ethnicity, limited English proficiency, and special education status.

With respect to the analysis of student achievement, the analyses presented here apply to a subset of students in each district—those in tested grades only. In Anchorage, students in grades 3–9 took the Alaska Standards Based Assessment (SBA) in 2004–05. In subsequent years, 10th graders were tested as well. Prior to 2004–05 only students in grades 3, 6, and 8 participated in standardized tests, and the test

administered was the Alaska Benchmark Exam[1], not the SBA. In Hillsborough, students in grades 1–12 participated in Florida's Comprehensive Assessment Test (FCAT) from 2002–03 through 2004–05. In 2005–06 and 2006–07 this test was administered to students in grades 2–12 and 3–12, respectively. Given these data, the achievement analyses presented in this report cover 71 and 84 percent of all students receiving supplemental educational services in Anchorage and Hillsborough, respectively.

KEY FINDINGS

Eligibility for and Participation in Supplemental Educational Services

- In Anchorage, 6 percent of all students in the district were eligible for supplemental educational services in 2006–07. In Hillsborough about 20 percent of all students in the district were eligible for these services in 2006–07.
- In both districts, the percentage of eligible students participating in supplemental educational services increased between 2004–05 and 2006–07, reaching 11 percent (from 4 percent) in Anchorage and 14 percent (from 2 percent) in Hillsborough in 2006–07.
- The Anchorage school district served 138 students through its own supplemental educational services program (45 percent of students served) in 2006–07. The district did not offer supplemental educational services during the previous school years (see Exhibit S.1).
- The Hillsborough school district served 971 students through its own supplemental educational services program (16 percent of students served) in 2006–07. The district did not offer supplemental educational services during the previous school years (see Exhibit S.2).
- Participants in supplemental educational services received an average of 28 and 22 hours of tutoring in Anchorage and Hillsborough during 2006–07, respectively.
- In both Anchorage and Hillsborough, students who were eligible for supplemental educational services had significantly lower levels of prior achievement in mathematics and reading than students who were not eligible.
- In both Anchorage and Hillsborough, students who participated in supplemental educational services in 2006–07 had significantly lower levels of prior achievement (in 2005–06) than eligible students who chose not to participate.
- In Hillsborough, participants served by the school district in 2006–07 had higher prior achievement levels in 2005–06 than students served by non-district providers. In Anchorage, there was no clear pattern of prior achievement levels in 2005–06 between students served by the district and those served by non-district providers in 2006–07.

[1] The Benchmark and SBA tests have similar scale scores and proficiency markers. As explained later, scale scores were standardized within grade.

Exhibit S.1
Number and Percentage of Supplemental Educational Services Participants in Grades K–12 Who Were Served by Type of Provider, in Anchorage, 2004–05 Through 2006–07

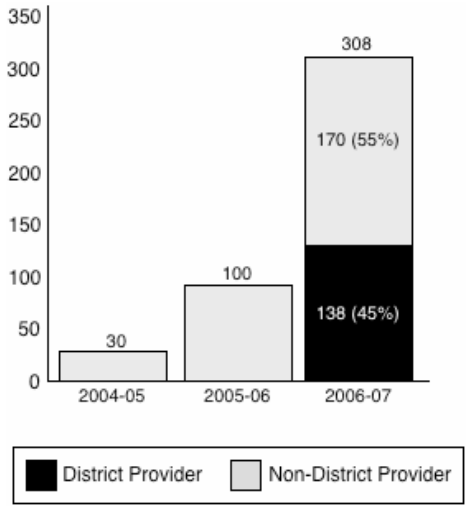

Exhibit reads: In Anchorage in 2006–07, 138 participants, or 45 percent of all participants, received supplemental educational services from the Anchorage Public Schools; 170 students were served by non-district providers.

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

Exhibit S.2
Number and Percentage of Supplemental Educational Services Participants in Grades K–12 Who Were Served by Type of Provider, in Hillsborough, 2004–05 Through 2006–07

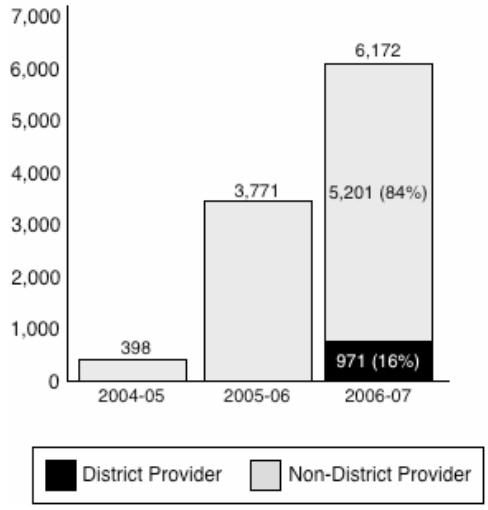

Exhibit reads: In Hillsborough in 2006–07, 971 participants, or 16 percent of all participants, received supplemental educational services from the Hillsborough school district; 5,201 students were served by non-district providers.

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

Student Achievement Gains

- In Anchorage, there was not a statistically significant difference in the academic achievement gains between participants and eligible non-participants (see Exhibit S.3). However, the participant group was extremely small which makes it difficult to detect significant effects.
- In Hillsborough, students receiving supplemental educational services experienced larger academic gains in mathematics—but not in reading—than eligible non-participants. Participants improved their academic achievement by 0.05 standard deviations more than eligible non-participants in mathematics.
- In both districts, students served by non-district providers showed, on average, larger gains than eligible non-participants in mathematics (but not in reading). Students served by the two district providers (Anchorage and Hillsborough) did not show achievement gains in either subject that were statistically distinguishable from those of eligible non-participants.

Exhibit S.3
Relative Achievement Gains for Supplemental Educational Services Participants, by Type of Provider, in Anchorage and Hillsborough, 2002–03 Through 2006–07

	Anchorage		Hillsborough	
	Mathematics	Reading	Mathematics	Reading
Overall Effect	–0.05	0.01	0.05*	–0.001
District Provider	–0.17	–0.11	0.05	–0.02
Non-District Provider	0.18*	0.12	0.08*	–0.01

Exhibit reads: In Anchorage, students who participated in supplemental educational services in mathematics showed no significant differences in mathematics achievement gains from those of eligible non-participants.

Notes: Scores reported are rank-based z-scores. * indicates gains that were statistically different form the gains of eligible non-participants at the .05 level.

Source: Administrative data provided by the Anchorage and Hillsborough school districts, 2002–03 through 2006–07.

- Looking at individual non-district providers, only one such provider in Hillsborough showed a larger achievement gain (in mathematics) relative to the gains of eligible non-participants. No individual provider in Anchorage showed any significant gains relative to eligible non-participants.

Overall, there was not a consistent relationship between the amount of services received and achievement gains in either district.

- In both districts, most student subgroups did not show significant achievement gains.

District Communication with Parents

- Despite the use of phrases such as "free tutoring," both Anchorage and Hillsborough sent families notification materials that were difficult to understand due to use of jargon (such as quoting the law) and the high grade level at which the documents were written.
- Both Anchorage and Hillsborough translated some materials into languages other than English.
- Both Anchorage and Hillsborough provided unbiased materials describing all supplemental educational service providers.

I. INTRODUCTION

Under the *Elementary and Secondary Education Act of 1965 (ESEA),* as amended by the *No Child Left Behind Act of 2001* (*NCLB*), Title I schools that do not make adequate yearly progress (AYP) for two consecutive years are identified for school improvement. If an identified Title I school does not make AYP while in that status, and thus enters the second year of school improvement status, its district must offer students from low-income families in the school the opportunity to receive free supplemental educational services, such as tutoring, remediation or other academic instruction provided outside the regular school day. The district must also offer supplemental educational services to students from low-income families in schools that continue not to make AYP and are identified for corrective action or restructuring. Parents of eligible students may choose a provider from the state-approved list and the school district pays for the services. Many types of organizations are eligible to apply to become state-approved supplemental service providers, including for-profit agencies, not for-profit groups, faith-based and community-based organizations, private schools, and public schools and districts. Under federal regulations, school districts that have been identified for improvement or corrective action are not eligible to be supplemental educational service providers. However, the U.S. Department of Education has granted waivers to five such districts, on a pilot basis, to allow those districts to provide supplemental educational services. Boston, Massachusetts and Chicago, Illinois received waivers beginning in the 2005–06 school year; Hillsborough County, Florida and Anchorage, Alaska received waivers beginning in the 2006–07 school year; and Charlotte-Mecklenburg, North Carolina received a waiver beginning in the 2008–09 school year.

This report examines the implementation of supplemental educational services in two of the waiver districts, Anchorage and Hillsborough, in 2006–07, including issues relating to student participation, achievement gains, and communication with parents. A future report will examine the implementation of supplemental educational services in all five waiver districts (Anchorage, Boston, Charlotte-Mecklenburg, Chicago, and Hillsborough) through the 2008–09 school year.

The central evaluation question for this report is whether students served by the Anchorage and Hillsborough County district providers show achievement gains that are at least comparable to those of students served by non-district providers. This report also examines the effects of supplemental educational services more generally by evaluating whether, and to what extent, supplemental educational services participants in these two districts show achievement gains relative to students who do not participate. Finally, the report examines whether achievement gains vary by individual provider, amount of services received, or by student characteristics, such as race/ethnicity, limited English proficiency, and special education status.

EVALUATION QUESTIONS

These analyses rely on student-level achievement data from the 2002–03 through 2006–07 school years plus student-level data on participation in supplemental educational services in 2004–05 through 2006–07 to address the following sets of evaluation questions:

Eligibility for and Participation in Supplemental Educational Services

1. Did the percent of eligible students participating in supplemental educational services during the pilot year increase from the prior year(s)?

2. How were participating students distributed among providers? How do students served by the districts' supplemental educational services programs compare to students served by non-district providers?
3. Were there significant demographic or academic differences between students served by different providers, specifically those served by the districts' programs compared to those served by non-district providers?

Student Achievement

1. Are gains in achievement for students receiving supplemental educational services from district providers comparable to gains for students served by non-district providers?
2. How do levels of achievement vary based on student eligibility for, and participation in, supplemental educational services?
3. Controlling for amount of exposure to supplemental educational services, are reading and mathematics gains for students served by district providers comparable to students served by non-district providers?

District Communication with Parents

1. Are districts communicating with parents about the availability of supplemental educational services in a manner that is clear, user friendly, and accessible?
2. Is the nature of district communication unbiased with respect to particular providers, specifically non-district providers versus the district-provided services?

OVERVIEW OF THE SUPPLEMENTAL EDUCATIONAL SERVICES PROVISIONS OF *NCLB*

A key objective of Title I of the *ESEA*, as amended by *NCLB*, is to provide greater parental choice to families with children attending Title I schools identified for improvement, corrective action, or restructuring. One option is for parents to enroll children in supplemental educational services, such as tutoring, remediation, or other supplemental academic enrichment that are in addition to instruction provided during the school day. Students from low-income families are eligible for supplemental educational services if they attend a Title I school that is in the second year of school improvement, in corrective action, or in restructuring. Parents of eligible students may choose a provider from the state-approved list, which may include for-profit agencies, not-for-profit groups, faith-based and community-based organizations, private schools, and public schools and districts. Districts that are required to offer supplemental educational services must pay for these services and spend, subject to demand, an amount equal to at least 20 percent of their Title I, Part A allocation on supplemental education services and transportation for public school choice.[2] School districts must consult with providers and parents to establish achievement goals for students, and providers are required to measure progress towards these goals and communicate with parents regarding their child's progress. States are responsible for monitoring and evaluating provider performance, and may use monitoring and evaluation results to remove from the state-approved list a provider that fails, for two consecutive years, to contribute to increasing students' academic proficiency.

[2] In Title I schools that have been identified for school improvement, corrective action, or restructuring, the district must offer students the option to transfer to another public school in the district that has not been so identified. All students in identified schools are eligible for this option, and the district must provide transportation for participating students, subject to available funding.

Few studies to date have examined the effect of supplemental educational services on student achievement. One study by the U.S. Department of Education found that, on average, across seven large, urban districts, participation in supplemental educational services had a statistically significant effect on students' achievement in mathematics (a gain of 0.09 standard deviations) and reading (a gain of 0.08 standard deviations) relative to eligible students who did not participate.[3] Gains by students served by district versus non-district providers varied, but showed no clear pattern.

Under federal regulations, school districts that have been identified for improvement or corrective action are not eligible to be supplemental educational service providers. However, the U.S. Department of Education granted waivers to five such districts, on a pilot basis, to allow those districts to provide supplemental educational services. These pilot districts are: Boston, Massachusetts; Chicago, Illinois; Hillsborough County, Florida; Anchorage, Alaska, and Charlotte-Mecklenburg, North Carolina. These pilot districts are eligible to serve as providers in exchange for expanding students' ability to access supplemental educational services and providing student achievement data for an evaluation to examine program effectiveness. As part of the waiver, districts agreed to provide:

- Early notification to parents of their children's eligibility to participate in supplemental educational services;
- Extended enrollment periods so that parents can make the best choice for their child;
- The use of district facilities by non-district providers for a reasonable fee; and
- Academic data to an independent third party for evaluation of the effectiveness of supplemental educational services.

