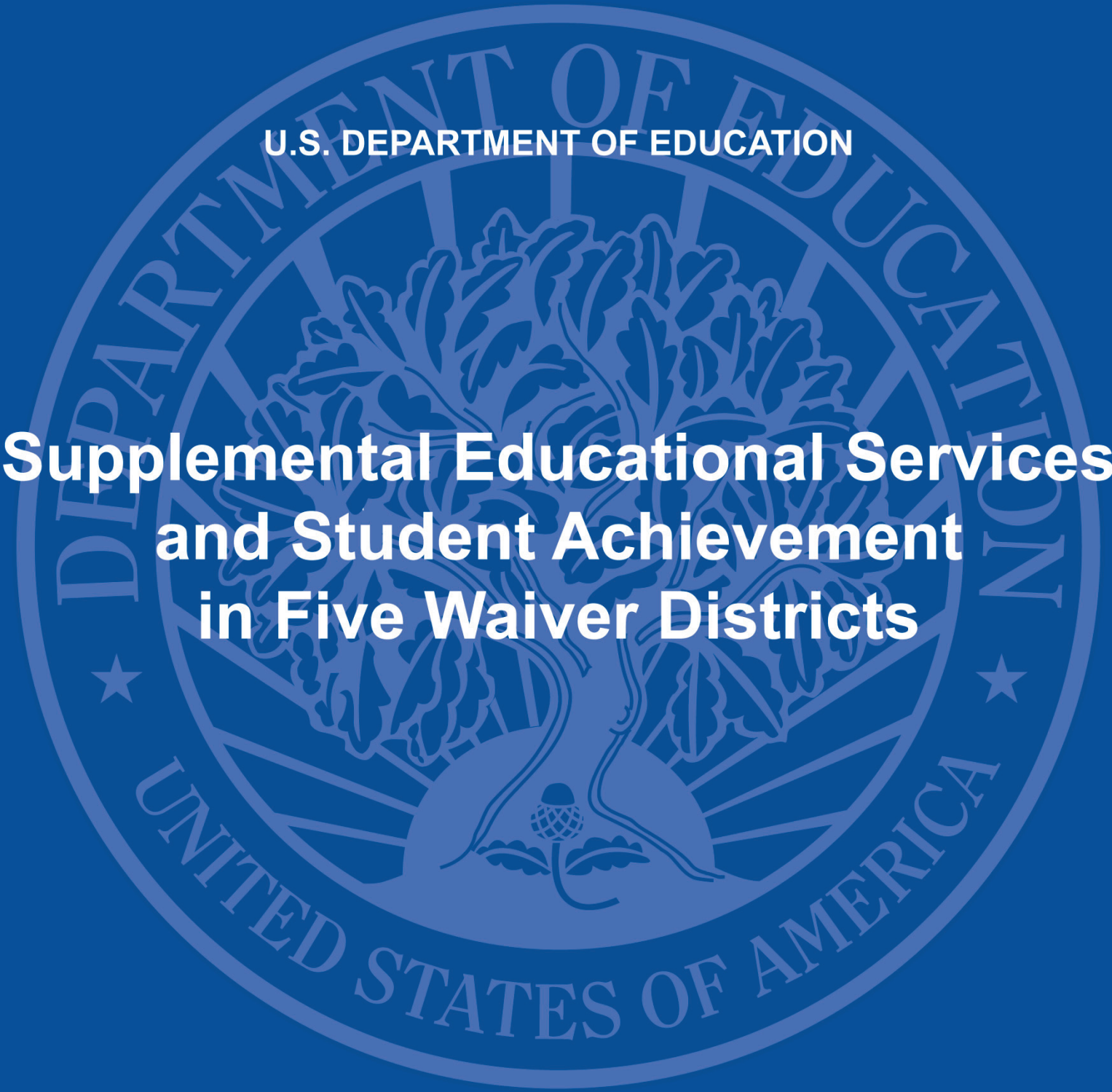


U.S. DEPARTMENT OF EDUCATION

**Supplemental Educational Services
and Student Achievement
in Five Waiver Districts**



Supplemental Educational Services and Student Achievement in Five Waiver Districts

Submitted to

U.S. Department of Education
Office of Planning, Evaluation and Policy Development
Policy and Program Studies Service

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2011

This report was prepared for the U.S. Department of Education under Contract Number ED-04-CO-0036/002/02 with RTI International. Erica Lee served as the contracting officer's representative. The views expressed herein do not necessarily represent the positions or policies of the Department of Education. No official endorsement by the U.S. Department of Education is intended or should be inferred.

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Acknowledgments

We wish to thank several individuals who contributed to the completion of this study.

First, we are grateful for the guidance and support of the U.S. Department of Education. In particular, we thank Erica Lee, Margie Yeager, Stephanie Stulich and Collette Roney, of the Policy and Program Studies Service, who served as project officers on this study. We also thank Kelly Rhoads and Stacy Kreppel, of the Office of Innovation and Improvement. We are grateful to the staff of the American Institutes for Research for their assistance in producing this report. In particular, we thank Mike Garet and Mengli Song for their guidance on data and analysis issues and Alexis Carpenter, Marty Leff and Johnathan Spiegel for their production assistance. We also recognize the assistance of Ron Zimmer, of the RAND Corporation, and Brian Gill, of Mathematica Policy Research, for their advice on the analytic approach during year one. We are grateful for the efforts of Vernon Campbell and Zareena Clendaniel, of Anchorage Public Schools; Jeffrey Harris and Steve Desrosiers, of Boston Public Schools; Christopher Cobitz, of Charlotte-Mecklenburg Schools; Susan Ryan, Melva Ryan, Erick Dorris and Erica Harris, of Chicago Public Schools; and Jessica Swere, of Hillsborough County Public Schools, for their work to provide the data used for this study.

While we appreciate the assistance and support of all the above individuals, any errors in judgment or fact are of course the responsibility of the authors.

Executive Summary

Under the *Elementary and Secondary Education Act of 1965 (ESEA)*, as amended, schools that are served under Title I, Part A of the *ESEA* and 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 (SES) such as tutoring, remediation or other academic instruction provided outside the regular school day. The district must offer SES to students from low-income families until the school makes AYP for two consecutive years and thereby exits improvement status. A state educational agency (SEA) may approve as an SES provider a school district that is not identified for improvement or corrective action. However, under federal regulations 34 C.F.R. § 200.47(b)(1)(iv)(B), an SEA may not approve as an SES provider a school district that is identified for improvement or corrective action.

In 2005, the U.S. Department of Education began a pilot through which it granted waivers to five districts identified for improvement or corrective action, to allow those districts to serve as SES providers.¹ Boston and Chicago received waivers starting in the 2005–06 school year, although both served as providers before the waivers. Anchorage and Hillsborough received waivers starting in the 2006–07 school year, and Charlotte-Mecklenburg received a waiver starting in the 2008–09 school year. Anchorage, Charlotte-Mecklenburg and Hillsborough began serving as SES providers after receiving their respective waivers.

1. For the 2009–10 and 2010–11 school years, the pilot was replaced with a more expansive waiver opportunity. In those years, states were permitted to request waivers from the U.S. Department of Education to approve as SES providers those schools or districts in need of improvement, corrective action or restructuring. See U.S. Department of Education, *Non-Regulatory Guidance on Title I, Part A Waivers* (Washington, D.C.: U.S. Department of Education, July 2009). Twenty-nine states were approved for waivers for the 2009–10 school year, and 22 states were approved for waivers for the 2010–11 school year.

Key Findings

- In the three districts that did not serve as SES providers before the waiver (Anchorage, Charlotte-Mecklenburg and Hillsborough), SES participation rates increased in the first year of the waiver. (Boston and Chicago served as providers before receipt of the waiver.)
- There were few demographic or academic differences between students served by district providers and students served by non-district providers.
- Students in three of the five districts demonstrated statistically significantly larger mathematics achievement gains during periods of SES participation than during periods of nonparticipation. In addition, in two districts, SES participation was associated with statistically significant reading gains. Averaged across the five districts, the overall association between SES participation and achievement gains was statistically significant in both mathematics and reading, relative to nonparticipation.
- Across the five districts, the achievement gains associated with SES participation relative to nonparticipation did not differ for district and non-district providers for either mathematics or reading.
- All five districts reported using multiple communication strategies to reach eligible families, provided balanced information about SES providers, translated information into at least one language other than English, and provided extended enrollment periods.

The central evaluation question for this report is whether SES participation for students served by the district providers was associated with achievement gains that were at least comparable with those of students served by non-district providers. This report also describes student participation in SES, the differences between students receiving SES from district and non-district providers, and the ways in which districts communicate with parents about SES. Each district provided student-level data on SES: whether the student was eligible and whether the student participated, with which providers, in what subjects, and for how many hours. Districts also supplied data on student achievement and student characteristics (e.g., race/ethnicity, disability status and grade level). All these data were provided for multiple academic years. Because districts received the waivers in different years and state assessment systems included different grades, this report covers different academic years and grade levels for each district.

Key Findings

Participation in Supplemental Educational Services Provided by District and Non-District Providers

In the three districts that began to serve as SES providers after the waiver was granted, student participation in SES increased in the first year of the waiver.

Districts receiving an SES waiver were expected to expand their outreach and communication to students and parents in an unbiased manner to encourage greater student participation in subsequent years. Although all five districts received waivers, Boston and Chicago served as district SES providers before the granting of the waiver. In Anchorage, Charlotte-Mecklenburg and Hillsborough, the waiver resulted in the introduction of the district into the pool of available providers, possibly increasing each district's capacity to provide SES. Among the three districts that began serving as SES providers after the waiver was granted, SES participation grew during the first year of the waiver. For example, in Charlotte-

Mecklenburg, the total number of students who received SES increased from 2,175 in 2007–08 to 3,972 in 2008–09 (see Exhibit S.1). Participation rates also rose by two percentage points in Anchorage and Charlotte-Mecklenburg and by four percentage points in Hillsborough.

In Boston, participation rates in SES decreased from 18 percent in 2004–05 to 15 percent in 2005–06 (see Exhibit S.1). However, since the number of eligible students markedly increased during this period, participation in SES more than doubled from the preceding year, increasing from 1,521 students to more than 3,288 students. In Chicago, the number of eligible students decreased after the waiver was granted, from 93,890 in 2004–05 to 83,890 in 2005–06, along with the number of SES participants (from 31,950 students to 23,631 students) and their participation rate (from 34 percent to 28 percent).

Exhibit S.1
Number and Percentage of Eligible Students Participating in SES, by School District, Immediately Before and After the Waiver

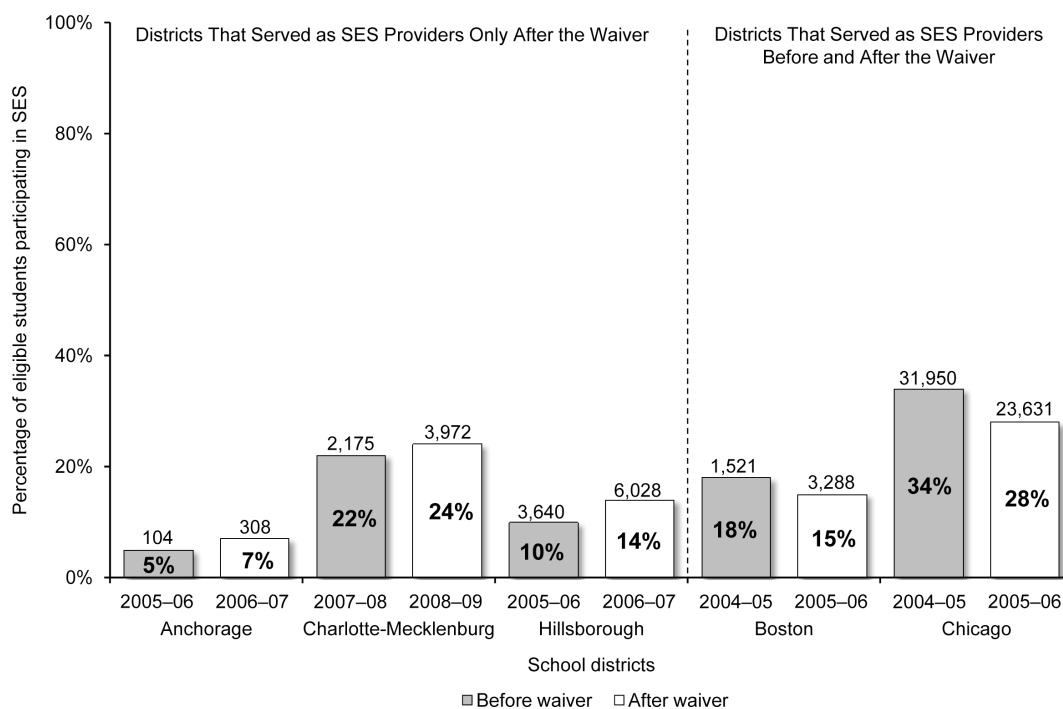


Exhibit reads: In Anchorage, 5 percent of students eligible for SES participated in the school year before the waiver, and 7 percent participated in the school year after the waiver. In 2005–06, 104 eligible students participated in SES.

Notes: SES = Supplemental Educational Services.

The grades included vary by district: grades K–12 in Anchorage and Hillsborough; grades K–8 in Charlotte-Mecklenburg; grades K–8, 2004–05, and K–12, 2005–06, in Boston; and grades 3–8 in Chicago. In Boston, for grades K–8 in 2005–06, the number of eligible students participating in SES was 3,102 (17 percent of the eligible students).

The Anchorage, Charlotte-Mecklenburg and Hillsborough school districts became providers after receiving a waiver. The Boston and Chicago school districts served as SES providers before receiving the waiver.

Source: Administrative data provided by the Anchorage and Hillsborough school districts, 2005–06 and 2006–07; the Charlotte Mecklenburg school district, 2007–08 and 2008–09; and the Boston and Chicago school districts, 2004–05 and 2005–06.

The introduction of the district provider did not appear to limit the number of non-district providers.

One of the goals of providing waivers to districts was to expand SES to a broader eligible student population without detracting from the services of non-district providers. In the three districts that did not serve as providers before the waiver, their introduction as district providers did not appear to negatively influence the number of non-district providers in the long run. For example, in the first year after the waiver (2006–07) in Anchorage and Hillsborough, the number of non-district providers decreased by one and then rebounded the following year. Over time, as the number of participants increased in each of the districts, so did the number of non-district providers serving them.

In the three districts that began to serve as SES providers after the waiver was granted, non-district providers served the majority of students participating in SES in the first year of the waiver.