The goals of the pilot are to help ensure that more eligible students are receiving supplemental educational services, and to provide more accurate and comprehensive information on the effectiveness of supplemental educational services provided by districts in improvement in improving student academic achievement.

This report on the pilot waivers examines the implementation of supplemental educational services in the Anchorage and Hillsborough County school districts, including issues relating to student participation, achievement gains, and communication with parents.

DATA SOURCES

Analyses of supplemental educational services pose several challenges, including: obtaining student-level achievement data that are longitudinally linked and enable examination of student achievement gains over time, acquiring achievement data for students prior to their receiving supplemental educational services, and determining an appropriate comparison group for participants. Further, it may be difficult for districts to provide complete and accurate data on student eligibility for supplemental educational services. A student is eligible for supplemental educational services if the student attends a Title I school that is in the second year of school improvement, in corrective action, or in restructuring, and if the student comes from a low-income family. To determine whether a student is from a low-income family, the district must use the same poverty measure that it uses to rank its Title I schools. In most districts, student eligibility for free or reduced-price lunches is used to determine family income levels. However,

[3] Zimmer, R., Gill, B., Razquin, P., Booker, K., & Lockwood, J.R., (2007). *State and local implementation of the No Child Left Behind Act: Volume I–Title I school choice, supplemental educational services, and student achievement.* Washington, D.C.: U.S. Department of Education.

district datafiles on student eligibility for free or reduced-price lunch are frequently missing data for some students, in part because not all eligible students are enrolled in this program. .

Anchorage and Hillsborough each provided data on student eligibility, participation, the provider from whom each student received services, and the number of hours of tutoring participants received in 2004–05 through 2006–07 (see Exhibit 1).

In Anchorage, student-level data on limited English proficiency and special education status were not available. Therefore, no separate analyses for these subgroups were conducted for Anchorage.

Determining Eligibility and Participation

For the purposes of these analyses, the research team established parameters to determine student eligibility for supplemental educational services. First, any student in a school not required to offer supplemental educational services (based on district designations of school eligibility) was considered ineligible. In addition, if student demographic data indicated that students were not eligible for services by virtue of not being eligible for free or reduced-price lunch, they were considered ineligible for the purpose of the analysis, even if they were, in fact, receiving services (the number of students removed from the analysis for this reason was very small).

Exhibit 1
Data Available from Anchorage and Hillsborough

	Anchorage	Hillsborough
Eligibility and Participation Data		
Eligibility	2004–05, 2005–06, 2006–07	2002–03, 2003–04, 2004–05, 2005–06, 2006–07
Participation	2004–05, 2005–06, 2006–07	2004–05, 2005–06, 2006–07
Grades with Data Available	K–12	K–12
Participation Data		
Provider Name and Type	2004–05, 2005–06, 2006–07	2004–05, 2005–06, 2006–07
Hours of Services Received	2004–05, 2005–06, 2006–07	2004–05, 2005–06, 2006–07
Subject of Tutoring	2004–05, 2005–06, 2006–07	2004–05, 2005–06, 2006–07
Grades with Data Available	K–12	K–12
Student Achievement Data		
Test (Year)	Benchmark (2002–03 to 2003–04); SBA (2004–05 to 2006–07)	FCAT (2002–03 to 2006–07)
Tested Grades	3,6, and 8 (2002–03 to 2003–04) 3–9 (2004–05) 3–10 (2005–06 to 2006–07)	1–12 (2002–03 to 2004–05) 2–12 (2005–06) 3–12 (2006–07)

Measuring Achievement

Each district provided longitudinal student achievement data from their state assessment. In Anchorage, all students in grades 3–9 in 2004–05, and grades 3–10 in 2005–06 and 2006–07 took the Alaska Standards Based Assessments (SBAs). Before that, achievement data was only available for students in grades 3, 6, and 8, on the previous state assessment, the Alaska Benchmark Exam. Hillsborough provided reading and mathematics scale scores on Florida's Comprehensive Assessment Test (FCAT) for all students in grades 1–12 from 2002–03 through 2004–05, grades 2–12 in 2005–06, and grades 3–12 in 2006–07. More information on the data received from each district is provided in Appendix A.

The analytic models in this study estimate student achievement gains over time, comparing students who do and do not participate in supplemental educational services. The analyses use a fixed-effects approach, which operates by taking the within-student difference of the characteristics under study, and comparing the pre-treatment and post-treatment characteristics of each individual student. By examining the performance of students before and after receiving services, we are able to gain a "value-added" estimate of the gains associated with the services.

Communication

Each district provided information about their communication efforts with parents. The research team examined examples of submitted documents and reviewed the methods of distribution as reported by the districts.

II. FINDINGS: ELIGIBILITY FOR AND PARTICIPATION IN SUPPLEMENTAL EDUCATIONAL SERVICES

Although data on Anchorage and Hillsborough are presented together in this analysis when possible, it is important to note that distinct features of each district, such as administration of supplemental educational services and supply of providers, pose challenges to a side-by-side comparison of the individual district's results. While it is beyond the scope of this analysis to explore the reasons for possible variations in results for the districts, explanations for differences in district results might include:

- **Context:** District size, demographic characteristics, prior achievement levels, and annual fluctuations in the number of students eligible for and participating in supplemental educational services might each influence the effect of supplemental educational services on student achievement.
- **Implementation:** District capacity for implementing and monitoring supplemental educational services likely varies across districts. Differences in district implementation, such as notification practices and enrollment opportunities, and differences in the duration, nature, and quality of the various supplemental educational services programs offered in each district, including the hours and location of services and tutor-student ratios, may contribute to differences in results.

Throughout the rest of the report, results for Anchorage and Hillsborough are shown together when the data available for each district are similar. However, with respect to achievement results, we cannot make direct comparisons between the two districts because the achievement measures and the grades tested in each district differ.

STUDENT ELIGIBILITY FOR SUPPLEMENTAL EDUCATIONAL SERVICES

In Anchorage, 6 percent of students were eligible for supplemental educational services during 2006–07. In Hillsborough, about 20 percent of students were eligible for these services in 2006–07.

The percentages of students eligible for supplemental educational services increased from 2004–05 to 2006–07 in both districts. In Hillsborough, the percentage of students eligible for supplemental educational services increased from 1 percent to 20 percent, while in Anchorage, the eligibility rate increased from 1 percent to 6 percent (see Exhibit 2).

Exhibit 2
Number and Percentage of Eligible Students in Grades K–12 Who Participated in Supplemental Educational Services, in Anchorage and Hillsborough, 2004–05 Through 2006–07

	Number Eligible	Percent Eligible	Number of Participants	Percentage of Eligible Students who Participated
	Anchorage, Alaska			
2004–05	709	1%	30	4%
2005–06	2,093	4%	100	5%
2006–07	2,890	6%	308	11%
	Hillsborough, Florida			
2004–05	1,931	1%	398	2%
2005–06	38,184	18%	3,771	10%
2006–07	43,276	20%	6,172	14%

Exhibit reads: In 2004–05, 709 students were eligible for supplemental educational services in Anchorage, Alaska.

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07; Hillsborough School District Administrative Data, 2002–03 through 2006–07.

PARTICIPATION IN SUPPLEMENTAL EDUCATIONAL SERVICES

In both districts, the percentage of eligible students participating in supplemental educational services increased between 2004–05 and 2006–07, reaching 11 percent in Anchorage and 14 percent Hillsborough in 2006–07.

The total number of students receiving supplemental educational services in the Anchorage school district has been notably low.[4] In 2004–05 only 30 students received services, which increased to 308 during 2006–07 (see Exhibit 2). These low numbers are due in part to the low number of students eligible for these services in Anchorage and also to a low ratio of eligible students actually participating. During the 2006–07 school year, 11 percent of students eligible for services received them, an increase from the 4 percent who participated in supplemental educational services in 2004–05.

In Hillsborough, the total number of students receiving supplemental educational services was considerably larger than in Anchorage. Though there were just under 400 participants in 2004–05, there were about 3,800 and 6,200 participants in 2005–06 and 2006–07, respectively (see Exhibit 2). This larger number of participants was a result of a much larger pool of eligible students. The participation rates of eligible students in Hillsborough were higher than in Anchorage (i.e., 10 versus 5 percent in 2005–06, and 14 versus 11 percent in 2006–07).

In Anchorage, the majority of supplemental educational services participants were enrolled in elementary and middle school grades, while in Hillsborough almost all of them were in elementary school grades.

In Anchorage, the distribution of supplemental educational services participants was fairly evenly distributed between elementary and middle school grades. During the 2006–07 school year, 63 and 35 percent of participants were in grades 1–5 and 6–8, respectively (see Exhibit 3).

The students who participated in supplemental educational services in Hillsborough were mainly enrolled in elementary school grades (Kindergarten though grade 5): 89 and 10 percent of all participants were in elementary and middle school grades, respectively, in 2006–07 (see Exhibit 3).

Exhibit 3
Distribution of Supplemental Educational Services Participants, by Grade Level, in Anchorage and Hillsborough, 2005–06 and 2006–07

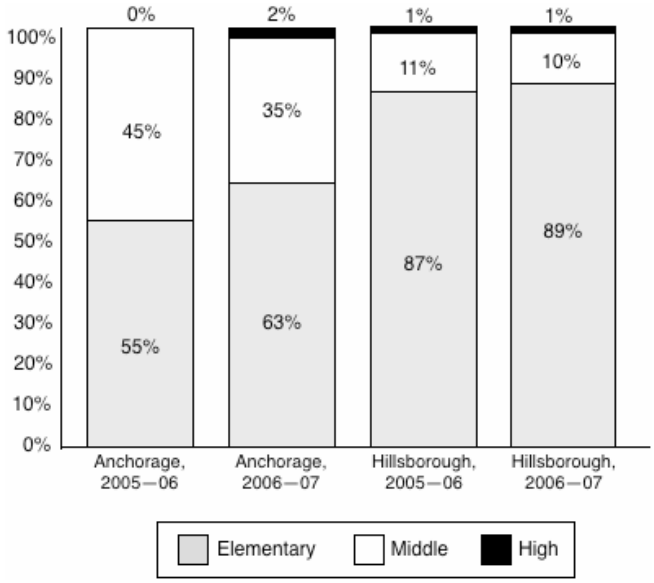

Exhibit reads: Among supplemental educational services participants in Anchorage in 2005–06, 55 percent of participants were in elementary school grades (K–5), and 45 percent in middle school grades (6–8). There were no participants in high school grades (9–12).

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07; Hillsborough School District Administrative Data, 2002–03 through 2006–07.

The Anchorage school district served 45 percent of the students receiving supplemental educational services in 2006–07. In previous years, all participants were served by non-district providers.

As mentioned above, the Anchorage school district began serving as a supplemental educational service provider in 2006–07 after it received its waiver from the U.S. Department of Education. During that year, the Anchorage school district served 138 students in the program, or 45 percent of all 308 participants. In the previous years, non-district providers served all students who received supplemental educational services (see Exhibit 4).

Exhibit 4
Number and Percentage of Supplemental Educational Services Participants in Grades K–12 by Provider Type, in Anchorage, 2004–05 Through 2006–07

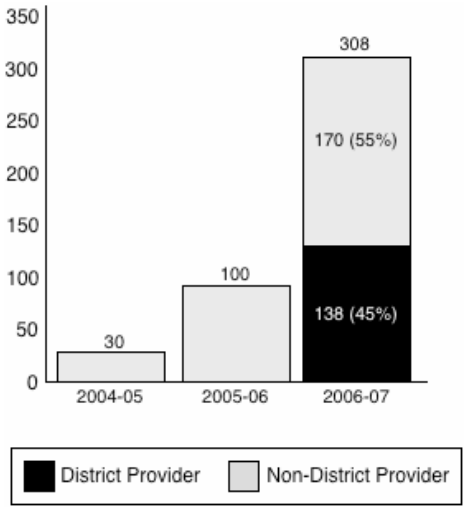

Exhibit reads: In Anchorage in 2006–07, 138 participants, or 45 percent of all participants, received supplemental educational services from the district provider, and 170 students were served by non-district providers.

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

In Anchorage, five providers served students in 2005–06 and in 2006–07. Two providers served students in both years, so there were a total of eight providers Anchorage serving students across the two years. Three providers in 2005–06 and 2006–07 had fewer than 20 participants (see Exhibit 5).[5]

Exhibit 5
Number and Percentage of Students in Grades K–12 Receiving Supplemental Educational Services, by Provider, in Anchorage, 2005–06 and 2006–07

Anchorage				
Provider	2005–06		2006–07	
	# Participants	% Participants	# Participants	% Participants
Anchorage School District	NA	–	138	45%
Private Provider A	NA	–	128	42%
Private Provider B	28	28%	19	6%
Private Provider C	NA	–	16	5%
Private Provider D	8	8%	7	2%
Private Provider E	61	61%	NA	–
Private Provider F	2	2%	NA	–
Private Provider G	1	1%	NA	–
All Participants	**100**	**100%**	**308**	**100%**

Exhibit reads: In Anchorage in 2006–07, 138 supplemental educational services participants were served by the Anchorage School District, representing 45 percent of all participants.

Notes: NA indicates that the provider did not provide services during that year.

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

[5] Private providers are not identified by their real names. However, each letter or pair of letters represents a distinct provider and is used consistently throughout the report.

The Hillsborough school district served 971 participants (16 percent of the total) in 2006–07. It did not offer supplemental educational services during the previous school years.

As in Anchorage, the Hillsborough school district started providing supplemental educational services in 2006–07 after it received its waiver from the U.S. Department of Education, and served 16 percent of all participants that school year. The other 5,201 students were served by non-district providers, a figure that increased by about 40 percent from the 3,771 students served by these non-district providers the year before (see Exhibit 6).

Exhibit 6
Number and Percentage of Supplemental Educational Services Participants in Grades K–12 Who Were Served by the District Provider, in Hillsborough, 2004–05 Through 2006–07

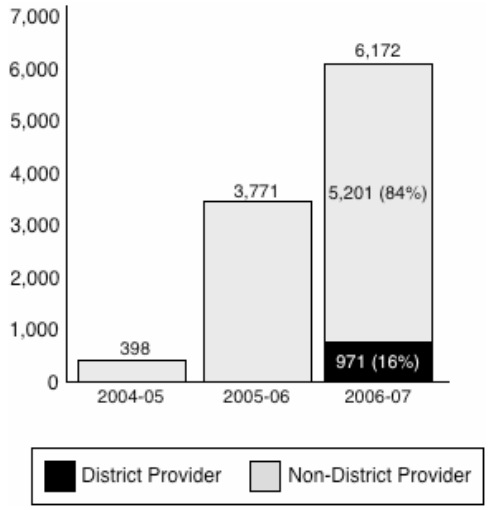

Exhibit reads: In Hillsborough in 2006–07, 971 participants, or 16 percent of all participants, received supplemental educational services from the Hillsborough school district and 5,201, or 84 percent of participants, received supplemental educational services from non-district providers

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

The number of supplemental educational service providers was substantially higher in Hillsborough than in Anchorage. There were 23 service providers in Hillsborough in 2005–06 and 24 in 2006–07, respectively (see Exhibit 7). In Hillsborough only one provider served fewer than 20 students in 2005–06 and only three providers served fewer than 20 students in 2006–07.

It is important to note that, in Hillsborough in 2005–06 and 2006–07, some participants received services from more than one provider.[6]

[6] Adding the number of students served by each provider in 2006–07 gives a total figure of 6,246, which is higher than the 6,172 students participating in the program during that year. This indicates that some students had more than one provider.

Exhibit 7
Number and Percentage of Students in Grades K–12 Receiving Supplemental Educational Services, by Provider, in Hillsborough, 2005–06 and 2006–07

Hillsborough				
	2005–06		2006–07	
Provider Name	**N**	**%**	**N**	**%**
Hillsborough County Public Schools—Academy For Success (District provider)	NA	–	971	16%
Private Provider H	637	17%	1,226	20%
Private Provider I	739	19%	820	13%
Private Provider J	121	3%	787	13%
Private Provider K	309	8%	332	5%
Private Provider L	328	9%	312	5%
Private Provider M	NA	–	298	5%
Private Provider B	NA	–	276	0%
Private Provider N	336	9%	214	3%
Private Provider O	183	5%	150	2%
Private Provider P	72	2%	148	2%
Private Provider Q	40	1%	121	2%
Private Provider R	308	8%	106	2%
Private Provider S	NA	–	84	1%
Private Provider T	66	2%	72	1%
Private Provider A	NA	–	71	1%
Private Provider U	75	2%	67	1%
Private Provider V	28	<1%	61	1%
Private Provider W	NA	–	54	<1%
Private Provider Y	97	3%	36	<1%
Private Provider Z	NA	–	29	<1%
Private Provider AA	NA	–	5	<1%
Private Provider AB	NA	–	4	<1%
Private Provider AC	NA	–	2	<1%
Private Provider AD	135	4%	NA	–
Private Provider AE	80	2%	NA	–
Private Provider AF	56	2%	NA	–
Private Provider AG	54	1%	NA	–
Private Provider AH	54	1%	NA	–
Private Provider AI	43	1%	NA	–
Private Provider AJ	40	1%	NA	–
Private Provider AK	32	<1%	NA	–
Private Provider AL	17	<1%	NA	–
Total	**3,850**	**100%**	**6,246**	**100%**

Exhibit reads: In Hillsborough in 2006–07, 971 supplemental educational services participants were served by the district, representing 16 percent of all participants.

Note: NA indicates that the provider did not provide services during that year.

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

CHARACTERISTICS OF ELIGIBLE AND PARTICIPATING STUDENTS

African-American and Alaska Native students constituted the largest ethnic groups of all students receiving supplemental educational services in Anchorage. Students served by the Anchorage school district were more likely to be Alaska Native or Hispanic, while students served by non-district providers were more likely to be African-American or Asian.

In Anchorage, African-American and Alaska Native students constituted the largest ethnic groups of all participants, representing 21 and 20 percent of the total, respectively. Other racial-ethnic groups that each comprised over ten percent of participants were white, Asian, multi-racial, and Hispanic students (see Exhibit 8).

Exhibit 8
Demographic Characteristics of Supplemental Educational Services Participants in Grades K–12, by Provider Type, in Anchorage, 2006–07

	All Eligible	All Participants	Anchorage School District	Non-District Providers
Distribution by Race-Ethnicity				
% African-American	14**	21**	15*	25*
% Alaska Native	25**	20**	22	18
% White	16	17	16	17
% Asian	25**	16**	11*	19*
% Multi-Racial	11**	14**	16	13
% Hispanic	8**	12**	20*	6*
% American Indian	1	1	1	1
Total	100%	100%	100%	100%
N	**2,890**	**308**	**138**	**170**

Exhibit reads: In Anchorage in 2006–07, 14 percent of students eligible for supplemental educational services were African-American and 21 percent of all participants were African-American. Fifteen percent of supplemental educational services participants served by the district were African-American, while 25 percent of participants served by non-district providers were African-American.

Note: * indicates a significant difference between district and non-district providers at the .05 level. ** indicates a significant difference between all eligible students and all participants at the .05 level.

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

There were statistically significant differences in the ethnic background of students served by district and non-district providers in Anchorage. The Anchorage school district tended to serve more Alaska Native and Hispanic students, while non-district providers were more likely to serve African-American and Asian students. The differences in the percentages of white and multi-racial students across these providers were less pronounced, though still statistically significant.

Moreover, African-American students—and to a lesser degree white, multi-racial and Hispanic students—were more likely to participate in supplemental educational services than were Alaska Native and Asian students. Appendix B presents participation rates by ethnic group in Anchorage.

Data on English proficiency and special education status were not available for Anchorage.

In Hillsborough, Hispanic and African-American students represented more than 80 percent of all students receiving supplemental educational services.

In Hillsborough, Hispanic and African-American students constituted the vast majority, over 80 percent, of participants. The differences in student ethnic background across district and non-district providers were less pronounced in Hillsborough than in Anchorage. African-American and white students were more likely to choose the district provider for services, while Hispanic students were more likely to choose a non-district provider. Hispanic students were also more likely to participate in supplemental educational services than were white students (see Exhibit 9). Appendix B presents participation rates by ethnic group in Hillsborough.

About 45 percent of all students receiving supplemental educational services in Hillsborough were limited English proficient. The pool of students receiving services from the district had a slightly lower percentage of limited English proficient students than those served by non-district providers (42 versus 46 percent, respectively). In addition, 21 percent of supplemental educational services participants were special education students. Students served by the Hillsborough school district were somewhat more likely to be special education students than those served by non-district providers (see Exhibit 9).

Exhibit 9
Demographics Characteristics of Supplemental Educational Services Participants in Grades K–12, by Provider Type, in Hillsborough, 2006–07

	All Eligible	All Participants	Hillsborough School District	Non-District Providers
Distribution by Race-Ethnicity				
% African-American	35**	33**	35	33
% White	17**	14**	15	13
% Asian	1	1	1	1
% Multi-Racial	4	4	3*	4*
% Hispanic	43**	48**	45*	49*
% American Indian	<1	<1	<1	<1
Students with Special Needs				
% Limited English Proficient	38	45	42*	46*
% Special Education	18	21	24*	20*
N	**43,276**	**6,172**	**971**	**5,201**

Exhibit reads: In Hillsborough in 2006–07, 35 percent of students eligible for supplemental educational services were African-American and 33 percent of all participants were African-American. Thirty-five percent of supplemental educational services participants served by the district were African-American, while 33 percent of participants served by non-district providers were African-American.

Note: * indicates a significant difference between district and non-district providers at the .05 level. ** indicates a significant difference between all eligible students and all participants at the .05 level.

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

HOURS AND SUBJECT OF TUTORING

Participants in the program received an average of 28 and 22 hours of supplemental educational services in Anchorage and Hillsborough during 2006–07, respectively.

In 2006–07, the average number of hours of supplemental educational services was 28 hours in Anchorage. Students served by the Anchorage school district received, on average, six (or 24 percent) more service hours than those who were served by non-district providers. In the case of Hillsborough, the average number of hours of tutoring and the difference between district and non-district providers was lower than in Anchorage. In Hillsborough, participants received an average of 22 hours of supplemental educational services. Non-district providers served students, on average, for about one hour more than the district provider (see Exhibit 10).

Exhibit 10
Average Number of Hours of Supplemental Educational Services Received by Participants in Grades K–12, by Provider, in Anchorage and Hillsborough, 2006–07

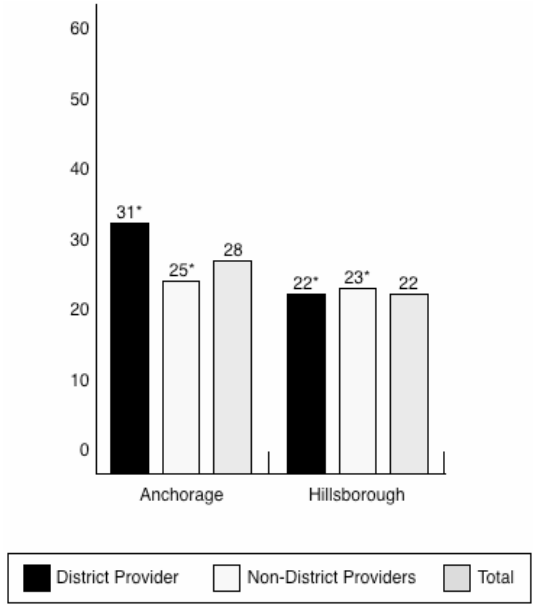

Exhibit reads: In Anchorage in 2006–07, the district provider delivered an average of 31 hours of supplemental educational services per student, while non-district providers delivered an average of 25 hours of supplemental educational services per student. The average number of hours for services for all participating students was 28.

Note: * Indicates a statistically significant difference between the district provider and non-district providers at the .05 level.

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07; Hillsborough School District Administrative Data, 2002–03 through 2006–07.

In Anchorage during 2006–07, 44 percent of students (135 students) received only supplemental educational services in reading, while 17 percent (51 students) received only services in mathematics. Another 23 percent (72 students) received tutoring in both subjects. There are 50 supplemental educational services participants in Anchorage for whom information on the subject of tutoring is missing (see Appendix C). Students served by the Anchorage school district were more likely to receive supplemental educational services in both subjects (39 percent of district participants), compared to students served by non-district providers (11 percent). See Appendix C for further details.

In Hillsborough, about 79 percent of all participants (4,857 students) received supplemental educational services only in reading during the 2006–07 school year. Twenty-one percent of students (1,283 students) received supplemental educational services only in mathematics. This means that in Hillsborough only 32 students received supplemental educational services in both subjects (see Appendix C). In terms of the differences across district and non-district providers, students served by the Hillsborough school district were more likely to receive only mathematics services (31 percent of students served by the district compared to 19 percent of students served by non-district providers received support in mathematics only). See Appendix C for further details.

III. FINDINGS: STUDENT ACHIEVEMENT

ANALYTIC APPROACH

The analytic approach follows the methods used for a previous analysis of SES and student achievement in nine large urban school districts that was conducted as part of the National Longitudinal Study of *No Child Left Behind* (Zimmer et al., 2006). For Hillsborough, we use longitudinal, student-level data for all students in grades 1–12 from 2002–03 through 2004–05, grades 2–12 in 2005–06, and grades 3–12 in 2006–07. The achievement test scores come from Florida's Comprehensive Assessment Test (FCAT). In Hillsborough, information on participation in supplemental educational services, type of provider, number of hours of services, and subject of services was available for 2005–06 and 2006–07.

In Anchorage, we used longitudinal, student level data for all students in grades 3–9 in 2004–05, and grades 3–10 in 2005–06 and 2006–07. Unfortunately, before 2004–05 only achievement data for students in grades 3, 6, and 8 were available. The achievement data in Anchorage comes from Alaska's Standards Based Assessment (SBAs) for 2004–05 onwards, while previous achievement data come from the Alaska Benchmark Exam.