After receiving their respective waivers, the Anchorage, Charlotte-Mecklenburg and Hillsborough school districts began serving as SES providers. During the first post-waiver year, the non-district providers in those districts continued to serve the majority of SES participants, ranging from 55 percent to 84 percent (see Exhibit S.2). The Boston and Chicago school districts both served as SES providers before the waiver. In Boston, non-district providers served fewer than one-third of SES participants both before and after the waiver. Conversely, in Chicago, non-district providers served more than half of SES participants before the granting of the waiver (51 percent in 2004–05) and served nearly two-thirds of participants after the waiver (62 percent in 2005–06).

**Exhibit S.2
Number and Percentage of SES Participants Who Were Served by Non-District Providers,
by School District, Immediately Before and After the Waiver**

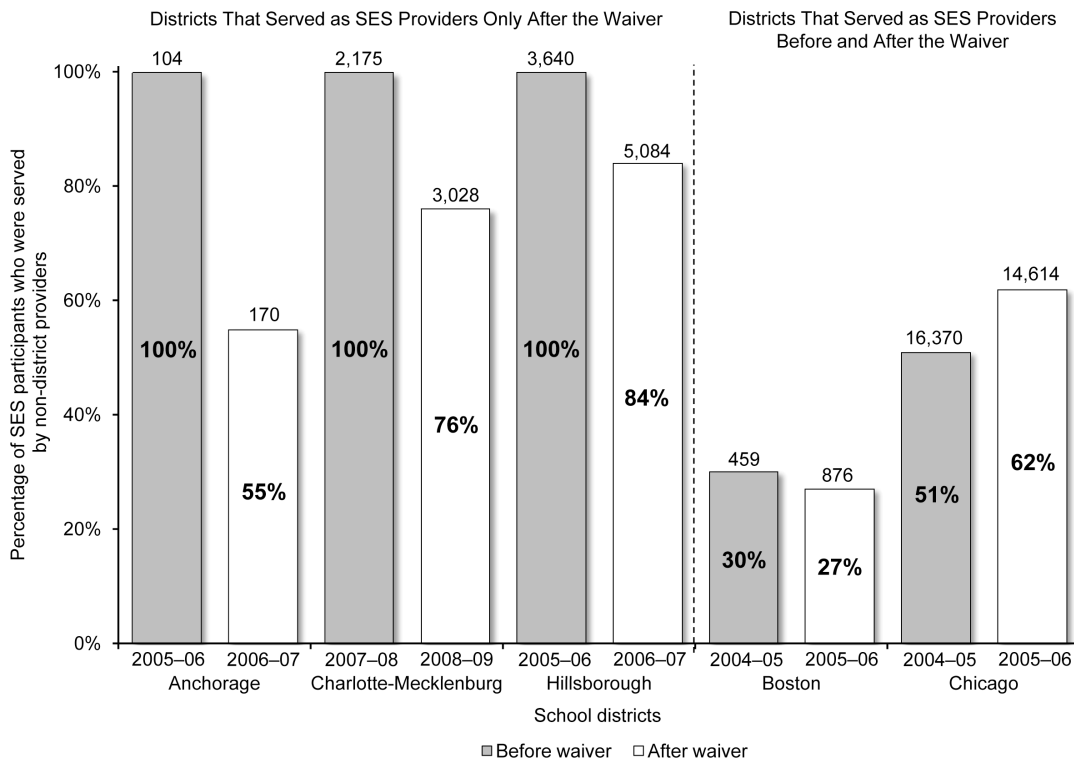


Exhibit reads: In Anchorage, where the district served as an SES provider only after the waiver, non-district providers served 100 percent of SES participants during the school year before the waiver and served 55 percent of participants in the year after the waiver. In 2005-06, 104 SES participants were served by non-district providers in Anchorage.

Notes: SES = Supplemental Educational Services.

The grades included vary by district: grades K-12 in Anchorage and Hillsborough; grades K-8 in Charlotte-Mecklenburg; grades K-8, 2004-05, and K-12, 2005-06, in Boston; and grades 3-8 in Chicago. In Boston, for grades K-8 in 2005-06, non-district providers served 25 percent of SES participants.

The Anchorage, Charlotte-Mecklenburg and Hillsborough school districts became providers after receiving a waiver. The Boston and Chicago school districts served as SES providers before receiving the waiver.

Source: Administrative data provided by the Anchorage and Hillsborough school districts, 2005-06 and 2006-07; the Charlotte-Mecklenburg school district, 2007-08 and 2008-09; and the Boston and Chicago school districts, 2004-05 and 2005-06.

In 2008-09, in Chicago and Hillsborough, participants served by district providers received a significantly greater number of hours of SES than participants served by non-district providers, while in the other three districts, participants served by the district providers received a similar number of hours of SES to those served by non-district providers.

SES participants in Chicago and Hillsborough in 2008-09 received a statistically significantly greater number of hours of tutoring on average from district providers (55 and 29 hours, respectively) than from

non-district providers (37 and 21 hours, respectively). In Anchorage, Boston and Charlotte-Mecklenburg in 2008–09, the difference in the average number of hours of tutoring received by students served by the district and the non-district providers was not statistically significant.

There were few demographic or academic differences between students served by district providers and students served by non-district providers.

In most districts, both district and non-district providers primarily served elementary students and served relatively few high school students.² In all districts, most SES participants (87 percent or more in 2008–09) were of a minority race or ethnicity. In 2008–09, SES students with limited English proficiency were served at similar rates by both district and non-district providers in three of the districts, as were students with disabilities in four of the five districts. In Boston and Charlotte-Mecklenburg, the percentage of students with limited English proficiency participating with the district provider was statistically significantly larger than the percentage served by the non-district providers (16 percent and 5 percent larger, respectively). In Anchorage, non-district providers (22 percent) served a statistically significantly higher percentage of students with disabilities than did the district provider (14 percent).

In Boston and Chicago, students served by the district provider in 2008–09 had prior achievement levels (in 2007–08) that were statistically significantly lower than achievement levels of students served by non-district providers. In the remaining three districts, the average prior achievement levels did not differ statistically significantly between students served by the district provider and those served by non-district providers.

SES Participation and Student Achievement for Students Served by District and Non-District Providers

The following findings describe the association between SES participation and student achievement gains. The analyses of student achievement in this study followed the methods used in 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*.³ Using a student fixed-effects approach, the current study examined students' achievement gains associated with SES participation relative to nonparticipation. The analyses examined mathematics achievement gains for students who participated in mathematics SES and reading achievement gains for students who participated in reading SES.⁴ All models include an indicator for student eligibility for services and an indicator for participation, plus grade, year and grade-by-year terms. These models also included student fixed effects, which controlled for time-invariant student characteristics such as parent education and underlying student ability or motivation.

The achievement gains associated with SES participation presented in the subsequent exhibits represent the differences in students' annual achievement gains (where achievement is scaled in standardized z-scores) between periods of participation and periods of no participation. In other words, the results indicate whether students experienced larger or smaller statistically significant achievement gains during periods of participation compared with periods of nonparticipation. Because statistical significance depends on both sample size and the size of the effect being estimated, the likelihood of finding

2. Charlotte-Mecklenburg and Chicago did not provide information on SES participants beyond grade 8.

3. U.S. Department of Education, Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service, *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, 2007).

4. Students may have received SES in both mathematics and reading, as well as in other subjects.

statistically significant gains was lower for Anchorage, a small district, than for Chicago, a large district, all else being equal.

Students in three of the five districts demonstrated statistically significantly larger mathematics achievement gains during periods of SES participation than during periods of nonparticipation. In addition, in two districts, SES participation was associated with statistically significant reading gains. Across the five districts, SES participation was associated with statistically significant achievement gains in both mathematics and reading.

In Chicago, SES participation was associated with statistically significant overall achievement gains of 0.05 standard deviations in mathematics and 0.07 standard deviations in reading, relative to nonparticipation (see Exhibit S.3). In Hillsborough, SES participation was associated with statistically significant increases in overall achievement gains of 0.12 standard deviations for mathematics and 0.06 standard deviations for reading. In Charlotte-Mecklenburg, SES participation was associated with a statistically significant increase in mathematics achievement gains (0.11 standard deviations) but not in reading gains (0.03 standard deviations). In Anchorage and Boston, SES participation was not associated with statistically significant gains in mathematics or reading achievement.⁵

Across the five districts, the average overall association between SES participation and achievement gains was statistically significant for mathematics (0.08 standard deviations) and reading (0.04 standard deviations), relative to nonparticipation (see Exhibit S.3).

Across the five districts, for students served by district and non-district providers, SES participation was associated with statistically significant mathematics achievement gains, relative to nonparticipation. For students served by district providers, but not by non-district providers, SES participation was associated with statistically significant reading achievement gains.

Across the five districts, for district providers, SES participation was associated with statistically significant gains in mathematics (0.10 standard deviations) and reading (0.06 standard deviations), relative to nonparticipation (see Exhibit S.3). For non-district providers, SES participation was associated with a statistically significant gain in mathematics achievement (0.09 standard deviations) but not in reading achievement (0.03 standard deviations).

5. Boston achievement analyses should be interpreted with caution. The findings were sensitive to sample changes. See Appendix G for details.

Exhibit S.3
Mathematics and Reading Achievement Gains Associated With SES Participation,
by School District and Subject, Overall and by Provider Type

	Mathematics Achievement Gains			Reading Achievement Gains		
	Overall	District Provider	Non-District Providers	Overall	District Provider	Non-District Providers
Anchorage	0.08	0.05	0.10	0.05	0.10	0.00
Boston	0.03	0.04	0.05	-0.01	0.03	0.00
Charlotte-Mecklenburg	0.11*	0.23*	0.10	0.03	0.04	0.02
Chicago	0.05*	0.06*	0.04*	0.07*	0.03*	0.09*
Hillsborough	0.12*	0.11*	0.13*	0.06*	0.10	0.06*
Across district average	0.08*	0.10*	0.09*	0.04*	0.06*	0.03

Exhibit reads: In Anchorage, SES participation, relative to nonparticipation, was associated with a gain of 0.08 standard deviations in mathematics achievement, but this gain was not statistically significant.

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

The grades included in analyses vary by district: grades 3–8 in Boston, Chicago and Charlotte-Mecklenburg, and grades 3–10 in Anchorage and Hillsborough. Not all grades are included in all years for Anchorage and Boston due to changes in tested grades during the study years.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Administrative data provided by the Chicago school district, 2001–02 through 2008–09; the Boston and Hillsborough school districts, 2002–03 through 2008–09; the Anchorage school district, 2003–04 through 2008–09; and the Charlotte-Mecklenburg school district, 2004–05 through 2008–09.

Across the five districts, students served by district providers and those served by non-district providers did not differ statistically significantly in either the mathematics or reading achievement gains associated with SES participation, relative to nonparticipation. Separate analyses by district indicated no differences between district and non-district providers in four of the five districts. In one district, Chicago, the gains for students served by non-district providers were statistically significantly larger than the gains for students served by the district provider in reading, but not in mathematics.

Across the five districts, the achievement gains associated with SES participation, relative to nonparticipation, for students served by district providers did not differ statistically significantly from the gains for students served by non-district providers in either mathematics or reading (see Exhibit S.4). Within each of the five districts individually, there were no statistically significant differences between the two types of providers in mathematics gains associated with SES participation. The only statistically significant difference between the two types of providers in reading gains was in Chicago. There, although the reading gains associated with participation were statistically significant for both district (0.03 standard deviations) and non-district providers (0.09 standard deviations), these gains were statistically significantly larger for students served by non-district providers than for students served by district providers (a difference of 0.06 standard deviations). Controlling for the number of hours of SES received did not affect the results for these comparisons between district and non-district providers.

Exhibit S.4
Differences in Achievement Gains Associated With SES Participation, Relative to Nonparticipation, for Students Served by District and Non-District Providers, by Subject

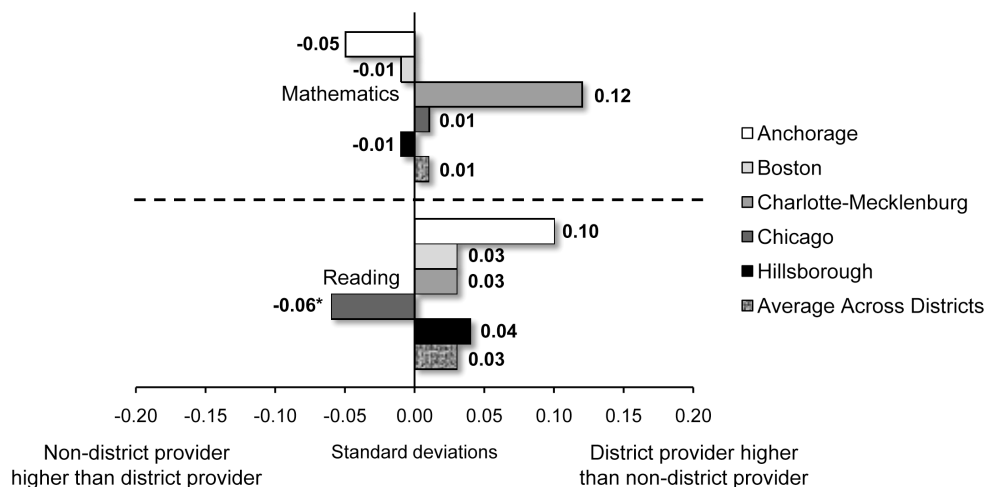


Exhibit reads: In Anchorage, the mathematics achievement gains associated with SES participation for students served by the district provider were 0.05 standard deviations lower than the mathematics achievement gains associated with participation for students served by non-district providers, but this difference was not statistically significant.

Notes: SES = Supplemental Educational Services.

Achievement scores are z-scores standardized within year, grade level and district.

Differences in achievement gains were calculated by subtracting the achievement gains associated with non-district providers from the achievement gains associated with the district providers.

The grades included in analyses vary by district: grades 3–8 in Boston, Charlotte-Mecklenburg, and Chicago, and grades 3–10 in Anchorage and Hillsborough. Not all grades are included in all years for Anchorage and Boston due to changes in tested grades during the study years.

* Indicates that the difference in the achievement gains associated with district and non-district providers was statistically significant at the 0.05 level.

Source: Administrative data provided by the Chicago school district, 2001–02 through 2008–09; the Boston and Hillsborough school districts, 2002–03 through 2008–09; the Anchorage school district, 2003–04 through 2008–09; and the Charlotte-Mecklenburg school district, 2004–05 through 2008–09.

District Communication With Parents

All five districts reported using multiple communication strategies to reach families of eligible students, provided balanced information about SES providers, translated information into at least one language other than English, and provided enrollment periods of at least six weeks.