The outcomes for both districts are rank-based z-scores that indicate a student's position in the test score distribution for his or her grade level. For example, a score of 0.5 indicates that the student scored one half of a standard deviation above the district mean. It is important to note that gains on these metrics do not indicate a developmental improvement, such as a five-point gain, rather they represent a student's movement within the test score distribution relative to his or her classmates.[7]

The analytic models estimate student achievement gains over time, comparing students who do and do not participate in supplemental educational services. By combining longitudinal data and student level fixed-effects, we can isolate the gains associated with participation in supplemental educational services by parceling out the effect of time invariant student characteristics, such as parent education, income or underlying student ability or motivation. The fixed-effects approach operates by taking the within-student difference of the characteristics under study (e.g., eligibility for supplemental educational services, participation in services, and provider chosen), and comparing the pre-treatment and post-treatment characteristics of each individual student. By examining the performance of students before and after receiving services, we are able to gain a "value-added" estimate of the services. Further, by including a term for each individual student in the analytic model, we further guard against selection bias that could result if students choosing services were different from others in some immeasurable way. This student-level fixed-effect essentially controls for the characteristics of each student that may otherwise affect their achievement levels. For example, students who choose a program may be more motivated than others, or may have other unmeasured traits (e.g., higher parental involvement or education) that may make them more likely to achieve at higher levels even in absence of the program, which can lead to biased results. Further, students who are more motivated or who may have greater levels of innate ability (beyond what may be reflected in a standardized test score) may benefit more from services. It is possible that selection bias may lead to either overestimation or underestimation of the true gains associated with the program.

[7] This is analogous to a national percentile rank where the mean is zero rather than 50 percent, and the population is the district rather than the nation.

The gains model is:

(1) $A_{it} - A_{it-1} = \alpha\ \text{Eligible}_{it} + \lambda\ \text{Participation}_{it} + \mu_t + \theta_{gt} + \varepsilon_{it}$

Where:
Ait – A_{it-1} is the achievement gain of student i from year t–1 to year t
Eligible_{it} is the eligibility status of student i in year t
$\text{Participation}_{it}$ is the participation status of student i in year t
μ_t represents the individual student's fixed effect
θ_{gt} represents the grade by year fixed-effects
ε_{it} represents the random error

An additional variation on the model includes interactions for participation and student characteristics, which evaluates whether certain groups of students may benefit more from supplemental educational services. These models build on equation 1 by adding an interaction term for the participation by a student group, such as limited English proficient (LEP) students. A significant positive coefficient for LEP students by participation interaction term would indicate that LEP participants showed significant gains in achievement.[8]

In order to evaluate the gains associated with various characteristics of supplemental educational services, such as provider type, hours, etc., we estimate a separate model for each characteristic. We estimate a total of 7 models for each district to evaluate the effect of the following variables: overall participation; first year of participation as compared to multiple years of participation; district versus non-district provider; individual providers; hours of services received; and subject of tutoring. These models substitute the full set of options for the participation variable, such as all providers, and estimate the gains associated with each separately. For example, the model for provider type is as follows:

(2) $A_{it} - A_{it-1} = \alpha\ \text{Eligible}_{it} + \lambda\ \text{District Provider}_{it} + \xi\ \text{Non-District Provider}_{it} + \mu_t + \theta_{gt} + \varepsilon_{it}$

The coefficient for the district provider variable indicates the achievement gain for students served by the district's supplemental educational services program, while the non-district coefficient indicates the gain for participants served by non-district providers.[9]

The analyses of district providers versus non-district providers are restricted to those students who received supplemental educational services during 2006-07, the year of the waiver. That is, students who received SES services in 2004-05 or 2005-06 but not in 2006-07 were excluded from these analyses.

As a result of the analytic approach described above, the results of the achievement analyses reported in this chapter are based on a subset of the full student populations in each district. While earlier chapters

[8] The interpretation of these interaction terms is complicated; they are designed to indicate whether a particular group of students is making significant gains. For example, to examine gains for Hispanic students, we use an interaction term to indicate the specific gain for Hispanic participants, while the comparison group is non-Hispanic, non-participants. Therefore the model estimates the gains for all groups, to show which groups made significant gains and which did not. The significance test measures whether the effect of participation plus the effect of being Hispanic is significantly different from zero.

[9] Note that this approach does not directly compare the gains of students served by district versus non-district providers; it tests whether students served by the district make gains that are significantly greater than zero, and concurrently tests whether the gains made by students served by non-district providers were significantly greater than zero. The relative size of the gains can be seen by comparing the coefficients for each provider type, which show the average gains in standard deviation units.

included all students for whom we had information on eligibility and participation information, this chapter includes only students in tested grades. The analytic approach further requires that students have achievement scores for at least two time points in either reading or mathematics in order to construct a gain score. Finally, students who repeated a grade were not included in the analyses. Given that the outcome measure is designed to measure a student's progress in relation to the rest of the students in his or her grade level, including a student who has repeated a grade inherently leads to comparing an on-track student to a student who is one year older and has taken the same test twice. For example, if we examine a cohort of students in fifth grade in 2004–05, we look at their outcome as the difference between their reading score in the prior year as fourth graders and their reading score in 2004–05 as fifth graders, both of which are standardized to the full population of test takers of that grade level in that year. Any fifth graders who repeated fifth grade in that year may have much larger gains, given they have taken the same test in both years, and the non-repeaters may appear to be doing less well.

In addition to describing the caveats to the analytical approach above, is important to note that because the achievement measures as well as the grades tested in each district differ, we are limited in our ability to make direct comparisons between achievement results in Anchorage and Hillsborough.

PRIOR ACHIEVEMENT LEVELS BY STUDENT ELIGIBILITY FOR SUPPLEMENTAL EDUCATIONAL SERVICES

In both Anchorage and Hillsborough, students who were eligible for supplemental educational services had significantly lower levels of prior achievement in mathematics and reading than students who were not eligible.

Comparing the previous year's achievement scores of students who were eligible for supplemental educational services (students from low-income families who attend Title I schools that did not make AYP for the third year) to the scores of students in the district who were not eligible shows whether students who were eligible for supplemental educational services were more likely to have lower levels of prior achievement. As one would expect, eligible students in both districts had lower prior achievement scores than ineligible students, in both reading and mathematics.

As mentioned in the previous section, scale scores have been standardized within grade (to a mean of zero, and a standard deviation of one) in order to make comparisons across grades more meaningful. In Anchorage, students who were eligible for supplemental educational services in 2006–07 scored 0.57 and 0.69 standard deviations below the overall district mean on the prior year's mathematics and reading test, respectively. In contrast, ineligible students were just above the overall district mean (see Exhibit 11).

Exhibit 11
Prior Achievement Levels (in 2005–06) on the SBA of Students in Grades 3–10 by 2006–07 Supplemental Educational Services Eligibility, in Anchorage

	Anchorage	
	Mathematics	**Reading**
Ineligible in 2006–07	0.04	0.05
Eligible in 2006–07	–0.57*	–0.69*
n	27,430	27,376

Exhibit reads: In Anchorage, students who were not eligible for supplemental educational services in 2006–07 had levels of prior mathematics achievement in 2005–06 of about 0.04 standard deviations above the district average, while students who were eligible had prior mathematics achievement levels 0.57 standard deviations below the district average, a significant difference.

Notes: Means are for all students with at least one gain score and who are therefore included in the regression analyses. Scores reported are rank-based z-scores.

* indicates a significant difference between eligible and ineligible students at the .05 level.

Source: Anchorage School District Administrative Data, 2005–06 through 2006–07.

The prior achievement gap between eligible and ineligible students was much smaller in Hillsborough than in Anchorage, possibly a result of the much higher percentage of eligible students in Hillsborough. Still, as in Anchorage, students eligible for supplemental educational services in Hillsborough had lower achievement levels than ineligible students. Students who were eligible for supplemental educational services in 2006–07 scored 0.10 and 0.11 standard deviations below the overall district mean on the prior year's mathematics and reading test, respectively. On the other hand, ineligible students scored 0.02 standard deviations above the district mean on the prior year's mathematics and reading tests (see Exhibit 12).

Exhibit 12
Prior Achievement Levels (in 2005–06) on the FCAT of Students in Grades 1–12 by 2006–07 Supplemental Educational Services Eligibility, in Hillsborough

	Hillsborough	
	Mathematics	**Reading**
Ineligible in 2006–07	0.02	0.02
Eligible in 2006–07	–0.10*	–0.11*
n	195,432	195,432

Exhibit reads: In Hillsborough, students who were not eligible for supplemental educational services in 2006–07 had levels of prior mathematics achievement in 2005–06 of about 0.02 standard deviations above the district average, while students who were eligible had prior mathematics achievement levels 0.10 standard deviations below the district average, a significant difference.

Notes: Means are for all students with at least one gain score and who are therefore included in the regression analyses. Scores reported are rank-based z-scores.

* indicates a significant difference between eligible and ineligible students at the .05 level.

Source: Hillsborough School District Administrative Data, 2005–06 through 2006–07.

PRIOR ACHIEVEMENT LEVELS BY STUDENT PARTICIPATION IN SUPPLEMENTAL EDUCATIONAL SERVICES

Students who participated in supplemental educational services had lower prior achievement levels than eligible non-participants in Anchorage and Hillsborough

In Anchorage, students who participated in supplemental educational services in 2006–07 performed worse in mathematics and reading than eligible non-participants in 2005–06. Participating students scored 0.95 and 1.03 standard deviations below the Anchorage district mean in mathematics and reading, respectively, while eligible non-participants scored 0.52 and 0.64 standard deviations below this overall mean (see Exhibit 13).

Exhibit 13
Prior Achievement Levels (in 2005–06) on the Benchmark of Students in Grades 3–10 by 2006–07 Supplemental Educational Services Participation, in Anchorage

Anchorage		
	Mathematics	**Reading**
Participants in 2006–07	–0.95*	–1.03*
Eligible Non-Participants in 2006–07	–0.52	–0.64
Students who where Ineligible in 2006–07	0.04	0.05
n	1,474	1,460

Exhibit reads: In Anchorage, students who received supplemental educational services in 2006–07 had levels of prior mathematics achievement in 2005–06 of about 0.95 standard deviations below the district average.

Notes: Means are for all students with at least one gain score and who are therefore included in the regression analyses. Scores reported are rank-based z-scores.

* indicates a significant difference between eligible non-participants and participants at the .05 level.

Source: Anchorage School District Administrative Data, 2005–06 through 2006–07.

In Hillsborough the pattern was similar, with participants having lower prior achievement than eligible non-participants. The academic achievement of students who participated in supplemental educational services in 2006–07 was equal to 0.18 standard deviations below the district mean in 2005–06 across both subjects (see Exhibit 14). During that year, the performance of eligible non-participants ranged from 0.09 to 0.10 standard deviations below the district mean in mathematics and reading, respectively. This indicates that eligible non-participants scored between 0.08 to 0.09 standard deviations above participants on prior achievement tests.

Exhibit 14
Prior Achievement Levels (in 2005–06) on the FCAT of Students in Grades 1–12 by 2006–07 Supplemental Educational Services Participation, in Hillsborough

Hillsborough		
	Mathematics	**Reading**
Participants in 2006–07	–0.18*	–0.18*
Eligible Non-Participants in 2006–07	–0.09	–0.10
Students who where Ineligible in 2006–07	0.02	0.02
n	31,227	31,227

Exhibit reads: In Hillsborough, students who received supplemental educational services in 2006–07 had levels of mathematics achievement in 2005–06 of about 0.18 standard deviations below the district average.

Notes: Means are for all students with at least one gain score and who are therefore included in the regression analyses. Scores reported are rank-based z-scores.

* indicates a significant difference between eligible non-participants and participants at the .05 level.

Source: Hillsborough School District Administrative Data, 2005–06 through 2006–07.

PRIOR ACHIEVEMENT LEVELS BY PROVIDER TYPE

In Hillsborough, participants served by the school district had higher prior achievement levels than students served by other providers. In Anchorage, prior student achievement across district and non-district providers was statistically indistinguishable.

In Anchorage, there was no clear pattern of prior achievement levels in 2005–06 between students served by the district and those served by non-district providers. All of these students scored around 1 standard deviation below the district mean in 2005–06 in mathematics and reading (see Exhibit 15).

Exhibit 15
Prior Achievement Levels (in 2005–06) on the Benchmark of Students in Grades 3 Through 10 by 2006–07 Provider Type, in Anchorage

	Anchorage	
	Mathematics	**Reading**
District Provider in 2006–07	–1.05	–1.06
Non-District Providers in 2006–07	–0.89	–1.01
n	181	182

Exhibit reads: In Anchorage, students who were served in 2006–07 by the district provider had an average level of mathematics achievement of 1.05 standard deviations below the district average in 2005–06, while students served by non-district providers had prior mathematics achievement levels during that year of 0.89 standard deviations below the district average. Nevertheless, this difference was not statistically significant.

Notes: Means are for all students with at least one gain score and who are therefore included in the regression analyses. Scores reported are rank-based z-scores.

* indicates a significant difference between students served by district versus non-district providers at the .05 level.

Source: Anchorage School District Administrative Data, 2005–06 through 2006–07.