After accepting an SES waiver, districts participating in the pilot were required to improve communication with students and families by using multiple communication strategies, extending enrollment windows, and providing balanced information on all providers. The goal was to ensure that as many eligible students as possible received SES. To improve SES participation rates, all five districts used a variety of strategies to communicate with parents in 2008–09. These included letters, flyers, fairs, and advertisements in news media. Moreover, the documentation did not appear to favor district over

non-district providers in 2008–09. However, the written communications often included jargon and complex language, possibly making it difficult for some parents to understand.

I. Introduction

Under the *Elementary and Secondary Education Act of 1965 (ESEA)*, as amended, schools served under Title I, Part A of the *ESEA* 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 that school's students from low-income families the opportunity to receive free supplemental educational services (SES) such as tutoring, remediation or other academic instruction provided outside the regular school day. The district must offer SES to students from low-income families until the school makes AYP for two consecutive years and thereby exits improvement status. A state educational agency (SEA) may approve as an SES provider a school district that is not identified for improvement or corrective action. However, under federal regulations, 34 C.F.R. § 200.47(b)(1)(iv)(B), an SEA may not approve as an SES provider a school district that is identified for improvement or corrective action.

In 2005, the U.S. Department of Education began a pilot program through which it granted waivers to allow districts identified for improvement or corrective action to serve as SES providers. Five districts received the waivers in the pilot period, which ended in 2008–09; the districts and respective years in which the waiver began are listed as follows:

1. Anchorage, Alaska (2006–07 school year)
2. Boston, Massachusetts (2005–06 school year)
3. Charlotte-Mecklenburg, North Carolina (2008–09 school year)
4. Chicago, Illinois (2005–06 school year)
5. Hillsborough County, Florida (2006–07 school year)

The central evaluation question for this report is whether SES participation for students served by the district providers was associated with achievement gains that were at least comparable with those of students served by non-district providers. This report also describes student participation in SES in the five waiver districts, the differences between students participating with district providers and students served by non-district providers, the relationship between SES participation and achievement gains overall, as well as for district and non-district providers, and the ways in which districts communicate with parents about SES.

Overview of the SES Provisions of the *ESEA*

Students from low-income families are eligible for SES if they attend a Title I school that is in the second year of school improvement, is in corrective action, or is in restructuring. Districts that are required to offer SES 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 SES and transportation for public school choice.¹

Parents of eligible students may choose a provider from a state-approved list, which may include the district provider and other, non-district providers such as for-profit agencies, not-for-profit groups, as well as faith-based and community-based organizations. School districts must consult with providers and parents to establish achievement goals for students, and providers are required to measure progress

1. 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.

toward these goals and to communicate with parents regarding their children’s progress. States are responsible for monitoring and evaluating provider performance and may remove providers from the state-approved list if the provider fails, for two consecutive years, to contribute to increasing students’ academic proficiency.

Under federal regulations, school districts that have been identified for improvement or corrective action are not eligible to serve as SES providers. However, the U.S. Department of Education granted waivers to five such districts, on a pilot basis, to allow them to provide SES. The goals of the pilot are to help ensure that the greatest possible number of eligible students are receiving SES and to provide accurate and comprehensive information on the effectiveness of SES provided by districts identified for improvement.

Pilot districts are eligible to serve as providers in exchange for expanding students’ ability to access SES. Among other conditions,² as part of the waiver, districts agreed to provide

- early notification to parents of their children’s eligibility to participate in SES;
- extended enrollment periods so that parents can make the best choice for their children;
- 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 SES.

The pilot districts—Anchorage, Boston, Charlotte-Mecklenburg, Chicago and Hillsborough—received waivers through the pilot in different academic years. Boston and Chicago received waivers starting in the 2005–06 school year; Hillsborough and Anchorage received them starting in the 2006–07 school year; and Charlotte-Mecklenburg received a waiver starting in the 2008–09 school year. Boston and Chicago served as district SES providers before receiving their respective waivers; Hillsborough, Anchorage and Charlotte-Mecklenburg began serving as SES providers after receiving their waivers.

In 2009–10, the pilot was replaced with a more expansive waiver opportunity. States were permitted to request a waiver from the U.S. Department of Education to approve as SES providers schools or districts in need of improvement, corrective action or restructuring. Twenty-nine states received waivers for the 2009–10 school year, and 22 states received approval for waivers for the 2010–11 school year.

Overview of Recent Literature

A few recent studies, using a variety of methodologies, have examined the impact of SES participation on student achievement and have generally reported either effects that were not statistically significant or effects of small statistical significance. A study by Heinrich, Meyer and Whitten examined three separate academic years of achievement data (2004–05, 2005–06 and 2006–07) in Milwaukee, Wisconsin, using propensity score matching methods. After matching, there were no statistically significant estimated effects on student achievement when comparing SES participants with eligible nonparticipants in all the

2. The regulations governing SES at 34 C.F.R. § 200.48(d)(2)(i), as amended in October 2008, now include criteria that mirror some of the pilot conditions. In particular, for a local education agency (LEA) to spend less than the full amount needed to meet its “20 percent obligation” for SES and public school choice-related transportation, the LEA must, among other things, provide a minimum of two enrollment windows at separate points in the school year and ensure that SES providers are given access to school facilities, using a fair, open and objective process, on the same basis and terms as those available to other groups that seek access to school facilities.

analyzed years.³ A study by Chicago Public Schools of the 2007–08 school year found that participation in SES was not related to reading achievement gains, but participation was associated with a small, statistically significant increase in mathematics achievement gains after controlling for individual and school-level differences between participants and nonparticipants.⁴ In addition, a study by Barnhart found a small, but statistically significant, positive effect of the 2007–08 SES program overall on student achievement in both mathematics (0.03 standard deviations) and in reading (0.03 standard deviations) when comparing SES participants with students who did not attend.⁵ Finally, one study by the U.S. Department of Education found that, on average, across seven large, urban districts, participation in SES 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).⁶

Several of these studies explicitly investigated the gains for students served by district versus non-district providers, a key aspect of this evaluation, and here the evidence was mixed. The Chicago Public Schools study reported an overall statistically significant increase in mathematics and in reading for SES participants with the district provider, relative to nonparticipants.⁷ The study by the U.S. Department of Education reported that, when compared, achievement gains by students served by district and by non-district providers varied and showed no clear pattern.

For an earlier part of this study, we had analyzed data in four districts: Anchorage, Boston, Chicago and Hillsborough. These analyses, covering the academic year 2005–06 for Boston and Chicago and 2006–07 for Anchorage and Hillsborough, also showed mixed results for achievement gains associated with SES participation for students served by district and non-district providers. In Anchorage, SES participation in either mathematics or reading for students served by either district or non-district SES providers was not associated with statistically significant achievement gains relative to nonparticipation. In Boston, for students served by the district provider, SES participation was associated with a statistically significant gain in mathematics, but not in reading. For students served by non-district providers, SES participation was not associated with statistically significant gains in either mathematics or reading. In Chicago, SES participation for students served by both district and non-district providers was associated with statistically significant gains in both mathematics and reading. In Hillsborough, SES participation for students served by both district and non-district providers was not associated with statistically significant achievement gains. In this report, these analyses have been conducted again, using additional years of data and including an additional district, Charlotte-Mecklenburg.

3. C. J. Heinrich, R. Meyer and G. Whitten, “Supplemental Education Services Under *No Child Left Behind*: Who Signs Up, and What Do They Gain?” *Evaluation and Policy Analysis* 32, no. 2 (2010): 273–298.

4. Chicago Public Schools, *The 2008 Supplemental Educational Services Program: Year 5 Summative Evaluation* (Chicago: Chicago Public Schools Office of Extended Learning Opportunities, 2009).

5. M. K. Barnhart, *The Impact of Participation in Supplemental Educational Services (SES) on Student Achievement: 2007–08* (Los Angeles: Los Angeles Unified School District Research & Planning, 2009).

6. U.S. Department of Education, Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service, *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, 2007).

7. Chicago Public Schools, *The 2008 Supplemental Educational Services Program*.

Evaluation Questions

This report seeks to address the following sets of evaluation questions.

Eligibility for and Participation in SES

1. Did the percentage of eligible students participating in SES during the pilot years increase from the prior year(s)?
2. How were participating students distributed among providers?
3. Were there statistically significant demographic or academic differences between students served by different providers, specifically students served by the district providers compared with those served by non-district providers?

Student Achievement

1. What are the achievement gains for students participating in SES?
2. Are gains in achievement for students receiving SES from district providers comparable with gains for students served by non-district providers?
3. Controlling for amount of exposure to SES, are achievement gains for students served by district providers comparable with those for students served by non-district providers?

District Communication With Parents

1. Are districts communicating with parents about the availability of SES 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 and district providers?

Chapter II addresses the research questions concerning eligibility for and participation in SES. Chapter III addresses the research questions concerning student achievement. Chapter IV addresses the research questions concerning district communication with parents. Appendix A includes additional exhibits that supplement those found in Chapters II and III.

Data Sources

In this evaluation, each district provided student-level data, including whether the student was eligible for SES, whether the student participated in SES, with which providers, in what subjects, and for how many hours. Districts also provided data related to student achievement and characteristics (e.g., race/ethnicity, disability status, limited English proficiency and grade level). All these data were provided for multiple academic years. Because districts received the waivers in different years, and because state assessment systems included different grades, this report covers different academic years and different grade levels for each district. Details on the data provided by each district follow the discussion of data challenges.

The data request presented three challenges for the districts:

- **Eligibility for SES.** It was challenging for districts to provide complete and accurate data on student eligibility for SES. Technically, a student is eligible for SES if he or she comes from a low-income family and attends a Title I school that is in the second year of school improvement, in corrective action, or in restructuring. To determine whether a student is from a low-income family, the district must use the same poverty measure (usually eligibility for free or reduced-price

lunch) used to determine its Title I schools. However, providing data on student eligibility for the free or reduced-price lunch program is fraught with problems because families are required to apply each year and districts often maintain these data separately from other student demographic data. Also, not all eligible students are enrolled in the free or reduced-price lunch program. Finally, districts may not have a final list of schools that are required to offer SES in time to notify eligible students of their options. In some cases, districts predict which schools and students are likely to be eligible. Often, districts are correct in these predictions, but occasionally, they misidentify schools and students.

As a result, the research team established parameters to determine student eligibility for SES. Any student in a school not required (according to district designations) to offer SES was considered ineligible.⁸ 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, then 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).⁹

- **Student participation in SES.** Another challenge in reporting SES data involved student participation. Districts cannot ensure that enrolled students will attend tutoring services. Occasionally, some enrolled students do not attend any SES sessions during the entire school year. However, these students still hold a place in the district’s system and are, therefore, counted as participants by the district. In this study, “participants” who did not receive tutoring are not considered SES participants.¹⁰
- **Multiple providers.** Although the analysis model assumes that students receive services from only one provider a year, several districts provided information for students with multiple providers in a single academic year. These students represent a very small percentage of participants.¹¹ In this report, these students were treated as having received services from the provider that supplied the most SES (i.e., the greatest number of hours) that year.

8. There were two districts, Chicago and Hillsborough, in which schools were misidentified as being required to offer services. In Chicago, before the start of the school year, there was not always an official list of schools required to offer SES, which meant that the district had to either delay services or predict which schools would be required to offer SES. Chicago officials chose the latter option and, in doing so, inadvertently designated seven schools as required to offer services in 2004–05 when, in fact, they were not required to do so, and these schools did offer SES. From 2006–07 to 2008–09, another eight schools were inadvertently identified as required to offer SES. In Hillsborough, one school in 2008–09 was inadvertently considered required to offer SES, although it was not, in fact, required to do so. SES participants attending misidentified schools (i.e., ineligible participants) were not included in descriptive statistics and were dropped from the student achievement analyses.

9. In Chicago, a district database determines which students are to be notified that they are eligible for SES. In schools required to offer SES, the number of students who are eligible for free or reduced-price lunch are identified using this database. This source is different from the one provided to the research team, which explains the few discrepancies between these data on eligibility for free and reduced-price lunch and district designations. According to the district, only low-income students are notified of their eligibility; therefore, the researchers treated all participants in eligible Chicago schools as eligible, which they did not do in other districts.

10. Three districts—Boston, Chicago and Hillsborough—reported SES participants who did not receive any hours of tutoring. In Boston, the following percentages of participants had zero hours: 23 percent in 2004–05, 26 percent in 2006–07, 81 percent in 2007–08 and 44 percent in 2008–09. In Chicago, the following percentages of participants had zero hours: less than 1 percent in 2004–05 through 2007–08 and 16 percent in 2008–09. In Hillsborough, the following percentages of participants had zero hours: 23 percent in 2005–06, 22 percent in 2006–07, 25 percent in 2007–08 and 21 percent in 2008–09. These students were not considered SES participants for this study.

11. Between 2004–05 and 2008–09, Hillsborough reported 1,371 students with multiple SES providers within the same academic year, and Charlotte-Mecklenburg reported 63 students. Between 2006–07 and 2008–09, Boston reported 12 students with multiple SES providers.

Although data on all five districts are presented together in this analysis when possible, it is important to note that distinct features of each district (e.g., the administration of SES and the supply of providers), pose challenges to a side-by-side comparison of each district's results. Furthermore, with respect to achievement gains associated with SES participation, it is not possible to make direct comparisons among the districts because the achievement measures, the grades tested and the years of data differ from district to district. Although 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 the following factors.

- **Context:** District size, demographic characteristics, average prior achievement levels, or annual fluctuations in the number of students eligible for and participating in SES may individually, or in combination, influence the gains associated with SES participation.
- **Implementation:** Notification practices; enrollment opportunities; and differences in the duration, nature and quality of the various SES programs offered in each district, including the hours and location of services and tutor/student ratios, may contribute individually, or in combination, to differences in results. District capacity for implementing and monitoring SES also varies in each of the districts.

Exhibit 1 provides an overview of the data analyzed from each district.