In Hillsborough, participants served by the school district in 2006–07 scored slightly higher on prior achievement tests than those served by non-district providers. For instance, students served by non-district providers in 2006–07 scored, on average, 0.19 standard deviations below the district mean in mathematics and reading in 2005–06, while students served by the Hillsborough school district scored 0.14 and 0.13 standard deviations below the district mean in mathematics and reading, respectively (see Exhibit 16).

Exhibit 16
Prior Achievement Levels (in 2005–06) on the FCAT of Students in Grades 1–12 by 2006–07 Provider Type, in Hillsborough

	Hillsborough	
	Mathematics	**Reading**
District Provider in 2006–07	–0.14	–0.13
Non-District Providers in 2006–07	–0.19*	–0.19*
n	4,192	4,192

Exhibit reads: In Hillsborough, students who were served by the district provider in 2006–07 had an average level of mathematics achievement of 0.19 standard deviations below the district average in 2005–06, while students served by non-district providers had prior mathematics achievement levels during that year of 0.14 standard deviations below the district average, a significant difference.

Notes: Means are for all students with at least one gain score and who are therefore included in the regression analyses. Scores reported are rank-based z-scores.

* indicates a significant difference between students served by district versus non-district providers at the .05 level.

Source: Hillsborough School District Administrative Data, 2005–06 through 2006–07.

SUPPLEMENTAL EDUCATIONAL SERVICES PARTICIPATION AND STUDENT ACHIEVEMENT

The following results are based on the student-level fixed-effects models described in the analytic approach section. All models include an indicator for student eligibility for services, plus grade, year, and grade-by-year fixed-effects. Note that the coefficients presented in these regression tables always compare the achievement gains of participants to the gain of eligible non-participants, using standardized scale scores (i.e., a z-score metric). This means that each coefficient indicates whether participants experienced a larger or smaller achievement gain (measured in standard deviations) than the one of eligible non-participants, and whether this difference was statistically significantly different or not.

Of the students in this study, only those who received supplemental educational services in mathematics in Hillsborough experienced larger academic gains (in mathematics) than eligible non-participants. No gains were found in Anchorage, but the participant group was extremely small which makes it difficult to detect significant effects.

On average, students receiving supplemental educational services in Anchorage did not experience larger gains in academic performance than eligible non-participants (see Exhibit 17).[10] The coefficients associated with the overall gains in mathematics and reading were not statistically significant.[11] Note that a negative coefficient does not *necessarily* imply an achievement decline of the participant group. It indicates that students receiving supplemental educational services experienced smaller gains (or potentially, larger declines) than eligible non-participants. It is a relative, not an absolute, measure of performance.

Exhibit 17
Achievement Gains on the Benchmark and SBA of Students in Grades 3–10 by Participation in Supplemental Educational Services, in Anchorage, 2002–03 Through 2006–07

	Mathematics		Reading	
	Gains	**n**	**Gains**	**n**
Overall Effect	–0.05	221	0.01	258
First Year Effect	–0.04	215	0.01	255

Exhibit reads: In Anchorage, students who participated in supplemental educational services in mathematics showed no significant differences in mathematics achievement gains from those of eligible non-participants.

Notes: Scores reported are rank-based z-scores. Multiple Year Effect results not included due to small n size (6 participants total for 2005–06 and 2006–07). N is the number of student observations in treatment contributing to the estimate. All models controlled for student eligibility for services. * indicates gains that were statistically different form the gains of eligible non-participants at the .05 level.

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

[10] Robust standard errors of all fixed-effects regressions are presented in Appendix E.

[11] In statistical terms, the power to reject the hypothesis of no effect (null hypothesis) depends on the number of observations available. The larger the treatment and control group, the higher the power is to reject the null hypothesis.

In Hillsborough, students receiving supplemental educational services experienced higher achievement gains in mathematics than eligible students who chose not to participate. This difference was equal to 0.05 standard deviations in this subject; this analysis controls for the subject in which a student received services (see Exhibit 18). No statistically significant differences were observed between participants and eligible non-participants in reading.

In Hillsborough, when the effect of the first year of program participation is isolated from the subsequent years, participants experienced larger gains in mathematics than eligible non-participants only during the first year of the program. Again, no statistically significant differences were observed in reading.

Exhibit 18
Achievement Gains on the FCAT of Students in Grades 1–12 by Participation in Supplemental Educational Services, in Hillsborough, 2002–03 Through 2006–07

	Mathematics		Reading	
	Gains	**n**	**Gains**	**n**
Overall Effect	0.05*	1,966	-0.001	7,288
First Year Effect	0.04*	1,683	-0.0001	6,092
Multiple Year Effect	0.07	283	-0.01	1,196

Exhibit reads: In Hillsborough, students who participated in supplemental educational services demonstrated greater gains in mathematics achievement—improving by .05 standard deviations—relative to eligible non-participants, a statistically significant difference.

Notes: Scores reported are rank-based z-scores. N is the number of student observations in treatment contributing to the estimate. All models controlled for student eligibility for services.
* indicates gains that were statistically different form the gains of eligible non-participants at the .05 level.

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

GAINS IN STUDENT ACHIEVEMENT BY PROVIDER

In the aggregate, only students served by non-district providers in Anchorage and Hillsborough experienced larger academic gains in mathematics compared with eligible non-participants.

On average, students who received services from non-district providers in Anchorage experienced statistically significant achievement gains in comparison to eligible non-participants (see Exhibit 19).

Exhibit 19
Achievement Gains on the Benchmark and SBA of Students in Grades 3–10 by Provider Type, in Anchorage, 2002–03 Through 2006–07

	Mathematics		Reading	
	Gains	**n**	**Gains**	**n**
District Provider	–0.17	67	–0.11	83
Non-District Providers	0.18*	62	0.12	90

Exhibit reads: In Anchorage, students who received supplemental educational services in mathematics from the district provider showed no significant difference in mathematics achievement gains from those of eligible non-participants. Students who were served by non-district providers demonstrated greater gains in mathematics achievement, on average—improving by 0.18 standard deviations—relative to eligible non-participants, a statistically significant difference.

Notes: Scores reported are rank-based z-scores. All models controlled for student eligibility for services. N is the number of student observations in treatment contributing to the estimate. * indicates gains that were statistically different from the gains of eligible non-participants at the .05 level.

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

In Anchorage, no provider showed achievement gains that were significantly higher than the gains of eligible non-participants. One provider in Anchorage had gains in mathematics that were higher than the average gain across all participants. This provider experienced a gain of 0.17 standard deviations above the performance of eligible non-participants, and served 46 students for an average of 31 hours. All the other providers in Anchorage experienced mathematics achievement gains statistically indistinguishable from the average coefficient across all participants (–0.05 standard deviations) (see Exhibit 20). The small sample size of students served by each provider makes it difficult to detect significant gains.

Exhibit 20
Mathematics Achievement Gains on the Benchmark and SBA of Students in Grades 3–10 by Eligibility for and Participation in Supplemental Educational Services, by Provider, in Anchorage, 2002–03 Through 2006–07

Provider Name	Number of Participants	Average Hours per Student	Mathematics
Average Across All Providers			**–0.05**
Providers Showing No Significant Effects			
Private Provider A	46	31	0.17
Anchorage School District	67	29	–0.17
Other Providers	16	28	0.21
Total Number of Students	129		

Exhibit reads: In Anchorage, Private Provider A provided supplemental educational services to 46 students in 2006–07, with an average of 31 hours of services per student. Students served by Private Provider A showed a statistically significant difference in mathematics achievement gains compared with the average participant gain, but not with respect to eligible non-participants in the district.

Notes: Scores reported are rank-based z-scores. The "Other Providers" category includes all providers serving less than 20 students in mathematics. All models controlled for student eligibility for services.
* indicates that the provider experienced gains that were statistically different from the gains of eligible non-participants at the .05 level. Scores reported are rank-based z-scores. Shaded bars indicate that the provider experienced gains that were statistically different from the district average for all participants. In the next exhibit, no bars are shaded, indicating that there are no statistically significant differences from the district average.

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

In Anchorage, no provider—including the Anchorage school district—had statistically significant gains in reading above or below the group average gain (see Exhibit 21). In other words, none of these performance gains was statistically different from the overall average participant gain of 0.01 standard deviations above that of eligible non-participants (see Exhibit 17). These providers served between 20 and 70 students in reading for an average of 26 to 33 hours.

Exhibit 21
Reading Achievement Gains on the Benchmark and SBA of Students in Grades 3–10 by Eligibility for and Participation in Supplemental Educational Services, by Provider, in Anchorage, 2002–03 Through 2006–07

Provider Name	Number of Participants	Average Hours per Student	Reading
Average Across All Providers			**0.01**
Providers Showing No Significant Effects			
Private Provider A	70	27	0.11
Anchorage School District	83	33	–0.11
Other Providers	20	26	0.14
Total Number of Students	173		

Exhibit reads: In Anchorage, Private Provider A showed achievement gains for participating students that were not significantly different than gains for eligible non-participants. This gain was also not significantly larger than the average participant gain in the district.

Notes: Shading indicates that the provider experienced gains that were statistically different from the district average. * indicates that the provider experienced gains that were statistically different from the gains of eligible non-participants at the .05 level. Scores reported are rank-based z-scores. The "Other Providers" other category includes all providers serving less than 20 students in reading. All models controlled for student eligibility for services.

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

In Hillsborough, only students served by non-district providers experienced higher academic gains in mathematics than eligible non-participants.

In Hillsborough, only students served by non-district providers showed statistically significant achievement gains in mathematics, 0.08 standard deviations, compared to eligible non-participants (see Exhibit 22). Consistent with the overall program effects observed in Hillsborough (Exhibit 18), these results indicate no statistically significant difference between participants and eligible non-participants in reading.

In Hillsborough a hybrid category existed, composed of students who were served simultaneously by the district and non-district providers in 2006–07. The data show that this hybrid group of participants did not experience significantly different academic gains than eligible non-participants.

Exhibit 22
Achievement Gains on the FCAT of Students in Grades 1–12
by Provider Type, in Hillsborough, 2002–03 through 2006–07

	Mathematics		Reading	
	Gains	**n**	**Gains**	**n**
District Provider	0.05	234	–0.02	447
Non-District Providers	0.08*	743	–0.01	2,503
District and Non-District Providers[a]	**	18	0.22	50

Exhibit reads: In Hillsborough, students who received supplemental educational services in mathematics from the district provider showed no significant difference in mathematics achievement gains from those of eligible non-participants. Students who were served by non-district providers demonstrated greater gains in mathematics achievement—improving by 0.08 standard deviations—relative to eligible non-participants, a statistically significant difference.

Notes: Scores reported are rank-based z-scores. N is the number of student observations in treatment contributing to the estimate. All models controlled for student eligibility for services.

* indicates that the provider experienced gains that were statistically different from the gains of eligible non-participants at the .05 level.

** indicates that the data are not reported due to small sample size (n<20 students).

[a] Some students in Hillsborough were served in 2006–07 simultaneously by the district provider and non-district providers, creating a hybrid group.

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

Out of the 10 providers in Hillsborough that served more than 20 participants in mathematics during the 2006–07 school year, one provider showed achievement gains that were significantly higher than the gains of eligible non-participants (provider S, noted with an asterisk) (see Exhibit 23). However, no provider had achievement gains in mathematics that were statistically greater than the average gain across all participants (0.05). These 10 providers served between 20 and 234 students in mathematics in 2006–07 for an average number of hours that ranged from 9 to 35 hours. One of these providers was the district, which served 234 participants in mathematics for an average of 20 hours.

Exhibit 23
Mathematics Achievement Gains on the FCAT of Students in Grades 1–12 by Eligibility for and Participation in Supplemental Educational Services, by Provider, in Hillsborough, 2002–03 through 2006–07

Provider Name	Number of Participants	Average Hours per Student	Mathematics
Average Across All Providers			**0.05**
Providers Showing Significant Gains			
Private Provider S	20	27	0.32*
Providers Showing No Significant Gains			
Private Provider W	22	9	0.14
Private Provider Q	49	24	0.08
Private Provider N	40	35	0.08
Private Provider I	158	18	0.07
Private Provider H	213	24	0.05
Hillsborough School District	234	21	0.05
Private Provider L	55	16	0.05
Private Provider K	52	19	0.02
Private Provider B	44	16	–0.04
Other Providers	128	24	0.14
Total Number of Students	995		

Exhibit reads: In Hillsborough, one private provider (S) showed achievement gains for participating students that were significantly larger than gains for eligible non-participants. However, these gains were not statistically larger than the average effect size across all supplemental educational service providers.

Notes: Scores reported are rank-based z-scores. The "Other Providers" category includes all providers serving less than 20 students in mathematics. All models controlled for student eligibility for services.
* indicates that the provider experienced gains that were statistically different from the gains of eligible non-participants at the .05 level.
Shaded bars indicate that the provider experienced gains that were statistically different from the district average. In this exhibit, no bars are shaded, indicating that there are no statistically significant differences from the district average.