Exhibit 1
Data Analyzed From Anchorage, Boston, Charlotte-Mecklenburg, Chicago and Hillsborough

	Anchorage	Boston	Charlotte-Mecklenburg	Chicago	Hillsborough
Data on eligibility, participation, SES provider and hours of services received					
Years	2004–05 to 2008–09	2004–05 to 2008–09	2005–06 to 2008–09	2004–05 to 2008–09	2004–05 to 2008–09
Grades	K–12	K–8 in 2004–05; K–12 in 2005–06 to 2008–09	K–8	3–8	K–5 in 2004–05; K–12 in 2005–06 to 2008–09
Data on demographic and subject of tutoring					
Years	2006–07 to 2008–09	2004–05 to 2008–09	2008–09	2004–05 to 2008–09 ^a	2006–07 to 2008–09
Grades	K–12	K–8 in 2004–05; K–12 in 2005–06 to 2008–09	K–8	3–8	K–12
Data on student achievement					
Test	Alaska Benchmark Exam in 2003–04; Alaska Standards-Based Assessment for 2004–05 to 2008–09	Stanford 9 for 2002–03 to 2005–06; Massachusetts Comprehensive Assessment System for 2005–06 to 2008–09	North Carolina End-of-Grade Tests for 2004–05 to 2008–09	Iowa Test of Basic Skills for 2001–02 to 2004–05; Illinois Standards Assessment Test for 2005–06 to 2008–09	Florida's Comprehensive Assessment Test for 2002–03 to 2008–09
Tested grades	3, 6 and 8 in 2003–04; 3–9 in 2004–05; 3–10 in 2005–06 to 2008–09	3–5 in 2002–03 to 2005–06; 4–8 in 2006–07 to 2008–09	3–8	3–8	3–10

Exhibit reads: In terms of eligibility, participation, provider and hours of services received, Anchorage provided data from 2004–05 to 2008–09.

Notes: SES = Supplemental Educational Services.

In a few instances, not all data received from the districts were used in analyses for various reasons (e.g., gains could not be calculated because the state did not test consecutive grades at the time).

^a Chicago did not provide data on the subject of tutoring.

Anchorage

Anchorage provided detailed information on SES for students in kindergarten through grade 12. These data included student demographic characteristics, eligibility status, participation status, the provider from whom a student received services, the subject of tutoring, and the number of hours of tutoring participants received in school years 2004–05 through 2008–09.

Anchorage also provided longitudinal student-level achievement data in mathematics and reading from its state assessments for all students in the district. In 2004–05, students in grades 3 through 9 took the Alaska Standards-Based Assessments, while students in grades 3 through 10 did so in 2005–06 through 2008–09. In 2003–04, achievement data were available only for students in grades 3, 6 and 8 from the previous state assessment, the Alaska Benchmark Exam.

Boston

For most students in the district, Boston provided data on student demographic characteristics, eligibility status, participation status, the provider from whom a student received services, the subject of tutoring, and the number of hours of tutoring participants received for kindergarten through grade 8 in 2004–05 and for kindergarten through grade 12 in 2005–06 through 2008–09.¹²

Boston also provided longitudinal, student-level achievement data for the entire district population. For the 2002–03 through 2005–06 school years, the district provided the Stanford 9 reading and mathematics test scores for grades 3 through 5. The district administered this assessment in the fall of each year. The district also provided assessment data for the Massachusetts Comprehensive Assessment System (MCAS), which was administered in the spring of each year. MCAS data were provided for fifth-grade students for 2005–06 and for grades 4 through 8 for 2006–07 through 2008–09.¹³

Charlotte-Mecklenburg

Charlotte-Mecklenburg provided detailed SES information on students in kindergarten through grade 8 on student demographic characteristics, eligibility status, participation status, the provider from whom a student received services, the subject of tutoring, and the number of hours of tutoring that participants received in school years 2005–06 through 2008–09.

Charlotte-Mecklenburg provided longitudinal, student-level achievement data on North Carolina’s End-of-Grade exams in mathematics and reading for all students in grades 3 through 8 from 2004–05 through 2008–09.

Chicago

Chicago provided SES information on student eligibility, participation, the provider from whom each student received services, and the number of minutes or hours of tutoring participants received for grades 3 through 8 from 2004–05 through 2008–09.¹⁴ Chicago did not provide data on the subject of tutoring during this time period. Demographic data were available only for SES participants and students taking standardized assessments (grades 3 through 8).

For 2001–02 through 2004–05, Chicago provided student-level data for all students in grade 3 through grade 8 taking the Iowa Test of Basic Skills. However, the district stopped administering that test in 2005–06; therefore, the study used student-level results from the state assessment, the Illinois Standards Assessment Test, for the 2005–06 through 2008–09 school years for students in grade 3 through grade 8.

Hillsborough

Hillsborough provided detailed SES information on students in kindergarten through grade 12 on student demographic characteristics, eligibility status, participation status, the provider from whom a student received services, the subject of tutoring, and the number of hours of tutoring participants

12. Boston did not provide SES data for students attending charter schools not operated by the district.

13. Boston also administered the MCAS to third-grade students from 2006–07 to 2008–09. However, in these years, the district did not calculate the standardized scores needed for the achievement analyses.

14. There were several implausible values in the Chicago data on number of hours of services received in 2004–05 through 2008–09. The final dataset excluded cases in which the number of hours exceeded 120, which is the maximum according to the district. Approximately 2 percent of participants had more than 120 hours, with an average of 240 hours.

received in 2005–06 through 2008–09. In 2004–05, detailed SES information was provided only for eligible students in kindergarten through grade 5.

Hillsborough provided longitudinal, student-level data for all students in grades 3 through grade 10 taking Florida’s Comprehensive Assessment Test in 2002–03 through 2008–09.

In addition to the student-level data, each district provided information about its communication efforts with parents. The research team examined examples of submitted documents and reviewed the methods of distribution, as reported by the districts.

Analyses of Achievement Gains

Student gains on standardized assessments from one academic year to the next served as the achievement outcome measures. The gains are created by subtracting prior year scores from the subsequent year scores. Before subtracting the scores, the assessment scores were translated into z -scores. A z -score indicates a student’s position in the test score distribution relative to other students in his or her district, year and grade level. In other words, each district’s scores for each year and grade level are standardized so that the mean score is 0 and the standard deviation is 1. Thus, a student with a z -score of 0.5 is one half of a standard deviation above the district mean. Gains on this metric do not indicate a developmental improvement; rather, they represent a student’s movement within the test score distribution relative to the movement of all students in the same year and grade level in the same district.

The analytic model for achievement analyses in this study is the student fixed-effects model, which estimates changes in student achievement gains over time, comparing each student’s achievement gains during the years in which the student participated in SES with gains in the years in which the student did not participate. The approach followed the methods used for a previous study 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*.¹⁵ The student fixed-effects approach assesses the changes in achievement gains associated with SES participation, controlling for the effects of time-invariant student characteristics such as parent education and underlying student ability or motivation.

By including a fixed effect for each student in the analytic model, we guarded against potential selection bias that could result if students who received services were different from others in ways that could not be measured. This approach essentially controlled for all the time-invariant characteristics of each student (e.g., motivation or high level of parental involvement) that might otherwise have affected that student’s achievement gains. This approach does not, however, control for time-varying student characteristics (e.g., illness or changes to family structure).

The model used for the analysis of the overall achievement gains associated with SES participation, relative to nonparticipation, was

$$A_{it} - A_{it-1} = \alpha \text{Eligible}_{it} + \beta \text{Participation}_{it} + \mu_i + \theta_{gt} + \epsilon_{it}$$

Where

$A_{it} - A_{it-1}$ 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 ;

15. U.S. Department of Education, Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service, *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, 2007).

Participation_{it} is the participation status of student *i* in year *t*;
μ_{*i*} represents the fixed effect for student *i*;
θ_{gt} represents a set of grade-by-year effects; and
ε_{it} represents the random error associated with student *i* in year *t*.

The coefficient β from the above model captures the overall achievement gain associated with SES participation relative to nonparticipation. A significant positive coefficient indicates that SES participation was associated with statistically significantly larger achievement gains during years when students participated in SES relative to years when they did not participate.

In addition to the model for the overall gains associated with SES participation, we constructed models to assess the relationship between the achievement gains and the following characteristics of the SES that students received:

1. Provider type: SES received from district provider or non-district provider
2. Provider type, controlling for number of hours of participation
3. Individual non-district SES providers
4. Number of years: Students who have received SES for only a single year, compared with students who have received SES for multiple years

For example, the model for provider type was as follows:

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

The coefficient for the district provider variable, λ, indicates the gains associated with SES participation relative to nonparticipation for students served by the district provider, while the coefficient for the non-district provider variable, ξ, indicates the gains associated with SES participation for students served by non-district providers. The two coefficients test whether the achievement gains associated with SES participation for students served by the district provider and students served by non-district providers are statistically significantly different from zero. We also tested whether the gains associated with SES participation for students served by the district provider showed statistically significant differences from the gains of students served by non-district providers, that is, whether λ – ξ = 0. A statistically significant positive value of (λ – ξ) suggests that students served by the district provider experienced larger gains in achievement than did students served by non-district providers. A statistically significant negative value of (λ – ξ) suggests otherwise.

The results of the achievement analyses are based on a subset of the student population in each district—students in tested grades.¹⁶ The analytic approach further requires each student to have achievement scores for at least three time points in either reading or mathematics to construct at least two gain scores for each student. Finally, students who repeated one of the tested grades (e.g., enrolled in third grade two years in a row) were not included in the analyses.¹⁷ The achievement analyses reported

16. The analyses of district providers versus non-district providers were restricted to those students who received SES during years when both district and non-district providers offered SES.

17. Given the fact that the outcome measure is designed to measure gains in a student's progress in relation to the rest of the students in his or her grade level, the inclusion of a student who has repeated a grade inherently leads to comparing an on-track student with a student who is one year older and has taken the same test twice. For example, for the cohort of fifth-graders in 2004–05, we computed their gains as the difference between their reading score in the prior year (2003–04), as fourth-graders, and their reading score in 2004–05, as fifth-graders, with both scores standardized to the full population of test takers of each grade level in each year. Any repeating fifth-graders might have larger gains because they took the same test in both years.

here use this sample of students. Sample sizes vary by district based on the number of students served, the data available and the requirements for inclusion in this analytic method. The sample size and standard errors (included in each district appendix; see Appendices B–F) must be taken into account when examining statistically significant (or nonsignificant) findings because smaller sample sizes are less likely to have statistically significant gains than larger sample sizes, all else being equal.

Because the fixed-effects approach estimates the impact of SES by comparing each student’s gains during years when he or she participated in SES with gains during periods in which he or she did not participate, it would also be possible to estimate the model by restricting the sample to students with and without periods of SES participation. Appendix G provides estimates based on this restricted sample for two regression analyses in each district.

The achievement gains associated with SES participation averaged across the five districts, based on a fixed-effects approach, are also reported (see Appendix H for details about the approach as well as the gain estimates and standard errors).

II. Eligibility for and Participation in Supplemental Educational Services

This section presents an overview of SES in the five districts over time by examining the eligible and participating student populations and SES participation rates, the amount of services received by students, and the demographic and other characteristics of students participating in SES in general. In addition, the descriptive statistics compare the characteristics of students receiving SES from district providers with the characteristics of students receiving SES from non-district providers.

The policy questions concern whether participation in SES has increased during the waiver period in each of the districts, whether the inclusion of a district provider affected the manner in which students were distributed across provider types, and whether any differences existed in the characteristics of students served by district versus non-district providers. Although some findings are summarized across five districts, it is important to note that district contexts differ in many ways, including the years available for analysis, the waiver year and the set of non-district providers, which makes comparing districts inappropriate.

Key Findings

- In all five districts, the percentage of students eligible for SES increased over time.
- Three districts became SES providers for the first time after the waiver was granted—Anchorage, Charlotte-Mecklenburg and Hillsborough. In these districts, overall student participation in SES increased in the first year of the waiver.
- In all five districts, the number of non-district providers increased from the first post-waiver year through 2008–09; the non-district providers were primarily small, each serving fewer than 100 students.
- SES participants served by the district provider tended to receive a similar or greater number of hours of tutoring as participants served by non-district providers.
- SES participants were primarily elementary school students, and most participants were of a minority race or ethnicity. Eligible students with limited English proficiency and students with disabilities participated at similar to or higher than the rates of other eligible students.
- There were few demographic or academic differences between students served by district providers and students served by non-district providers.

Eligibility for Supplemental Educational Services

Student eligibility for SES generally reflects the individual context in each district within each year—including the academic and other characteristics of the student population and the number of schools identified for improvement. These differences across districts are demonstrated, for example, by the fact that, in Chicago, as many as 77 percent of district students were eligible for SES in 2008–09, whereas in Anchorage, the eligibility rate was 9 percent during the same period (see Exhibit 2).

Overall, the percentage of students eligible for SES increased over time in all five districts.

In all five districts, the percentage and number of students eligible for SES generally increased over the four or five years of available data. In Boston, the number of eligible students increased each year, from 8,282 students (20 percent) in 2004–05 to 31,513 students (57 percent) in 2008–09 (see Exhibit 2). Similar continuous growth was seen in Charlotte-Mecklenburg and Hillsborough. In Anchorage and Chicago, the number and percentage of eligible students increased over the evaluation years, but each of these districts had at least one year with a decrease in the percentage of eligible students.

Exhibit 2
Number and Percentage of Students Eligible for SES, Participating in SES
and Served by Non-District Providers, by School District and by Academic Year

Academic Year	District Student Population	Students Eligible for SES		SES Participants		Students Served by Non-District Providers	
		Number	Percentage of All Students	Number	Percentage of Eligible Students	Number	Percentage of SES Participants
Anchorage							
2004-05	52,049	709	1	31	4	31	100
2005-06	52,338	2,089	4	104	5	104	100
2006-07	51,674	4,427	9	308	7	170	55
2007-08	51,163	4,110	8	540	13	193	36
2008-09	51,739	4,617	9	644	14	295	46
Boston							
2004-05	41,847	8,282	20	1,521	18	459	30
2005-06	62,103	21,954	35	3,288	15	876	27
2006-07	55,616	22,429	40	2,997	13	94	3
2007-08	55,672	27,338	49	609	2	478	78
2008-09	55,710	31,513	57	1,911	6	750	39
Charlotte-Mecklenburg							
2005-06	95,369	5,164	5	312	6	312	100
2006-07	98,997	6,974	7	1,081	16	1,081	100
2007-08	101,615	10,109	10	2,175	22	2,175	100
2008-09	101,712	16,865	17	3,972	24	3,028	76
Chicago							
2004-05	169,217	93,890	56	31,950	34	16,370	51
2005-06	156,884	83,155	53	23,631	28	14,614	62
2006-07	164,791	118,647	72	22,678	19	15,613	69
2007-08	181,511	129,031	71	24,190	19	18,580	77
2008-09	176,906	135,338	77	34,057	25	29,552	87
Hillsborough							
2004-05	94,784	1,843	2	265	14	265	100
2005-06	204,062	35,633	17	3,640	10	3,640	100
2006-07	203,468	42,048	21	6,028	14	5,084	84
2007-08	201,704	46,013	23	4,879	11	4,070	83
2008-09	200,782	49,727	25	5,786	12	4,731	82

Exhibit reads: In 2004-05, within the Anchorage district, 709 students (1 percent of all students) were eligible for SES, 31 students participated in SES (4 percent of eligible students), and 31 students (100 percent of SES participants) were served by non-district providers.

Notes: SES = Supplemental Educational Services.

Shaded boxes indicate years before waivers were granted.

The grades included vary by district: grades K-12 in Anchorage; grades K-8, 2004-05, and K-12, 2005-06 through 2008-09, in Boston; grades K-8 in Charlotte-Mecklenburg; grades 3-8 in Chicago; and grades K-5, 2004-05, and K-12, 2005-06 through 2008-09, in Hillsborough.

Source: Administrative data provided by the Anchorage, Boston, Chicago and Hillsborough school districts, 2004-05 through 2008-09, and by the Charlotte-Mecklenburg school district, 2005-06 through 2008-09.

Participation in Supplemental Educational Services

While all five districts received SES waivers, the Boston and Chicago school districts provided SES to students before the granting of the waivers in 2005–06. In Anchorage, Charlotte-Mecklenburg and Hillsborough, the waiver resulted in the introduction of the district into the pool of available providers. Regardless of the introduction of district providers, on receipt of the waiver, all five districts were required to increase communications to eligible students and their families regarding the availability of SES.

In the three districts that began to serve as SES providers after the waiver was granted, student participation in SES increased in the first post-waiver year.

Among the three districts that began serving as SES providers after the waiver was granted—Anchorage, Charlotte-Mecklenburg and Hillsborough—SES participation grew during the first year of the waiver. For example, in Charlotte-Mecklenburg, the total number of students who received SES increased from 2,175 in 2007–08 to 3,972 in 2008–09 (see Exhibit 3). While the eligible student population increased after the waiver was granted in these three districts (see Exhibit 2), participation rates also rose (by two percentage points in Anchorage and Charlotte-Mecklenburg and four percentage points in Hillsborough) (see Exhibit 3).

The number of participants in Anchorage increased from 104 students before the waiver to 308 students after the waiver (see Exhibit 3). The low number is due in part to the small size of the district and the small number of eligible students in Anchorage (4,427 students) (see Exhibit 2). However, Anchorage also had a low percentage of eligible students participating (7 percent).¹

In the districts that had served as SES providers before the waiver—Boston and Chicago—SES participation rates decreased the year after the waiver. However, in Boston, the number of students participating increased after the waiver due to increased student eligibility.

Both Boston and Chicago were district providers before the waiver. In Boston, participation rates in SES decreased from 18 percent in 2004–05 to 15 percent in 2005–06 (see Exhibit 3). However, since the number of eligible students increased from 8,282 in 2004–05 to 21,954 in 2005–06, participation in SES more than doubled from the preceding year, increasing from 1,521 students to over 3,288 students (see Exhibit 2). In Chicago, the number of eligible students decreased after the waiver was granted, from 93,890 in 2004–05 to 83,155 in 2005–06, along with the number of SES participants (from 31,950 students to 23,631 students) and participation rate (from 34 percent to 28 percent).

1. For comparison with national rates, see data in U.S. Department of Education, Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service, *State and Local Implementation of the No Child Left Behind Act, Volume VII—Title I School Choice and Supplemental Educational Services: Final Report* (Washington, D.C.: U.S. Department of Education, 2009). In 2005–06, only 5 percent of eligible students participated in Anchorage, compared with the 2005–06 average national participation rate of 17 percent.

Exhibit 3
Number and Percentage of Eligible Students Participating in SES, by School District, Immediately Before and After the Waiver

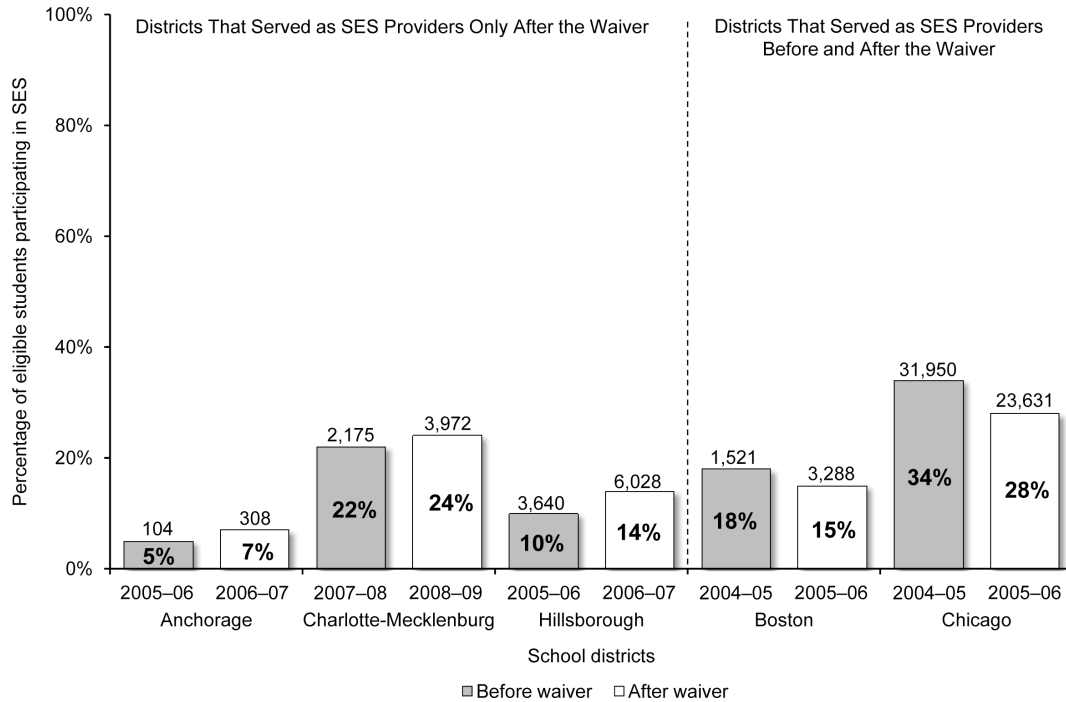


Exhibit reads: In Anchorage, 5 percent of students eligible for SES participated in the school year before the waiver, and 7 percent participated in the school year after the waiver. In 2005–06, 104 eligible students participated in SES.

Notes: SES = Supplemental Educational Services.

The grades included vary by district: grades K–12 in Anchorage and Hillsborough; grades K–8 in Charlotte-Mecklenburg; grades K–8, 2004–05, and K–12, 2005–06, in Boston; and grades 3–8 in Chicago. In Boston, for grades K–8 in 2005–06, the number of eligible students participating in SES was 3,102 (17 percent of the eligible students).

The Anchorage, Charlotte-Mecklenburg and Hillsborough school districts became providers after receiving a waiver. The Boston and Chicago school districts served as SES providers before receiving the waiver.

Source: Administrative data provided by the Anchorage and Hillsborough school districts, 2005–06 and 2006–07; the Charlotte Mecklenburg school district, 2007–08 and 2008–09; and the Boston and Chicago school districts, 2004–05 and 2005–06.

In each district, participation rates of eligible students varied over time.

In two districts—Anchorage and Charlotte-Mecklenburg—participation rates among eligible students increased consistently each year. In Anchorage, participation rates more than tripled, from 4 percent in 2004–05 to 14 percent in 2008–09 (see Exhibit 2). In Charlotte-Mecklenburg, participation rates increased from 6 percent in 2005–06 to 24 percent in 2008–09. Conversely, in Boston, eligible student participation rates decreased annually from 18 percent in 2004–05 to 2 percent in 2007–08, with an increase to 6 percent in 2008–09. Participation rates of eligible students in Chicago also decreased between 2004–05 (34 percent) and 2006–07 (19 percent), stabilized for one year, and then returned to

25 percent in 2008–09. In Hillsborough, eligible student participation rates fluctuated annually, with the highest rate reaching 14 percent in both 2004–05 and 2006–07 and the lowest at 10 percent in 2005–06.

Number and Size of Non-District Providers

When districts become SES providers, the goal is for the district to add to the pool of providers and expand services to accommodate a greater number of eligible students rather than replace non-district providers or shift the existing participants among more providers.

The introduction of the district provider did not appear to limit the number of non-district providers. Most of these providers were small, serving fewer than 100 students.

In the three districts that did not serve as SES providers before the waiver, their introduction as district providers did not appear to negatively influence the number of non-district providers in the long run. In the first year after the waiver (2006–07) in Anchorage and Hillsborough, the number of non-district providers decreased by one but then rebounded by the following year (see Exhibit 4). In Charlotte-Mecklenburg, the number of non-district providers increased from 12 providers in 2007–08 to 18 providers in 2008–09 (the first waiver year). The number of non-district providers increased immediately after the waiver in Boston and Chicago, in 2005–06, although both districts were already serving as SES providers.

Over time, as the number of participants increased in each of the districts, so did the number of non-district providers serving them (see Exhibit 2). For example, in Chicago, the number of non-district providers started at 19 in 2004–05 and grew to 45 in 2008–09 (see Exhibit 4).

Most of the non-district providers served fewer than 100 students (see Appendix Exhibit A.1). Of the 30 non-district providers in Hillsborough, for example, in 2008–09, 22 served fewer than 100 students, seven served 100–999 students and one served more than 1,000 students. Chicago, which is the district with the greatest number of participants in this evaluation, was an exception; the district had the most, and the largest, non-district providers. In 2008–09, Chicago had 45 non-district providers: 15 served fewer than 100 students, 21 served 100 to 999 students, and 9 served over 1,000 students.

Exhibit 4
Number of Non-District SES Providers, by Year and by School District

	Anchorage	Boston	Charlotte-Mecklenburg	Chicago	Hillsborough
2004–05	2	5	—	19	10
2005–06	5	15	10	35	24
2006–07	4	5	10	43	23
2007–08	5	15	12	53	28
2008–09	7	16	18	45	30

Exhibit reads: In 2004–05, the total number of non-district providers serving participating students in Anchorage was 2.

Notes: SES = Supplemental Educational Services.

Charlotte-Mecklenburg did not provide data for 2004–05.

Shaded boxes indicate years before waivers were granted.

The grades included vary by district: grades K–12 in Anchorage; grades K–8, 2004–05, and K–12, 2005–06 through 2008–09, in Boston; grades K–8 in Charlotte-Mecklenburg; grades 3–8 in Chicago; and grades K–5, 2004–05, and K–12, 2005–06 through 2008–09, in Hillsborough.

Source: Administrative data provided by the Anchorage, Boston, Chicago and Hillsborough school districts, 2004–05 through 2008–09, and by the Charlotte-Mecklenburg school district, 2005–06 through 2008–09.

SES Participation With District and Non-District Providers

The following section discusses participation rates with district and non-district providers, hours of SES provided by district and non-district providers, and any differences between characteristics of SES participants served by the district providers and characteristics of students served by non-district providers.

Participation Rates

In the three districts that began to serve as SES providers after the waiver was granted, non-district providers served the majority of students participating in SES in the first year of the waiver. Over time, participation rates by provider type varied by school district and by year.

After receiving their respective waivers, the Anchorage, Charlotte-Mecklenburg and Hillsborough school districts began serving as SES providers. During the first year after these districts received a waiver, the non-district providers in those districts continued to serve the majority of SES participants (see Exhibit 5). In 2006–07, non-district providers served 55 percent of participants in Anchorage and 84 percent of participants in Hillsborough; in 2008–09, non-district providers served 76 percent of participants in Charlotte-Mecklenburg. Two of these districts have multiple years of post-waiver data available; in those additional years, Anchorage non-district providers served fewer than 50 percent of the participants (36 percent in 2007–08 and 46 percent in 2008–09), and Hillsborough non-district providers continued to serve similar percentages of participants (more than 80 percent each year) (see Exhibit 2).

The Boston and Chicago districts both served as SES providers before the waiver. In Boston, non-district providers served fewer than one-third of SES participants both before and after the waiver: 30 percent in 2004–05 and 27 percent in 2005–06 (see Exhibit 5). In the longer term, participation rates

were inconsistent, with non-district providers serving 3 percent of SES participants in 2006–07, 78 percent in 2007–08, and 39 percent in 2008–09 (see Exhibit 2). Conversely, in Chicago, non-district providers served more than half of SES participants before the granting of the waiver (51 percent in 2004–05), served nearly two-thirds of participants (62 percent) in 2005–06, and increased steadily to serving 87 percent of participants in 2008–09.

Exhibit 5
Number and Percentage of SES Participants Who Were Served by Non-District Providers, by School District, Immediately Before and After the Waiver

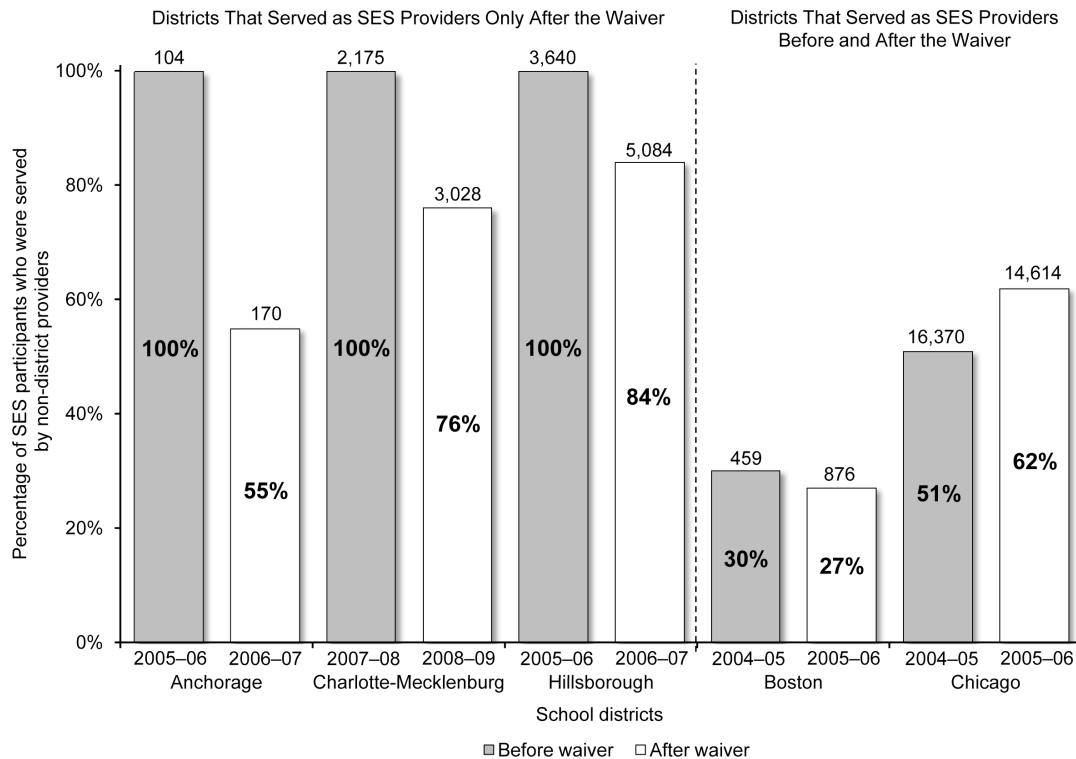


Exhibit reads: In Anchorage, where the district served as an SES provider only after the waiver, non-district providers served 100 percent of SES participants during the school year before the waiver and served 55 percent of participants in the year after the waiver. In 2005–06, 104 SES participants were served by non-district providers in Anchorage.