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

In reading, 19 providers in Hillsborough served more than 20 participants during the 2006–07 school year. No provider statistically performed above the overall average participant gain in the district or above eligible non-participants (see Exhibit 24). The reading achievement gains ranged from 0.07 to 0.28 standard deviations above the performance of eligible non-participants (see Exhibit 18). Nevertheless none of these differences with the group average were significant at the .05 level. This

group of providers, which included the Hillsborough school district, served between 24 and 476 students in reading for an average of 13 to 35 hours in 2006–07.

Exhibit 24
Reading Achievement Gains on the FCAT of Students in Grades 1–12 by Eligibility for and Participation in Supplemental Educational Services, by Provider, in Hillsborough, 2002–03 Through 2006–07

Provider Name	Number of Participants	Average Hours per Student	Reading
Average Across All Providers			**-0.001**
Providers Showing No Significant Gains			
Private Provider A	41	31	0.28
Private Provider S	26	30	0.20
Private Provider B	144	17	0.08
Private Provider M	194	17	0.07
Private Provider K	161	21	0.04
Private Provider N	102	34	0.03
Private Provider P	67	28	0.02
Private Provider L	112	16	0.01
Private Provider U	49	27	0.002
Private Provider Y	24	17	-0.01
Hillsborough School District	447	22	-0.01
Private Provider J	476	25	-0.02
Private Provider R	48	13	-0.03
Private Provider I	331	19	-0.05
Private Provider H	543	24	-0.06
Private Provider Q	44	23	-0.07
Private Provider V	31	35	-0.07
Private Provider O	68	29	-0.07
Private Provider T	30	15	-0.08
Other Providers	62	22	-0.001
Total Number of Students	3,000		

Exhibit reads: In Hillsborough, no provider showed achievement gains for participating students that were significantly larger than the gains for eligible non-participants. All these gains were also statistically indistinguishable from the average effect size across all supplemental educational services participants in the district.

Notes: Scores reported are rank-based z-scores. The "Other Providers" category includes all providers serving less than 20 students in mathematics. All models controlled for student eligibility for services.
* indicates that the provider experienced gains that were statistically different from the gains of eligible non-participants at the .05 level.
Shaded bars indicate that the provider experienced gains that were statistically different from the district average. In this exhibit, no bars are shaded, indicating that there are no statistically significant differences from the district average.

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

EFFECT OF NUMBER OF HOURS OF SERVICES ON STUDENT ACHIEVEMENT

In both Anchorage and Hillsborough, a majority of supplemental educational services participants received fewer than 40 hours of services.

In Anchorage and Hillsborough, there was a high level of variation in the number of hours of supplemental educational services students received from providers. To analyze the relationship between hours of services and achievement gains, we developed three broad categories: a) fewer than 20 hours of services, b) between 20 and 39 hours of services, and c) greater than 39 hours of services (see Exhibit 25).

Exhibit 25
Distribution of Supplemental Educational Services Participants by Number of Hours of Services Received, by Provider Type, in Anchorage and Hillsborough, 2004–05 Through 2006–07

	All Providers		District Provider		Non-District Provider	
	2004–05 To 2006–07		2006–07			
	Percent	n	Percent	n	Percent	n
Hours of Services Received						
Anchorage (Grades K–12)						
Fewer than 20 hours	28%	121	33%	45	25%	52
20–39 hours	43%	188	35%*	48	47%*	105
Greater than 39 hours	27%	129	33%*	45	28%*	8
Total	**100%**	**438**	**100%**	**138**	**100%**	**165**
	Percent	n	Percent	n	Percent	n
Hillsborough (Grades K–12)						
Fewer than 20 hours	36%	3,654	46%*	442	35%*	3,212
20–39 hours	59%	5,937	45%*	441	60%*	5,496
40–59 hours	5%	505	9%*	87	4%*	405
Total	**100%**	**10,096**	**100%**	**971**	**100%**	**9,125**

Exhibit reads: In Anchorage, 28 percent of all participants in grades K–12 received less than 20 hours of services. Among those served by the district in 2006–07, 33 percent received less than 20 hours of services and among those served by non-district providers, 25 percent received less than 20 hours of services during that year.

Notes: * indicates a significant difference at the .05 level between the percentage of participants served by the district provider and non-district providers.

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07; Hillsborough School District Administrative Data, 2002–03 through 2006–07.

Between 2004–05 and 2006–07, the majority of participants in both districts received less than 40 hours of services. In Anchorage, less than 30 percent of participants received more than 40 hours of services, while in Hillsborough only 5 percent of participants received more than 40 hours of services.[12] In Anchorage, there was not a statistically significant difference between the district provider and non-district providers in the percentage of their participants who received less than 20 hours of services in 2006–07. In Hillsborough, the district provider tended to provide students slightly fewer hours of tutoring than other providers (see Exhibit 25). Note, however, that this exhibit combines the available data from 2004–05 through 2006–07, in contrast to Exhibit 10 (overall average number of hours), which only includes data for the 2006–07 school year. (See Appendix D for an analysis of the average number of hours of supplemental educational services across district and non-district providers using the data of 2004–05 through 2006–07.)

There was not a consistent relationship between the amount of services received and achievement gains in both districts.

In Anchorage, reading achievement gains of students receiving fewer than 20 hours of tutoring from the district lagged 0.24 standard deviations below eligible non-participants. Students served by non-district providers had no statistically significant gains or losses compared to eligible non-participants, regardless of hours of services received (see Exhibit 26). Breaking down the analysis by hours of services, mathematics achievement gains were statistically indistinguishable from those of eligible non-participants.[13]

[12] Hillsborough only provided information on hours of supplemental educational services for 2005–06 and 2006–07. 398 students received these services in 2004–05 and it was necessary to impute the hours of supplemental educational services received for students during that school year. We did so by using the average hours of service observed by provider during 2005–06 and 2006–07. For those providers that did not serve students after 2004–05, we used the overall average number of hours across all providers.

[13] Note that students served by non-district providers experienced overall larger gains in mathematics than eligible non-participants. But when these students are separated into different groups by hours of tutoring, the sample sizes become too small in Anchorage to detect statistical significance.

Exhibit 26
Achievement Gains on the Benchmark and SBA of Students in Grades 3–10 by Provider Type and Hours of Services Received, in Anchorage, 2002–03 Through 2006–07

	All Providers		District Provider		Non-District Providers	
	2004–05 To 2006–07		2006–07			
	Gains	n	Gains	n	Gains	n
Hours of Services Received						
Mathematics						
Fewer than 20 hours	–0.004	70	–0.16	31	0.18	20
20–39 hours	–0.10	82	**	18	0.12	37
40 or more hours	–0.01	69	**	18	**	5
Total n		201		67		62
Reading						
Fewer than 20 hours	–0.08	85	–0.24*	34	0.01	32
20–39 hours	0.07	96	0.01	20	0.08	53
40 or more hours	0.05	77	–0.05	29	**	5
Total n		258		83		90

Exhibit reads: In Anchorage, overall, students receiving fewer than 20 hours of supplemental educational services did not demonstrate greater gains in mathematics achievement than eligible non-participants. Specifically, students receiving 20 hours or less of supplemental educational services from the district in reading experienced smaller gains (-0.24 standard deviations) than eligible non-participants.

Notes: Scores reported are rank-based z-scores. N is the number of student observations in treatment contributing to the estimate. All models controlled for student eligibility for services.

* indicates gains that were statistically different form the gains of eligible non-participants at the .05 level.

** indicates that the data are not reported due to small sample size (n<20 students).

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

In Hillsborough, mathematics achievement gains were found for students who received less than 20 hours of services and for those receiving 20 to 39 hours of services. Gains for students receiving 40 or more hours of services in mathematics were not statistically significant, but participant sizes for this group were very small (see Exhibit 27). During 2006–07, non-district providers serving students who received between 20 and 39 hours of services in mathematics experienced gains of about 0.1 standard deviations larger than those of eligible non-participants.

Breaking down the analysis by hours of tutoring, no statistically significant differences were observable in reading in Hillsborough between participants and eligible non-participants.

Exhibit 27
Achievement Gains on the FCAT of Students in Grades 1–12 by Provider Type and Hours of Services Received, in Hillsborough, 2002–03 Through 2006–07

	All Providers		District Provider		Non-District Providers	
	2004–05 To 2006–07		2006–07			
	Gains	n	Gains	n	Gains	n
Hours of Services Received						
Mathematics						
Fewer than 20 hours	0.05*	761	0.03	112	0.05	277
20–39 hours	0.04*	1,096	0.07	104	0.09*	445
40 or more hours	0.09	106	0.08	27	0.18	39
Total n		1,966		243		761
Reading						
Fewer than 20 hours	–0.01	2,471	–0.10	210	–0.03	795
20–39 hours	0.002	4,445	0.05	211	0.01	1,673
40 or more hours	0.03	362	0.13	84	–0.03	84
Total n		7,288		505		2,552

Exhibit reads: In Hillsborough, students receiving fewer than 20 hours of services in mathematics experienced academic gains of .05 standard deviations above eligible non-participants, a statistically significant difference.

Notes: Scores reported are rank-based z-scores. N is the number of student observations in treatment contributing to the estimate. All models controlled for student eligibility for services.
* indicates gains that were statistically different form the gains of eligible non-participants at the .05 level.

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

EFFECT OF SUBJECT OF SERVICES ON ACHIEVEMENT

In this study, only participants in Hillsborough that received tutoring in mathematics experienced larger academic gains (in mathematics) than eligible non-participants.

Not all participants received supplemental educational services in the same subject. Because of this, it is important to analyze whether the subject of the service provided was related to the academic gains of participants. In Anchorage, no statistically significant differences in academic gains were observable between students who only received supplemental educational services in mathematics or reading and eligible non-participants (see Exhibit 28). However, those who received services in both subjects experienced smaller academic gains in mathematics than did eligible non-participants.

Exhibit 28
Achievement Gains on the Benchmark and SBA of Students in Grades 3–10 by Subject, in Anchorage, 2002–03 Through 2006–07

	Mathematics		Reading	
	Gains	**n**	**Gains**	**n**
Subject of Tutoring				
Mathematics and Reading	–0.21*	139	–0.11	137
Mathematics Only	0.04	49	–0.09	50
Reading Only	0.05	92	0.11	91

Exhibit reads: In Anchorage, students who received services in both mathematics and reading demonstrated smaller gains in mathematics achievement, with a change in their academic achievement of .21 standard deviations below eligible non-participants, a statistically significant difference.

Notes: Scores reported are rank-based z-scores. N is the number of student observations in treatment contributing to the estimate. All models controlled for student eligibility for services.
* indicates gains that were statistically different form the gains of eligible non-participants at the .05 level.

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

In Hillsborough, participants who received supplemental educational services in reading experienced no larger academic gains in reading or mathematics than eligible non-participants. However, students who received supplemental educational services in mathematics only demonstrated a significant gain in mathematics achievement, 0.07 standard deviations (see Exhibit 29). Students who received supplemental educational services in both subjects did not experience statistically significant gains in either subject in comparison to eligible non-participants.

Exhibit 29
Achievement Gains on the FCAT of Students in Grades 1–12 by Subject, in Hillsborough, 2002–03 Through 2006–07

	Mathematics		Reading	
	Gains	**n**	**Gains**	**n**
Subject of Tutoring				
Mathematics and Reading	0.004	608	0.001	608
Mathematics Only	0.07*	1,552	–0.02	1,552
Reading Only	–0.01	6,810	0.03	6,810

Exhibit reads: In Hillsborough, students who received services in both mathematics and reading did not demonstrate greater gains in mathematics achievement than eligible non-participants.

Notes: Scores reported are rank-based z-scores. N is the number of student observations in treatment contributing to the estimate. All models controlled for student eligibility for services.
* indicates gains that were statistically different form the gains of eligible non-participants at the .05 level.

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

Effect of Participation by Student Characteristics

In both districts, most student subgroups did not show significant achievement gains.

In Anchorage, where sample sizes were very small, the only student subgroup showing a significant difference between participants and non-participants was Hispanic students, where a lower gain than eligible non-participants was found in mathematics (see Exhibit 30). In Hillsborough, positive achievement gains were found for Hispanic and limited English proficient students in mathematics. No significant gains were observed for African-American, white, or special education students in mathematics or for any subgroup in reading (see Exhibit 31).

Exhibit 30
Achievement Gains on the Benchmark and SBA of Students in Grades 3–10 for Supplemental Educational Services Participants, by Student Characteristics, in Anchorage, 2002–03 Through 2006–07

	Mathematics		Reading	
	Participation Effect:		**Participation Effect:**	
	Gains	n	Gains	n
All Participants	–0.05		0.01	
Participation Among:				
African-American Students	0.13	49	–0.03	58
Alaska Native Students	–0.01	42	0.06	54
White Students	–0.14	35	–0.17	37
Asian Students	0.11	37	0.24	44
Hispanic Students	–0.34*	36	–0.29	36

Exhibit reads: In Anchorage, African-American students who participated in supplemental educational services did not demonstrate greater gains in mathematics achievement than eligible non-participants.

Notes: Scores reported are rank-based z-scores. N is the number of student observations in treatment contributing to the estimate. All models controlled for student eligibility for services.
* indicates gains that were statistically different form the gains of eligible non-participants at the .05 level.