Notes: SES = Supplemental Educational Services.

The grades included vary by district: grades K–12 in Anchorage and Hillsborough; grades K–8 in Charlotte-Mecklenburg; grades K–8, 2004–05, and K–12, 2005–06, in Boston; and grades 3–8 in Chicago. In Boston, for grades K–8 in 2005–06, non-district providers served 25 percent of SES participants.

The Anchorage, Charlotte-Mecklenburg and Hillsborough school districts became providers after receiving a waiver. The Boston and Chicago school districts served as SES providers before receiving the waiver.

Source: Administrative data provided by the Anchorage and Hillsborough school districts, 2005–06 and 2006–07; the Charlotte-Mecklenburg school district, 2007–08 and 2008–09; and the Boston and Chicago school districts, 2004–05 and 2005–06.

Hours of SES Provided

District providers may differ from non-district providers by offering more or fewer hours of tutoring. This section presents comparisons of hours of tutoring received by provider type. These comparisons focus on the 2008–09 data provided by districts, which is both the most recent year of data available and the only year in which all five districts had experienced a post-waiver year, making comparisons of the district provider with the non-district providers possible in every district.

Participants served by district providers received a similar or greater number of hours of SES as participants served by non-district providers.

SES participants in Chicago and Hillsborough in 2008–09 received a statistically significantly greater number of hours of tutoring on average from district providers (55 and 29 hours, respectively) than from non-district providers (37 and 21 hours, respectively) (see Exhibit 6). In Anchorage, Boston and Charlotte-Mecklenburg in 2008–09, the difference between the average number of hours of tutoring received by students served by the district and the non-district providers was not statistically significant.

Exhibit 6
Average Number of Hours of SES Received by Participants, by School District,
by Provider Type and by Year

	2005–06	2006–07	2007–08	2008–09
Anchorage				
All providers	39	28	31	31
District provider	—	31	29	32
Non-district providers	39	25	36	31
Boston				
All providers	44	79	46	43
District provider	45*	80*	80*	40
Non-district providers	43*	57*	36*	47
Charlotte-Mecklenburg				
All providers	20	21	24	27
District provider	—	—	—	26
Non-district providers	20	21	24	27
Chicago				
All providers	81	38	37	39
District provider	80*	47*	46*	55*
Non-district providers	81*	34*	34*	37*
Hillsborough				
All providers	23	22	23	22
District provider	—	22	32*	29*
Non-district providers	23	23	22*	21*

Exhibit reads: In Anchorage in 2005–06, no students were served by the district provider, and students served by the non-district providers received an average of 39 hours of services. In Anchorage in 2006–07, all students on average received 28 hours of SES; students served by the district provider received an average of 31 hours of SES, while students served by non-district providers received an average of 25 hours of services. This difference was not statistically significant.

Notes: SES = Supplemental Educational Services.

Shaded boxes indicate years before waivers were granted.

The grades included vary by district: grades K–12 in Anchorage, Boston and Hillsborough; grades K–8 in Charlotte-Mecklenburg; and grades 3–8 in Chicago.

— Indicates that the district did not provide SES at this time.

* Indicates a statistically significant difference in average hours between district and non-district providers at the 0.05 level.

Source: Administrative data provided by the Anchorage, Boston, Charlotte-Mecklenburg, Chicago and Hillsborough school districts, 2005–06 through 2008–09.

SES Participant Characteristics

SES participants were primarily elementary school students, and in three of the five districts, there was no difference between district and non-district providers in the distribution of the grade levels of SES participants.

In all districts, most participating students in 2008–09 were in elementary school (grades K–5), ranging from 55 percent of participants in Boston to 86 percent in Anchorage (see Appendix Exhibit A.2).² Middle school (grades 6–8) students constituted the next largest group, ranging from 14 percent of participants in Anchorage to 42 percent of participants in Chicago. Only in Boston did a sizable group of high school students (18 percent) participate in SES in 2008–09.

The distribution of participant grade levels was similar for district and non-district providers within Anchorage, Chicago and Charlotte-Mecklenburg in 2008–09 (see Appendix Exhibit A.3). In Boston and Hillsborough in 2008–09, there were statistically significant differences in the distribution of the grade levels of students served by district and non-district providers. This difference was more visible in Boston, where district providers primarily served participants in elementary school (60 percent) and in high school (29 percent) whereas non-district providers served primarily SES participants in middle school (50 percent) and elementary school (48 percent).

In all five districts, most students participating in SES were of a minority race or ethnicity, and participation rates with district and non-district providers were similar.

In 2008–09, within each district, the majority of students participating in SES (87 percent or above) were of a minority³ race or ethnicity (see Appendix Exhibits B.5, C.5, D.5, E.5 and F.5). Only in Hillsborough was there a statistically significant, but negligible, difference between the percentage of minority participants served by the district and non-district providers: 87 percent of students served by non-district providers were non-white compared with 84 percent of those served by the district provider (see Exhibit 7).

2. Chicago and Charlotte-Mecklenburg did not provide information on SES participants beyond grade 8.

3. In this evaluation, minority was defined as all students other than white.

Exhibit 7
Demographic Characteristics of Students Participating in SES in 2008–09,
by School District and by Provider Type

	Percentage Minority		Percentage With Limited English Proficiency		Percentage With Disabilities	
	District Provider	Non-District Providers	District Provider	Non-District Providers	District Provider	Non-District Providers
Anchorage	92	84	26	26	14*	22*
Boston	92	91	38*	22*	24	26
Charlotte-Mecklenburg	98	98	30*	25*	14	14
Chicago	99	98	20	16	14	14
Hillsborough	84*	87*	35	32	29	28

Exhibit reads: In Anchorage in 2008–09, 92 percent of students who participated with the district provider were of a minority race or ethnicity, and 84 percent of students who participated with the non-district providers were of a minority race or ethnicity. This difference was not statistically significant.

Notes: SES = Supplemental Educational Services.

The grades included vary by district: grades K–12 in Anchorage, Boston and Hillsborough; grades K–8 in Charlotte-Mecklenburg; and grades 3–8 in Chicago.

Minority includes African American, Hispanic, Asian, American Indian, Alaska Natives and multiracial students.

* Indicates a statistically significant difference between the percentage of district SES participants and the percentage of non-district SES participants in the indicated demographic group at the 0.05 level.

Source: Administrative data provided by the Anchorage, Boston, Charlotte-Mecklenburg, Chicago and Hillsborough school districts, 2008–09.

District providers served students with limited English proficiency at similar or higher rates than did non-district providers. Students with limited English proficiency participated in SES at rates similar to or higher than those of other eligible students.

In all five districts in 2008–09, one-third or fewer of the SES participants were students with limited English proficiency, ranging from 16 percent in Chicago to 33 percent in Hillsborough (see Appendix Exhibits B.5, C.5, D.5, E.5 and F.5). In 2008–09, in Boston and Charlotte-Mecklenburg, the percentage of students with limited English proficiency served by the district provider was statistically significantly higher than the percentage served by non-district providers (percentage differences were 16 and 5 percent, respectively) (see Exhibit 7). In Anchorage, Chicago and Hillsborough in 2008–09, SES students with limited English proficiency participated at similar rates with district and non-district providers.

With the exception of Charlotte-Mecklenburg, in all other districts in 2008–09, students with limited English proficiency were represented at statistically significantly higher rates among SES participants than among all eligible students. This difference was most notable in Anchorage, where 26 percent of participants in 2008–09 had limited English proficiency, compared with 14 percent in the eligible student population (see Appendix Exhibit B.5).

In four of the five districts, there were no statistically significant differences by provider type in the percentage of students with disabilities served in 2008–09. Students with disabilities participated in SES at rates similar to or higher than those of eligible students.

In 2008–09, the percentage of SES participants with disabilities ranged between 14 percent in both Chicago and Charlotte-Mecklenburg and 28 percent in Hillsborough (see Appendix Exhibits B.5, C.5, D.5, E.5 and F.5). Participation rates for students with disabilities were similar for district and non-district providers in Boston, Charlotte-Mecklenburg, Chicago and Hillsborough in 2008–09 (see Exhibit 7). In Anchorage, however, non-district providers served a statistically significantly higher percentage of students with disabilities (22 percent) than did the district provider (14 percent). In two districts—Chicago and Hillsborough—students with disabilities were represented at statistically significantly higher rates among SES participants than among all eligible students in 2008–09 (see Appendix Exhibits E.5 and F.5).

In all five districts in 2008–09, students participating in SES had statistically significantly lower levels of prior achievement in mathematics and reading than eligible nonparticipants.

The SES program is intended to serve students from low-income families who attend Title I schools that do not make AYP for three or more consecutive years. In each of the five districts examined, students eligible for SES in 2008–09 had statistically significant lower levels of 2007–08 mathematics and reading achievement than those of students not eligible for SES (see Appendix Exhibit A.4).⁴ Of these eligible students, SES participants had statistically significant lower levels of prior achievement in mathematics and reading than those of nonparticipants in all five districts (see Appendix Exhibit A.5). These findings are consistent with those in other studies. For example, a U.S. Department of Education study found that students participating in SES had statistically significant lower average achievement before the participation year than did eligible students who did not participate.⁵

In Boston and Chicago, district providers served students with lower average prior achievement than that of students served by non-district providers. In Anchorage, Charlotte-Mecklenburg and Hillsborough, district providers and non-district providers served students with similar prior achievement levels.

In Boston and Chicago, district and non-district providers differed in the prior achievement levels of students they served. In Boston, students served by the district provider in 2008–09 had statistically significantly lower achievement in 2007–08 than students served by non-district providers. In mathematics, that difference was 0.31 standard deviations, and in reading, that difference was 0.39 standard deviations (see Exhibit 8). In Chicago, the 2007–08 achievement level of students served by the district provider in 2008–09 was statistically significantly lower in reading than the achievement of students served by non-district providers, but not in mathematics. In reading, the difference was 0.07 standard deviations.

4. As mentioned earlier, scale scores were standardized within each grade, year and district (to a mean of zero and a standard deviation of 1.0) to make comparisons across grades and years more meaningful.

5. U.S. Department of Education, Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service, *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, 2007).

In Anchorage, Charlotte-Mecklenburg and Hillsborough, average prior achievement levels did not show statistically significant differences between students served by district providers and students served by non-district providers (see Exhibit 8). For example, in Charlotte-Mecklenburg, students served by the district provider in 2008–09 scored 0.86 standard deviations below the overall district mean on the prior year’s mathematics assessment while students served by non-district providers scored 0.82 standard deviations below the district mean (see Exhibit 8). This difference was not statistically significant.

Exhibit 8
Average Prior (2007–08) Achievement Scores of Students Participating
in SES in 2008–09 With District and Non-District Providers,
and the Difference Between Provider Types, by School District and by Subject

	Mathematics			Reading		
	District Provider	Non-District Providers	Difference	District Provider	Non-District Providers	Difference
Anchorage	-0.90	-0.98	0.08	-0.80	-1.02	0.22
Boston	-0.58	-0.27	-0.31*	-0.64	-0.25	-0.39*
Charlotte-Mecklenburg	-0.86	-0.82	-0.04	-0.87	-0.83	-0.04
Chicago	-0.37	-0.33	-0.04	-0.39	-0.32	-0.07*
Hillsborough	-0.82	-0.80	-0.02	-0.87	-0.83	-0.04

Exhibit reads: In Anchorage, among students who participated in SES with the district provider in 2008–09, the average mathematics achievement score in 2007–08 was 0.90 standard deviations below the district average, while students who participated in SES with the non-district providers had an average prior mathematics achievement score that was 0.98 standard deviations below the district average. Among students who participated in SES with the district provider in 2008–09, the average mathematics achievement score in 2007–08 was 0.08 standard deviations above the average score of students who participated with non-district providers. This difference was not statistically significant.

Notes: SES = Supplemental Educational Services.

Negative values in the *difference* columns occur when the district provider served students with lower prior achievement than those served by the non-district providers.

Achievement scores are standardized within year, grade level and district.

The grades included vary by district: grades 3–8 in Boston, Chicago and Charlotte-Mecklenburg; and grades 3–10 in Anchorage and Hillsborough.

* Indicates a statistically significant difference between district and non-district providers at the 0.05 level.

Source: Administrative data provided by the Anchorage, Boston, Charlotte-Mecklenburg, Chicago and Hillsborough school districts, 2007–08 and 2008–09.

Summary

Overall, all five districts that received SES waivers enrolled more students in SES in 2008–09 than in each district’s pre-waiver year, although the participation rates varied. Non-district providers did not appear to be adversely affected by the presence of the district as an SES provider; the number of non-district providers continued to grow in all five districts. In addition, both district and non-district providers served similar student populations in terms of their grade, race/ethnicity, special needs and prior academic achievement. There are two key exceptions: in Boston and Chicago, district providers served students with lower prior achievement than students served by non-district providers.

III. Student Achievement

This chapter focuses on the relationship between student academic achievement, as measured by annual assessments in mathematics and reading, and participation in SES. All five districts provided achievement data, but for different grades, different assessments and different academic years (see Exhibit 1 for a description of the data analyzed in this study). Despite the differences, all districts were analyzed with the same analytic approaches. These approaches are summarized in Chapter 1 and in the relevant sections that follow.

Key Findings

- Students in three of the five districts demonstrated statistically significantly larger mathematics achievement gains during periods of SES participation than during periods of nonparticipation. In addition, in two districts, SES participation was associated with statistically significant reading gains. Averaged across the five districts, the overall association between SES participation and achievement gains was statistically significant in both mathematics and reading, relative to nonparticipation.
- Across the five districts, SES participation was associated with statistically significant mathematics achievement gains, relative to nonparticipation, for students served by district providers and also for students served by non-district providers. For students served by district providers, but not for students served by non-district providers, SES participation was associated with statistically significant reading achievement gains.
- Across the five districts, the achievement gains associated with SES participation relative to nonparticipation did not differ for district and non-district providers for either mathematics or reading. When examined within each of the five districts individually, one district, Chicago, showed statistically significantly larger reading gains for students served by non-district providers than for students served by the district provider.

SES Participation and Student Achievement Gains

The following sections describe the association between SES participation and student achievement gains. The analyses of student achievement in this study followed the methods used in 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*.¹ Using a student fixed-effects approach, the current study examined students' achievement gains associated with SES participation relative to nonparticipation. The analyses examined mathematics achievement gains for students who participated in mathematics SES and reading achievement gains for students who participated in reading SES.² All models include an indicator for student eligibility for services and an indicator for participation, plus grade, year and grade-by-year terms. These models also included student fixed effects, which controlled for time-invariant student characteristics such as parent education and underlying student ability or motivation (see Chapter 1 for details). The sample sizes for the analyses in the current chapter are

1. U.S. Department of Education, Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service, *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, 2007).

2. Students may have received SES in both mathematics and reading, as well as in other subjects.

presented in the individual district appendixes (Appendices B–F). Details on the calculation of average achievement gains across the five districts are provided in Appendix H.

The achievement gains associated with SES participation presented in the subsequent exhibits represent the differences in students’ annual achievement gains (where achievement is scaled in standardized z-scores) between periods of participation and periods with no participation. In other words, the results indicate whether students experienced larger or smaller achievement gains during periods of participation compared with periods of nonparticipation. Because statistical significance depends on both sample size and the size of the effect being estimated, the likelihood of finding statistically significant gains was lower for Anchorage, a small district, than for Chicago, a large district, all else being equal.

For students in both Chicago and Hillsborough, SES participation was associated with statistically significantly larger achievement gains in both mathematics and reading during periods of SES participation, relative to periods of nonparticipation. In Charlotte-Mecklenburg, SES participation was associated with a statistically significant achievement gain in mathematics. Across the five districts, SES participation was associated with statistically significant achievement gains in both mathematics and reading.

For students in both Chicago and Hillsborough, SES participation was associated with statistically significantly larger achievement gains in both subject areas during periods of SES participation than they did during periods of nonparticipation. In Chicago, SES participation was associated with a statistically significant increase in overall achievement gains of 0.05 standard deviations in mathematics and 0.07 standard deviations in reading (see Exhibit 9). Both the gains associated with a single year of SES participation and the gains associated with multiple years of SES participation were statistically significant for both mathematics and reading (see Appendix Exhibit A.6).

In Hillsborough, SES participation was associated with statistically significantly larger achievement gains overall of 0.12 standard deviations for mathematics and 0.06 standard deviations for reading, relative to nonparticipation (see Exhibit 9). For students with one year of SES participation, the gains associated with participation were statistically significant for both mathematics and reading. For students with two or more years of SES participation, the gains associated with participation were not statistically significant, perhaps in part due to the small number of multiple-year participants in Hillsborough (see Appendix Exhibits A.6 and F.12).

In Charlotte-Mecklenburg, SES participation was associated with a statistically significant increase in overall achievement gains for mathematics (0.11 standard deviations) but not for reading (0.03 standard deviations), relative to nonparticipation (see Exhibit 9). For students with one year of SES participation, the gains associated with participation were statistically significant for mathematics, but were not statistically significant for students with multiple years of SES participation in either subject area (see Appendix Exhibit A.6). As was the case in Hillsborough, few students had participated in SES for multiple years in Charlotte-Mecklenburg (see Appendix Exhibit D.12).

In Anchorage and Boston, the association between SES participation and student achievement gains was not statistically significant for mathematics or reading, relative to nonparticipation (see Exhibit 9).³

3. Boston achievement analyses should be interpreted with caution. The findings were sensitive to sample changes. See Appendix G for details.

Across the five districts, SES participation was associated with statistically significant achievement gains in mathematics (0.08 standard deviations) and in reading (0.04 standard deviations) relative to periods of nonparticipation (see Exhibit 9).

Exhibit 9
Overall Mathematics and Reading Achievement Gains Associated With SES Participation, Relative to Nonparticipation

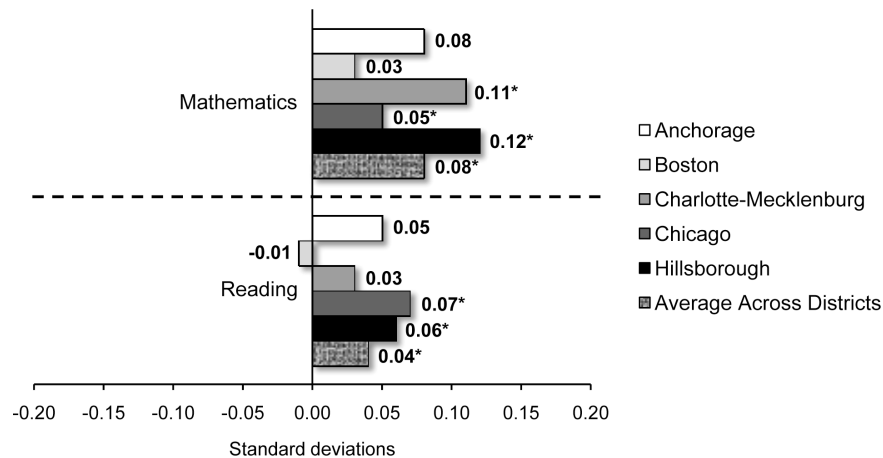


Exhibit reads: In Anchorage, SES participation was associated with a gain of 0.08 standard deviations in mathematics achievement, relative to nonparticipation, but this gain was not statistically significant.

Notes: SES = Supplemental Educational Services.

Achievement scores are z-scores standardized within year, grade level and district.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

The grades included in analyses vary by district: grades 3–8 in Boston, Chicago and Charlotte-Mecklenburg, and grades 3–10 in Anchorage and Hillsborough. Not all grades are included in all years for Anchorage and Boston due to changes in tested grades during the study years.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Administrative data provided by the Chicago school district, 2001–02 through 2008–09; the Boston and Hillsborough school districts, 2002–03 through 2008–09; the Anchorage school district, 2003–04 through 2008–09; and the Charlotte-Mecklenburg school district, 2004–05 through 2008–09.

SES Providers and Student Achievement Gains

The central question in this study focuses on how district providers performed compared with non-district providers on improving student achievement. Two types of analyses were conducted to address this question. The first type examined whether SES participation was associated with statistically significant achievement gains relative to nonparticipation, separately for district and non-district providers (see Exhibit 10).⁴ The second type examined whether there were statistically significant differences between the achievement gains associated with SES participation for students served by the

4. In analyses of provider type (i.e., district compared with non-district), records were removed for students receiving services from non-district providers for years before the district started providing services (the pre-waiver years). The purpose was to compare district and non-district providers over the same period of time.

district provider and the achievement gains associated with SES participation for students served by non-district providers (see Exhibit 11).

The remainder of this chapter provides results for these two types of analyses. The results for the first type, where each provider type is analyzed separately, are followed by the results for the second type, where the two provider types are compared to each other. Additionally, the findings for the second type of analyses include a separate set of analyses that control for the number of hours of tutoring provided by the two types of providers. Finally, results for individual non-district providers are discussed.

In Hillsborough, SES participation was associated with statistically significant gains in reading achievement, relative to nonparticipation, for students served by non-district providers, but not the district provider; SES participation for students served by both types of providers was associated with statistically significant mathematics gains. In Charlotte-Mecklenburg, only SES participation for students served by the district provider was associated with statistically significant mathematics gains. SES participation in Chicago was associated with statistically significant gains in both subject areas for students served by both district and non-district providers. There were no statistically significant gains associated with SES participation in Anchorage and Boston for either provider type.

In Hillsborough, SES participation was associated with statistically significant mathematics gains for both types of providers (0.11 and 0.13 standard deviations, respectively), relative to nonparticipation (see Exhibit 10). However, only for students served by non-district providers was SES participation associated with statistically significant reading gains (0.06 standard deviations); students served by the district provider did not demonstrate statistically significant gains (0.10 standard deviations). In Charlotte-Mecklenburg, SES participation was associated with statistically significant mathematics gains for students served by the district provider (0.23 standard deviations), but not for students served by non-district providers (0.10 standard deviations). There were no statistically significant gains in reading associated with either provider type.

In Chicago, SES participation was associated with statistically significant achievement gains for both mathematics and reading, relative to nonparticipation. This finding carried through for both district and non-district providers (see Exhibit 10). The mathematics gains associated with SES participation were 0.06 and 0.04 standard deviations for district and non-district providers, respectively. The reading gains associated with SES participation were 0.03 and 0.09 standard deviations for district and non-district providers, respectively.

In Boston and Anchorage, the achievement gains associated with SES participation were not statistically significant for either mathematics or reading. There were no statistically significant gains associated with SES participation in Anchorage and Boston for either provider type (see Exhibit 10).

Across the five districts, SES participation was associated with statistically significant mathematics achievement gains, relative to nonparticipation, for students served by district providers and also for students served by non-district providers. For students served by district providers, but not non-district providers, SES participation was associated with statistically significant reading achievement gains.

Across the five districts, for district providers, SES participation was associated with statistically significant gains in mathematics (0.10 standard deviations) and reading (0.06 standard deviations) relative to nonparticipation (see Exhibit 10). For non-district providers, SES participation was associated with a statistically significant gain in mathematics (0.09 standard deviations), but not in reading (0.03 standard deviations).

Exhibit 10
Mathematics and Reading Achievement Gains Associated With SES Participation, Relative to Nonparticipation, by Provider Type

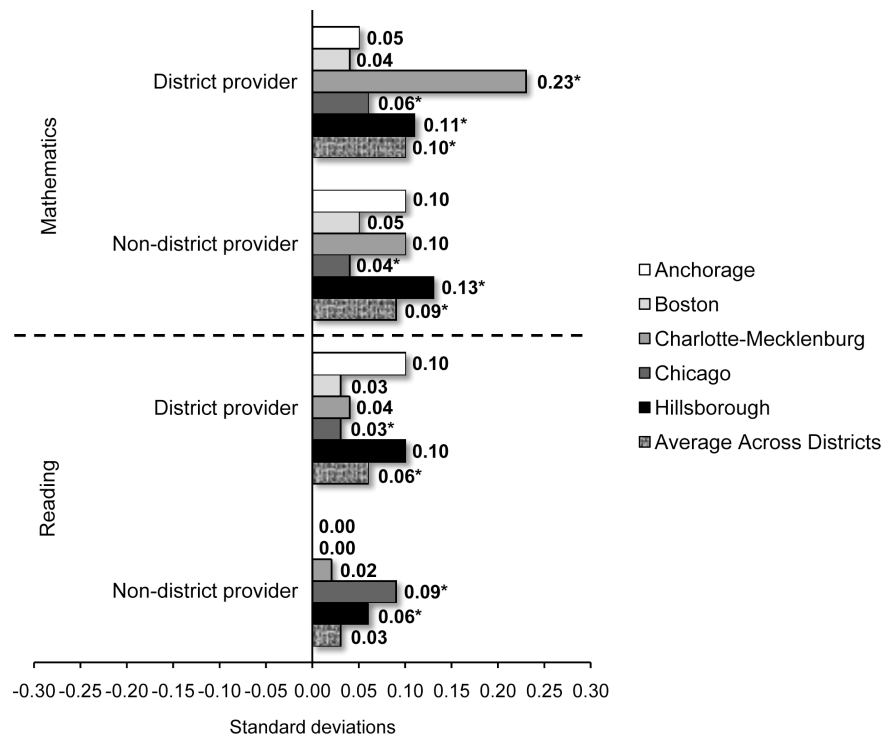


Exhibit reads: In Anchorage, for district providers, SES participation was associated with a gain of 0.05 standard deviations in mathematics achievement, relative to nonparticipation, but this gain was not statistically significant.

Notes: SES = Supplemental Educational Services.

Achievement scores are z-scores standardized within year, grade level and district.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

The grades included in analyses vary by district: grades 3–8 in Boston, Chicago and Charlotte-Mecklenburg, and grades 3–10 in Anchorage and Hillsborough. Not all grades are included in all years for Anchorage and Boston due to changes in tested grades during the study years.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Administrative data provided by the Chicago school district, 2001–02 through 2008–09; the Boston and Hillsborough school districts, 2002–03 through 2008–09; the Anchorage school district, 2003–04 through 2008–09; and the Charlotte-Mecklenburg school district, 2004–05 through 2008–09.

Across the five districts, there were no statistically significant differences between district and non-district providers in the achievement gains associated with SES participation, relative to nonparticipation, for either mathematics or reading. Separate analyses by district indicated no differences between district and non-district providers in four of the five districts. In one district, Chicago, the gains for students served by non-district providers were statistically significantly larger than the gains for students served by the district provider in reading, but not in mathematics.

On average, the gains associated with SES participation for students served by district providers did not differ statistically significantly from the gains associated with participation for students served by non-district providers for either mathematics or reading (see Exhibit 11). Within each of the five districts individually, there were no statistically significant differences between the two types of providers in the mathematics gains or the reading gains associated with SES participation except for in Chicago, where there was a statistically significant difference between the two types of providers in reading gains.

Exhibit 11
Differences in Achievement Gains Associated With SES Participation, Relative to Nonparticipation, for Students Served by District and Non-District Providers, by Subject

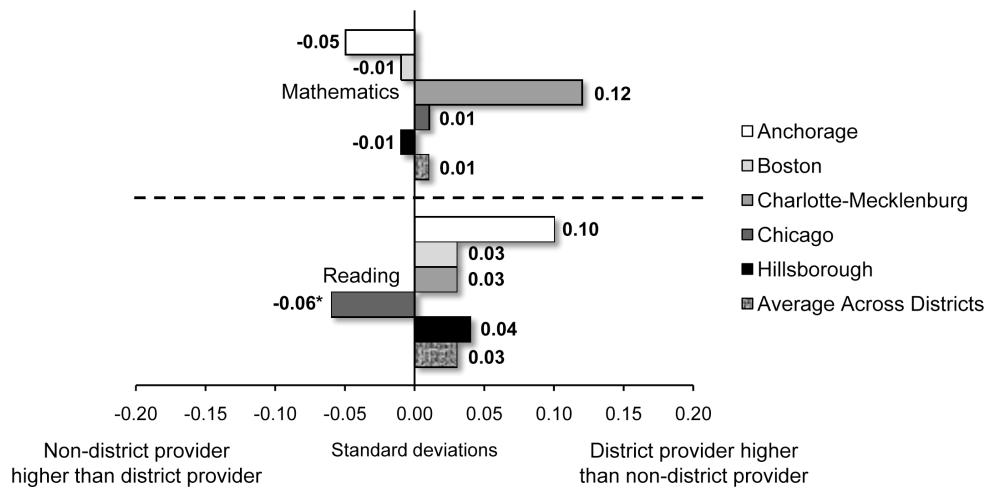


Exhibit reads: In Anchorage, the mathematics achievement gains associated with SES participation for students served by the district provider were 0.05 standard deviations lower than the mathematics achievement gains associated with participation for students served by non-district providers, but this difference was not statistically significant.