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

Exhibit 31
Achievement Gains on the FCAT of Students in Grades 1–12 for Supplemental Educational Services Participants, by Student Characteristics, in Hillsborough, 2002–03 Through 2006–07

	Mathematics		Reading	
	Gains	**n**	**Gains**	**n**
All Participants	0.05*		–0.001	
Participation Among:				
African-American Students	0.04	879	–0.01	2,448
Hispanic Students	0.05*	702	–0.01	3,361
White Students	0.08	270	0.05	1,090
Special Education Students	0.08	370	–0.02	1,901
Limited English Proficient	0.05*	615	–0.01	3,185

Exhibit reads: In Hillsborough, African-American students who participated in supplemental educational services did not demonstrate greater gains in mathematics or reading achievement than eligible non-participants.

Notes: Scores reported are rank-based z-scores. N is the number of student observations in treatment contributing to the estimate. All models controlled for student eligibility for services.
* indicates gains that were statistically different form the gains of eligible non-participants at the .05 level.

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

IV. DISTRICT COMMUNICATION WITH PARENTS

By accepting the supplemental educational service waivers, the four districts were required to improve communication with parents by using multiple communications strategies, extend enrollment windows, and provide balanced information on all providers. These strategies were intended to achieve one objective of the waivers: to help ensure that more eligible students received supplemental educational services.

As evidence of meeting this requirement, Anchorage and Hillsborough submitted examples of their communication with parents about supplemental educational services eligibility and about their provider options. Anchorage submitted six documents and notes. Hillsborough submitted three documents and a parent handbook.[14] Two study team members independently reviewed each document looking for clarity (including general readability, correct use of terms, and use of the phrase "free tutoring"), bias towards district providers, and use of jargon. To assess readability, the Flesch-Kincaid score[15] was calculated to determine the grade level at which each document was written. (The Flesch-Kincaid test measures word length and sentence length to generate a score, which is translated into a U.S. grade level indicator, representative of the approximate educational level to which the text is written.) Reviewers also determined whether the documents were available in other languages, whether districts used diverse outreach strategies to distribute information about supplemental educational services to parents and whether district materials included key details, such as contact information.

Both Anchorage and Hillsborough used jargon and complex language in communication with parents.

The parent notification documents districts distributed, such as letters, handbooks and flyers, demonstrated an effort to communicate necessary information about supplemental educational services with parents. However, the style and language used in these letters was somewhat complex. For example, one letter to parents in Anchorage begins with "Under the federal education law, *No Child Left Behind*, some students who attend Title I schools that have reached an *NCLB* School Improvement Status of Level 2 or higher are eligible for supplemental educational services." That particular letter rated a 10.2 on the Flesch-Kincaid readability test, indicating the letter was written just above the tenth grade level.

Similarly, the Hillsborough supplemental educational services parent handbook included questions under the heading "General Information." In response to the question "What are supplemental educational services?" the parent handbook explained, "According to the *No Child Left Behind Act*, supplemental educational services are free tutoring and other supplemental academic enrichment services that are in addition to instruction provided during the school day." The Flesch-Kincaid readability rating for this document was 13.2, which suggests it would be challenging for parents who had not completed high school.

[14] Guidance to districts that received waivers from the U.S. Department of Education included a checklist of documents and data that districts were encouraged to submit as evidence of meeting the waiver requirements. Note that the materials examined were for the 2006–07 school year.

[15] See Flesch, R. (1948); A new readability yardstick, *Journal of Applied Psychology*, Vol. 32, pp. 221-233; and Kincaid, J. P.; Fishburne, R. P., Jr.; Rogers, R. L.; and Chissom, B. S. (1975); *Derivation of new readability formulas (Automated Readability Index, Fog Count and Flesch Reading Ease Formula) for Navy enlisted personnel,* Research Branch Report 8-75, Millington, TN: Naval Technical Training, U. S. Naval Air Station, Memphis, TN

Both Anchorage and Hillsborough used multiple communication strategies to reach eligible families.

Districts receiving the waiver were required to use multiple communication strategies to inform eligible families about supplemental educational services in order to increase participation. Anchorage indicated that it used multiple methods of communication. For example, it mailed notification letters to all households in which a student was eligible for supplemental educational services on August 3 and September 7. These letters covered the supplemental educational services options and specifics and advertised upcoming informational meetings. Anchorage sent these letters in English, Hmong, Samoan, Spanish, and Tagalog. On August 4, 2006, the district published AYP results and supplemental educational services information in the Anchorage Daily News newspaper. Between September and November Anchorage posted one hundred posters in ten schools advertising informational meetings, and each school put notices in their school newsletters during September and October. Also during September and October, the district held informational meetings in each of the ten schools in which students were eligible for supplemental educational services, and on September 19, sent automated phone calls to households with eligible students. On September 20, Anchorage held a provider fair at one middle school. In November, schools required to offer supplemental educational services set up tables at their entrance on parent-teacher conference nights. In addition, information was continually available on the Anchorage school district website. Finally, in April and May of 2007, the district began working with the state's Parent Information Resource Center to form partnerships with faith-based and community-based organizations to provide information to parents about supplemental educational services.

Hillsborough also used several methods to reach families. It sent families with eligible students a Supplemental Educational Services Parent Handbook for the 2006–07 school year. The handbook contained a welcome letter, general information questions, a provider "at-a-glance" chart, a description of delivery models (in-home, distance learning, off-site, on-site), parent satisfaction survey results from the 2005–06 school year, a list of acronyms and phrases, detailed profiles of each provider, and a provider fair announcement. The district also offered ten provider fairs in August. All fairs were held on weeknights from 5:30pm to 7:30pm. The announcement indicated that door prizes and refreshments would be available. A brochure about the district provider, Hillsborough County Public Schools Academy for Success (HCPSAFS), was available in both English and Spanish. Parents who chose HCPSAFS received a thank you letter dated October 5. The letter informed them that HCPSAFS was still hiring staff and would contact them within four to five weeks about scheduling a goal-setting meeting. In the letter, HCPSAFS gave parents the option to chose another provider if they wished. This letter was sent in both English and Spanish.

Both Anchorage and Hillsborough provided extended enrollment windows for families to sign up for services.

Another stipulation of the waiver was that districts would offer extended or additional enrollment windows to give more families the opportunity to sign up and participate in supplemental educational services. In Anchorage, notification letters were sent in August and September. Enrollment began September 7 with the application due date of October 20. The district offered an additional window beginning with the parent-teacher conferences November 8 and ending with an application due date of November 22. The district indicated that applications that arrived after the due date were approved.

According to Hillsborough's communication with the U.S. Department of Education, its enrollment began during pre-planning days in July with a steady recruitment process going through the first soft

deadline date of October 13—a deadline required by state law. Enrollment then continued until January 26 for any interested parent of an eligible student.

Both Anchorage and Hillsborough provided balanced information on all providers and showed no bias towards their own programs.

Districts receiving the waiver needed to demonstrate that they provided eligible families with balanced information on all providers. Anchorage submitted a one-page flyer that lists thirteen providers in alphabetical order. Contact information for each provider was listed. Anchorage School District was sixth on the list and no bias was evident.

In the Hillsborough Supplemental Educational Services Parent Handbook, each provider was listed in alphabetical order. The district's Academy for Success was second in that order, but there was no indication it was the district provider aside from the contact email address.

V. CONCLUSIONS

This examination of the implementation of supplemental educational services shows that in Anchorage and Hillsborough the percentage of eligible students participating in supplemental educational services increased over time, reaching 11 and 14 percent, respectively, in 2006–07.

In both Anchorage and Hillsborough, students who were eligible for supplemental educational services had significantly lower levels of prior achievement in mathematics and reading than students who were not eligible. In both districts students who participated in supplemental educational services in 2006–07 had lower levels of prior academic achievement in 2005–06 than eligible students who chose not to participate.

In both districts, students served by non-district providers showed larger academic achievement gains than eligible non-participants in mathematics (but not in reading). Students served by the two district providers (Anchorage and Hillsborough) did not show gains in either subject compared with eligible non-participants. Looking at individual non-district providers, only one such provider in Hillsborough showed an achievement gain (in mathematics) relative to eligible non-participants. No individual provider in Anchorage showed any significant gains relative to non-participants.

Overall, in Anchorage, participants receiving supplemental education services from any provider did not show a statistically significant difference in academic achievement gains compared with eligible non-participants. In Hillsborough, the overall results across all providers showed achievement gains in mathematics but not in reading.

While there is room for improvement regarding district communication with parents about supplemental educational services, both Anchorage and Hillsborough made efforts to inform eligible families about the program offerings and to help ensure that more eligible students receive supplemental educational services. To this end, both districts used multiple communication methods and provided unbiased program information.

APPENDIX A:
DESCRIPTION OF DISTRICT DATA

ANCHORAGE

The Anchorage school district provided student-level data for the school years 2002–03 through 2006–07. Demographic and assessment data were provided for all years and all students in the district, while detailed information on supplemental educational services was provided for 2004–05 through 2006–07. In these latter years, data were provided on the subjects in which students were tutored, the total number of hours of tutoring they received, and the provider they chose. Student eligibility and participation in supplemental educational services was provided for all three years.

HILLSBOROUGH

The Hillsborough school district provided student-level data for all students taking Florida's Comprehensive Assessment Test (FCAT) in 2002–03 through 2006–07, which included students in grades 3–10 in 2005–06 and 2006–07. The district also provided information on student eligibility, participation, provider used, and number of hours of tutoring received. These comprehensive databases included all students in the district during the whole period of analysis, 2002–03 through 2006–07.

APPENDIX B:
SUPPLEMENTAL EXHIBITS

Exhibit B.1
Supplemental Service Participation Rates in Grades K–12, by Race-Ethnicity, in Anchorage, 2006–07

	Eligible Non-Participants	Participants	Participation Rate
% African-American	334	64	16.1%
% Alaska Native	654	61	8.5%
% White	417	51	10.9%
% Asian	678	48	6.6%
% Multi-Racial	271	44	14.0%
% Hispanic	197	37	15.8%
% American Indian	31	3	8.8%
Total	**2,582**	**308**	**10.7%**

Exhibit reads: In 2006–07, 334 African-American students were eligible for supplemental educational services but did not participate in the program in Anchorage. The number of African-American participants was equal to 64 during that year, or 16.1 percent of all eligible African-American students.

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

Exhibit B.2
Supplemental Service Participation Rates in Grades K–12, by Race-Ethnicity, in Hillsborough, 2006–07

	Eligible Non-Participants	Participants	Participation Rate
% African-American	13,113	2,034	13.4%
% White	6,372	838	11.6%
% Asian	510	70	12.1%
% Multi-Racial	1,597	255	13.8%
% Hispanic	15,441	2,966	16.1%
% American Indian	71	9	11.3%
Total	**37,104**	**6,172**	**14.3%**

Exhibit reads: In 2006–07, 13,113 African-American students were eligible for supplemental educational services but did not participate in the program in Hillsborough. The number of African-American participants was equal to 2,034 during that year, or 13.4 percent of all eligible African-American students.

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

Exhibit B.3
Number and Percent of Supplemental Educational Services Participants in Grades K–12 by Subject, in Anchorage, 2006–07

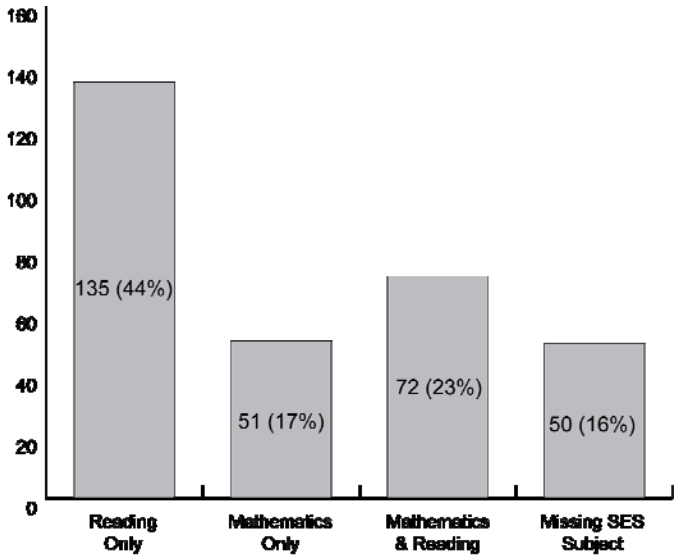

Exhibit reads: In Anchorage in 2006–07, 135 students participated in supplemental educational services in reading only, representing 44 percent of all participants.

Source: Anchorage School District Administrative Data, 2006–07.

Exhibit B.4
Number and Percent of Supplemental Educational Services Participants in Grades K–12 by Subject, in Hillsborough, 2006–07

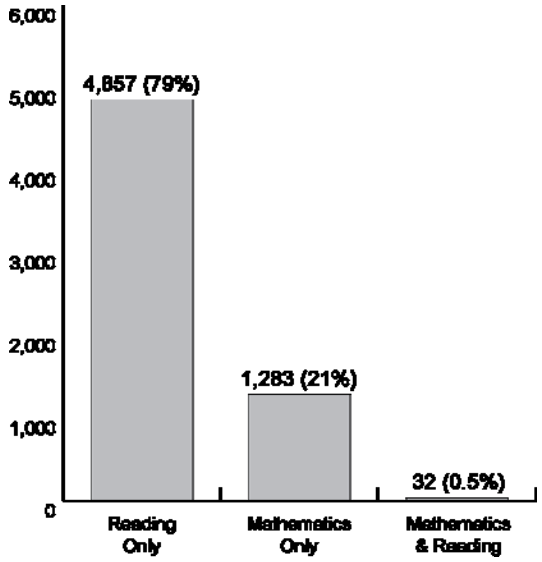

Exhibit reads: In Hillsborough, 4,857 students received supplemental educational services in reading only in 2006–07, representing 79 percent of all participants.

Source: Hillsborough School District Administrative Data, 2006–07.

Exhibit B.5
Subject of Supplemental Services in Grades K–12, by Provider, in Anchorage, 2006–07

	All Participants		Anchorage School District		Other Providers	
	Number of Students	Percent of Total	Number of Students	Percent of Total	Number of Students	Percent of Total
Only Reading	135	43.8%	52	37.7%	83	48.8%
Only Math	51	16.6%	11	8.0%	40	23.5%
Reading and Math	72	23.4%	54	39.1%	18	10.6%
No Information	50	16.2%	21	15.2%	29	17.1%
Total	**308**	**100%**	**138**	**100%**	**170**	**100%**

Exhibit reads: In 2006–07, 135 students received supplemental educational services only in reading in Anchorage. This represented 43.8 percent of all students receiving supplemental educational services in any subject during that year.

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

Exhibit B.6
Subject of Supplemental Services in Grades K–12, by Provider, in Hillsborough, 2006–07

	All Participants		Hillsborough School District		Other Providers	
	Number of Students	Percent of Total	Number of Students	Percent of Total	Number of Students	Percent of Total
Only Reading	4,857	78.7%	668	68.8%	4,204	80.4%
Only Math	1,283	20.8%	296	30.5%	999	19.1%
Reading and Math	32	0.5%	7	0.7%	27	0.5%
Total	**6,172**	**100%**	**971**	**100%**	**5,230**	**100%**

Exhibit reads: In 2006–07, 4,857 students received supplemental educational services only in reading in Hillsborough. This represented 78.7 percent of all students receiving supplemental educational services in any subject during that year.

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

Exhibit B.7
Average Number of Hours of Supplemental Educational Services Received by Participants in Grades K–12, by Provider, in Anchorage and Hillsborough

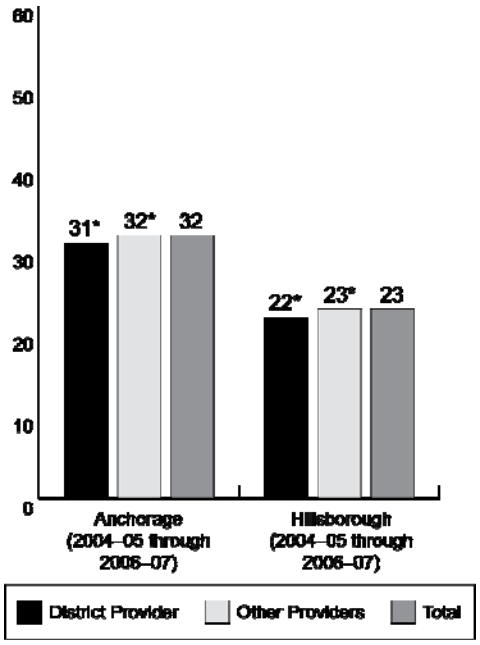

Exhibit reads: In Anchorage, students who received supplemental educational services from the district provider received, on average, 31 hours of tutoring.

* indicates differences in the hours of services provided by district and non-district providers that were statistically different at the .05 level.

Source: Anchorage School District Administrative Data, 2004–05 through 2006–07, and Hillsborough School District Administrative Data, 2004–05 through 2006–07.

APPENDIX C: ROBUST STANDARD ERRORS OF FIXED-EFFECTS REGRESSIONS

Exhibit C.1
Achievement Gains on the Benchmark and SBA of Students in Grades 3–10 by Participation in Supplemental Educational Services, in Anchorage, 2002–03 Through 2006–07

	Mathematics		Reading	
	Gains	**n**	**Gains**	**n**
Participation				
Overall Effect	(0.075)	221	(0.052)	258
First Year Effect	(0.076)	215	(0.052)	255

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

Exhibit C.2
Achievement Gains on the FCAT of Students in Grades 1–12 by Participation in Supplemental Educational Services, in Hillsborough, 2002–03 Through 2006–07

	Mathematics		Reading	
	Gains	**n**	**Gains**	**n**
Participation				
Overall Effect	(0.014)	1,966	(0.009)	7,288
Number of Years of Participation				
First Year Effect	(0.014)	1,683	(0.009)	6,092
Multiple Year Effect	(0.043)	283	(0.019)	1,196

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

Exhibit C.3
Achievement Gains on the Benchmark and SBA of Students in Grades 3–10 by Provider Type, in Anchorage, 2002–03 Through 2006–07

	Mathematics		Reading	
	Gains	**n**	**Gains**	**n**
Provider Type				
District Provider	(0.097)	67	(0.109)	83
Non-District Providers	(0.087)	62	(0.075)	90

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

Exhibit C.4
Mathematics Achievement Gains on the Benchmark and SBA of Students in Grades 3–10 by Eligibility for and Participation in Supplemental Educational Services, by Provider, in Anchorage, 2002–03 Through 2006–07

Provider Name	**Number of Participants**	**Average Hours per Student**	**Mathematics**
Average Across All Providers			(0.097)
Providers Showing No Significant Effects			
Private Provider A	46	31	(0.109)
Anchorage School District	67	29	(0.097)
Other Providers	16	28	(0.172)
Total Number of Students	129		

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

Exhibit C.5
Reading Achievement Gains on the Benchmark and SBA of Students in Grades 3–10 by Eligibility for and Participation in Supplemental Educational Services, by Provider, in Anchorage, 2002–03 Through 2006–07

Provider Name	Number of Participants	Average Hours per Student	Reading
Average Across All Providers			(0.109)
Providers Showing No Significant Effects			
Private Provider A	70	27	(0.101)
Anchorage School District	83	33	(0.109)
Other Providers	20	26	(0.178)
Total Number of Students	173		

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

Exhibit C.6
Achievement Gains on the FCAT of Students in Grades 1–12 by Provider Type, in Hillsborough, 2002–03 Through 2006–07

	Mathematics		Reading	
	Gains	**n**	**Gains**	**n**
District Provider	(0.037)	234	(0.046)	447
Non-District Providers	(0.025)	743	(0.019)	2,503
District and Non-District Providers[a]	(0.119)	18	(0.177)	50

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

Exhibit C.7
Mathematics Achievement Gains on the FCAT of Students in Grades 1–12 by Eligibility for and Participation in Supplemental Educational Services, by Provider, in Hillsborough, 2002–03 Through 2006–07

Provider Name	Number of Participants	Average Hours per Student	Mathematics
Average Across All Providers			(0.037)
Providers Showing Significant Gains			
Private Provider S	20	27	(0.143)
Providers Showing No Significant Gains			
Private Provider W	22	9	(0.177)
Private Provider Q	49	24	(0.087)
Private Provider N	40	35	(0.044)
Private Provider I	158	18	(0.054)
Private Provider H	213	24	(0.028)
Hillsborough School District	234	21	(0.037)
Private Provider L	55	16	(0.076)
Private Provider K	52	19	(0.076)
Private Provider B	44	16	(0.111)
Other Providers	128	24	(0.080)
Total Number of Students	995		

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

Exhibit C.8
Reading Achievement Gains on the FCAT of Students in Grades 1–12 by Eligibility for and Participation in Supplemental Educational Services, by Provider, in Hillsborough, 2002–03 Through 2006–07

Provider Name	Number of Participants	Average Hours per Student	Reading
Average Across All Providers			(0.046)
Providers Showing No Significant Gains			
Private Provider A	41	31	(0.185)
Private Provider S	26	30	(0.218)
Private Provider B	144	17	(0.080)
Private Provider M	194	17	(0.056)
Private Provider K	161	21	(0.082)
Private Provider N	102	34	(0.069)
Private Provider P	67	28	(0.068)
Private Provider L	112	16	(0.058)
Private Provider U	49	27	(0.028)
Private Provider Y	24	17	(0.048)
Hillsborough School District	447	22	(0.047)
Private Provider J	476	25	(0.038)
Private Provider R	48	13	(0.064)
Private Provider I	331	19	(0.043)
Private Provider H	543	24	(0.039)
Private Provider Q	44	23	(0.094)
Private Provider V	31	35	(0.087)
Private Provider O	68	29	(0.123)
Private Provider T	30	15	(0.145)
Other Providers	62	22	(0.126)
Total Number of Students	3,000		

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

Exhibit C.9
Achievement Gains on the Benchmark and SBA of Students in Grades 3–10 by Provider Type and Hours of Services Received, in Anchorage, 2002–03 Through 2006–07

	All Providers		District Provider		Non-District Providers	
	Gains	n	Gains	n	Gains	n
Hours of Services Received						
Mathematics						
Less than 20 hours	(0.078)	70	(0.081)	31	(0.124)	20
20–39 hours	(0.140)	82	(0.326)	18	(0.091)	37
40 or more hours	(0.167)	69	(0.071)	18	(0.216)	5
Total n		201		67		62
Reading						
Less than 20 hours	(0.075)	85	(0.080)	34	(0.068)	32
20–39 hours	(0.089)	96	(0.149)	20	(0.129)	53
40 or more hours	(0.109)	77	(0.240)	29	(0.247)	5
Total n		258		83		90

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

Exhibit C.10
Achievement Gains on the FCAT of Students in Grades 1–12 by Provider Type and Hours of Services Received, in Hillsborough, 2002–03 Through 2006–07

	All Providers		District Provider		Non-District Providers	
	Gains	n	Gains	n	Gains	n
Hours of Services Received						
Mathematics						
Less than 20 hours	(0.037)	761	(0.060)	112	(0.045)	277
20–39 hours	(0.024)	1,096	(0.050)	104	(0.027)	445
40 or more hours	(0.093)	106	(0.071)	27	(0.146)	39
Total n		1,966		243		761
Reading						
Less than 20 hours	(0.028)	2,471	(0.069)	210	(0.028)	795
20–39 hours	(0.022)	4,445	(0.050)	211	(0.023)	1,673
40 or more hours	(0.069)	362	(0.184)	84	(0.046)	84
Total n		7,288		505		2,552

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

Exhibit C.11
Achievement Gains on the Benchmark and SBA of Students in Grades 3–10 by Subject, in Anchorage, 2002–03 Through 2006–07

	Mathematics		Reading	
	Gains	**n**	**Gains**	**n**
Subject of Tutoring				
Mathematics and Reading	(0.069)	139	(0.065)	137
Mathematics Only	(0.100)	49	(0.079)	50
Reading Only	(0.095)	92	(0.093)	91

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

Exhibit C.12
Achievement Gains on the FCAT of Students in Grades 1–12 by Subject, in Hillsborough, 2002–03 Through 2006–07

	Mathematics		Reading	
	Gains	**n**	**Gains**	**n**
Subject of Tutoring				
Mathematics and Reading	(0.018)	608	(0.019)	608
Mathematics Only	(0.017)	1,552	(0.016)	1,552
Reading Only	(0.010)	6,810	(0.010)	6,810

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.

Exhibit C.13
Achievement Gains on the Benchmark and SBA of Students in Grades 3–10 for Supplemental Educational Services Participants, by Student Characteristics, in Anchorage, 2002–03 Through 2006–07

Anchorage				
	Mathematics		Reading	
	Participation Effect:		**Participation Effect:**	
	Gains	n	Gains	n
All Participants	(0.075)	221	(0.052)	258
Participation Among:				
African-American Students	(0.163)	49	(0.087)	58
Alaska Native Students	(0.136)	42	(0.091)	54
White Students	(0.190)	35	(0.114)	37
Asian Students	(0.174)	37	(0.130)	44
Hispanic Students	(0.131)	36	(0.203)	36

Source: Anchorage School District Administrative Data, 2002–03 through 2006–07.

Exhibit C.14
Achievement Gains on the FCAT of Students in Grades 1–12 for Supplemental Educational Services Participants, by Student Characteristics, in Hillsborough, 2002–03 Through 2006–07

	Mathematics		Reading	
	Gains	**n**	**Gains**	**n**
All Participants	(0.014)	1,966	(0.009)	7,288
Participation Among:				
African-American Students	(0.019)	879	(0.015)	2,448
Hispanic Students	(0.021)	702	(0.013)	3,361
White Students	(0.076)	270	(0.025)	1,090
Special Education Students	(0.051)	370	(0.020)	1,901
Limited English Proficient	(0.021)	615	(0.013)	3,185

Source: Hillsborough School District Administrative Data, 2002–03 through 2006–07.