Notes: SES = Supplemental Educational Services.

Achievement scores are \bar{x} -scores standardized within year, grade level and district.

Differences in achievement gains were calculated by subtracting the achievement gains associated with non-district providers from the achievement gains associated with the district providers.

The grades included in analyses vary by district: grades 3–8 in Boston, Charlotte-Mecklenburg, and Chicago, and grades 3–10 in Anchorage and Hillsborough. Not all grades are included in all years for Anchorage and Boston due to changes in tested grades during the study years.

* Indicates that the difference in the achievement gains associated with district and non-district providers was statistically significant at the 0.05 level.

Source: Administrative data provided by the Chicago school district, 2001–02 through 2008–09; the Boston and Hillsborough school districts, 2002–03 through 2008–09; the Anchorage school district, 2003–04 through 2008–09; and the Charlotte-Mecklenburg school district, 2004–05 through 2008–09.

In Chicago, although Exhibit 10 shows that the reading gains associated with participation, relative to nonparticipation, were statistically significant for both the district provider (0.03 standard deviations) and non-district providers (0.09 standard deviations), these gains were statistically significantly larger for non-district providers than for the district provider (a difference of 0.06 standard deviations) (see Exhibit 11). This finding may be related to the student population served by the district provider: For example, the district provider served students with statistically significantly lower levels of prior reading achievement in 2008–09 than the students served by the non-district providers, and this circumstance may have made it more challenging to produce improvements (see Exhibit 8).

In Hillsborough, although SES participation for students served by non-district providers was associated with a statistically significant gain in reading, relative to nonparticipation, and participation for students served by the district provider was not (see Exhibit 10), the difference between the gains associated with the two types of providers was not statistically significant (see Exhibit 11). Similarly, in Charlotte-

Mecklenburg, SES participation was associated with statistically significant gains in mathematics for students served by the district provider, but not for students served by non-district providers; however, the difference in the gains associated with SES participation between the two types of providers was not statistically significant. This result in Charlotte-Mecklenburg may reflect the small sample size (only 415 participants) making it more difficult to detect statistically significant differences in gains between provider types (see Appendix Exhibit D.14).

Controlling for the number of hours of SES received did not affect the results for these comparisons between district and non-district providers.

One potential explanation for differences in gains associated with participation in SES offered by district versus non-district providers could be the number of hours of SES they provided. However, even after controlling for the number of hours of tutoring, the reading achievement gains associated with SES participation in Chicago, relative to nonparticipation, remained statistically significantly larger for students served by non-district providers than for students served by the district provider (a difference of 0.08 standard deviations) (see Appendix Exhibit E.16). In the other four districts, after controlling for the number of hours of tutoring received, there were no statistically significant differences between district and non-district providers in the achievement gains associated with SES participation.

Achievement gains associated with SES participation, relative to nonparticipation, for individual non-district providers varied. Most individual non-district providers did not demonstrate statistically significant gains. However, many non-district providers may have had too few participants to show statistically significant gains.

The non-district providers varied in the achievement gains associated with SES participation, relative to nonparticipation (see Exhibits 17 and 18 in Appendices B–F).⁵ For students served by most individual non-district providers, SES was not associated with statistically significant gains during periods of SES participation relative to periods of nonparticipation. Although there was at least one individual non-district provider in each district (with the exception of Anchorage) that demonstrated statistically significant student achievement gains in at least one subject area, the gains associated with SES participation for most of the individual providers were not statistically significant. Even in districts where SES participation across non-district providers was associated with statistically significant increases in achievement gains, most individual non-district providers did not demonstrate significant gains. For example, in Chicago, the gains for SES participation across all non-district providers on mathematics achievement were statistically significant (0.04 standard deviations) (see Exhibit 10); yet SES participation for students served by most of the individual non-district providers was not associated with statistically significant gains (see Appendix Exhibit E.17).

When gains were examined at the individual provider level, as opposed to aggregating all non-district providers, the power to detect statistically significant achievement gains was limited by the number of students served. For example (as shown in Appendix Exhibit E.17), Non-District Provider BR in Chicago had an estimated gain of 0.13 standard deviations in mathematics. But with the small number of observations (95), the estimated gain would need to be at least 0.16 standard deviations to be statistically significant. In contrast, Non-District Provider AY had 8,029 observations, and the estimated gain of 0.05 standard deviations was statistically significant, although it was less than half of Non-District Provider BR's estimated gain. Therefore, in examining achievement gains associated with SES participation for an individual provider it is important to consider that, when providers serve fewer students, they need larger gains for statistical significance.

5. The providers are referenced by randomly assigned letters.

Summary

In summary, across the five districts, SES participation was associated with statistically significant mathematics and reading achievement gains relative to nonparticipation. SES participation was associated with similar achievement gains for both district and non-district providers. Only in Chicago did reading gains differ statistically significantly between students served by the district provider and those served by non-district providers, despite SES participation with each being associated with statistically significant gains.

IV. District Communication With Parents

As a condition of receiving the SES waivers for the pilot, districts were required to improve communication with parents by using multiple communication strategies, extending enrollment windows, and providing balanced information on all providers. Through these strategies, districts were expected to achieve one of the objectives of the waivers: to ensure that more eligible students received SES.

Key Findings

- All five districts created information documents for parents that might be difficult for some parents to understand.
- All five districts translated informational materials into at least one language other than English.
- All five districts presented balanced information about providers.
- All five districts provided an enrollment window of at least six weeks for parents to enroll their children in SES; however, only Chicago and Anchorage reported offering more than one enrollment window.
- Districts have demonstrated minor improvements in communication with parents over time.

The U.S. Department of Education sent guidance to the districts on the expectations for SES implementation and practice. The guidance included recommendations for sending parent notification letters written in simple and accurate language, offering either an extended enrollment window or more than one enrollment window, broadly circulating information about SES throughout the district, and enacting other administrative details. The guidance served as a lens for evaluating the quality of parent communication.

As evidence of meeting the parent communication requirements of the waiver, the five districts submitted to the U.S. Department of Education examples of their communication with parents about SES eligibility and provider options. For 2008–09, Boston, Chicago, Anchorage, Hillsborough and Charlotte-Mecklenburg all submitted documents.¹ The contents of the documents varied, but examples included letters, flyers, advertisements and handbooks. Each district also reported on their outreach and recruitment strategies for 2008–09.

Analysts coded the provided documents and reported outreach practices for several features:

1. *General readability*—After examining the clarity of the writing, as assessed by the Flesch-Kincaid score,² and the availability of documents in other languages, analysts concluded that communications provided at the 10th-grade reading level and lower were considered accessible to parents.

1. All districts except Charlotte-Mecklenburg also submitted documents from two to three previous years.

2. 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 at which the text is written.

-
2. *Balanced information*—Analysts examined promotional documents to see whether district providers are given extra attention or whether the documents showed bias, which was determined to exist if the district was either highlighted over other providers or advertized as better than other providers.
 3. *Recruitment activities*—Analysts examined whether districts used multiple outreach strategies to distribute information about SES to parents and whether district materials included key details such as contact information and enrollment dates.
 4. *Enrollment opportunities*—Analysts examined the length and number of enrollment opportunities available to parents.

Four districts provided documentation from earlier years. Boston and Chicago provided documents from 2005–06 to 2007–08; Anchorage and Hillsborough provided documents from 2006–07 and 2007–08. These documents varied by district and by year, but all were coded for readability, balance and recruitment activities. Changes over time are included in the final section of this chapter.

General Readability

All five districts created information documents that may be difficult for some parents to understand.

The documents, such as letters, handbooks and flyers, that the districts distributed to parents demonstrated an effort to communicate necessary information about SES to parents. However, the documents contained language that might be difficult for some parents to understand. For example, a three-page letter to parents in Charlotte-Mecklenburg included the following:

According to 2007–08 assessment results in math, [X] school is in the corrective action phase of Title I School Improvement for the 2008–09 school year under the federal No Child Left Behind (NCLB) law. Schools enter this phase after not making Adequate Yearly Progress for four years. . . .

This letter scored 12.5 on the Flesch-Kincaid readability test, indicating that the letter was written at higher than the 12th-grade level. In a similar manner, a difficult-to-read letter from Chicago stated, “The *No Child Left Behind Act* provides selected students with the opportunity to receive additional tutorial assistance known as Supplemental Educational Services.” Although this letter did use the phrase “free tutoring,” a clear description of what the district is offering, it scored a 13.6 on the Flesch-Kincaid readability test, suggesting that a parent who had not attended college would find it challenging to understand.

All five districts used jargon in most of their documents. Jargon includes technical terms from the law that are not often used in daily conversation, for example, “Adequate Yearly Progress” or “schools identified for corrective action.” Despite the use of jargon, districts, except for Charlotte-Mecklenburg, did use the clear phrase “free tutoring” in many of their documents. As an example, a flyer that Boston distributed to parents asked, “Does your child need extra help in school?” and showed “free tutoring” in a visible bubble. Chicago distributed a flyer that showed “Free Tutoring!” in large letters across the top, provided registration beginning and ending dates, and encouraged readers to contact their school for more information. A flyer from Anchorage announcing a Family Learning Fair began with, “Did you know your child could get FREE tutoring?” This flyer also included eligibility requirements.

All five districts translated informational materials into at least one language other than English.

Each district translated documents into the languages most commonly spoken by parents. Charlotte-Mecklenburg sent parents letters and information booklets translated into Spanish and Vietnamese. Boston translated documents into seven languages. For example, an informational booklet and a question and answer sheet were translated into Spanish, Somali, Portuguese, Haitian Creole, Chinese, Cape Verdean and Vietnamese. Anchorage translated an SES informational packet into Hmong, Samoan and Spanish. In Chicago, letters to parents, a flyer and the parent handbooks were all translated into Spanish. In a similar manner, in Hillsborough, all submitted documents were translated into Spanish, and interpreters were made available for parents who spoke other languages.

Balanced Information

In 2008–09, all five districts presented balanced information about provider options.

Districts receiving the waiver needed to demonstrate that they provided eligible families with balanced information on all providers. All districts presented the information about the various provider options without bias. All the Anchorage documents listed the district provider along with the non-district providers and did not place emphasis on the fact that the district was an option. The sample documentation provided by Charlotte-Mecklenburg noted that students had access to “several providers” but did not list any by name. Hillsborough documents either did not mention that the district was a provider or simply listed all providers in alphabetical order. In the documents Boston shared, all spoke about the SES program in general, and none mentioned the district specifically as a provider. Chicago presented balanced information on all providers, although its SES program often appeared first on alphabetical lists of providers because it was called “AIM High.”

Recruitment Activities

In addition to sending letters, districts reported using multiple communication strategies to reach eligible families, the most common of which was to advertise in newspapers, as well as on radio and television.

Districts could meet the waiver requirements by providing information to parents in letters and through at least two other means. For example, they could post flyers in locations parents were likely to visit such as libraries, community centers, health centers and religious organizations. Other communication strategies might include door-to-door outreach campaigns, an established multilingual “SES hotline” for parents, public service announcements related to SES, open houses and back-to-school fairs at schools required to offer SES.

All five districts mailed SES informational letters to parents. In addition, all the districts reported at least two additional strategies to inform parents about SES. For example, all five districts posted information in newsletters and parent association publications.

One common strategy for parent outreach was advertising in newspapers and other print media, and all five districts reported doing so. Anchorage placed two full pages of advertisements covering AYP results and SES information in the *Anchorage Daily News*. Boston secured advertising space for four consecutive weeks in the *Boston Metro* newspaper. Charlotte-Mecklenburg advertised in a local Spanish newspaper.

Chicago purchased an advertisement in five local newspapers for five days in early September, and Hillsborough advertised events such as provider fairs in five newspapers.

Because not all parents read the local newspaper, all five districts also provided information about SES by means of radio, television or telephone. For example, Boston used its local access cable network to broadcast a program on SES, and Charlotte-Mecklenburg placed an advertisement on a local Hispanic radio station and a special interest spot on a local television channel. Anchorage, Boston and Hillsborough used automated telephone call technology to leave phone messages at home for parents of students eligible for SES.

Four of the five districts reported holding provider fairs or open houses. These were opportunities for parents to learn about the different SES providers offering services and to select one they thought would best meet their child's learning needs. Anchorage reported holding one provider fair, and Boston hosted three. Charlotte-Mecklenburg held four regional provider fairs with language interpreters available. Chicago offered SES information at each school's Open House. Hillsborough reported seven provider fairs throughout the county.

Finally, three districts reported communicating with parents through community organizations. Anchorage worked with the Alaska Parent Information Resource Center and other community- and faith-based organizations to provide SES information to parents. All six parent resource centers of the Boston Public Schools had copies of the enrollment workbook and applications in the seven major languages represented in the schools (languages listed above). Charlotte-Mecklenburg publicized SES through a grassroots community organization.

Three districts used techniques not used in the other districts. Charlotte-Mecklenburg established an information hotline with a Spanish script available. This district also advertized in schools and community sites such as libraries, local grocery stores and social services offices. Hillsborough provided literature on SES to seven family support and resource centers, three after-hours pediatric locations, city and county parks, YMCA locations, libraries, Boys and Girls Clubs and the Hispanic Services Council. Chicago distributed 1,000 SES informational flyers at a parade.

Enrollment Opportunities

All five districts provided an enrollment window of at least six weeks for parents to enroll their children in SES; however, only Chicago and Anchorage reported offering more than one enrollment window.

Another stipulation of the waiver was that districts should offer an extended enrollment period or more than one enrollment window to give eligible students more opportunity to sign up for and participate in SES. Although the department did not define "extended," all five districts provided an enrollment window of at least six weeks. Anchorage reported that it began sending letters in August for what appeared to be a November enrollment deadline, indicating an enrollment window of more than six weeks. Hillsborough reported sending letters to parents in April, giving parents advance notice about SES, and then sent letters again before school started in August.³ Charlotte-Mecklenburg reported an enrollment period of August 19, 2008, through September 26, 2008. Chicago reported having an SES information dissemination and enrollment period of approximately six weeks during August and September. In Boston, an informational booklet and questions and answers sheet dated September 24

3. Although all slots were filled by September, Hillsborough reported they continued to accept application forms for a waiting list until December. In December, additional students were placed with SES providers as a result of attrition.

were distributed to parents, with an enrollment deadline of November 9, providing evidence of a six-week window for SES registration.

Two districts—Chicago and Anchorage—provided evidence of an additional enrollment window. Charlotte-Mecklenburg planned for a second enrollment window, but canceled it because the district had spent all allocated funds during the first round. Hillsborough and Boston did not provide evidence of additional enrollment windows.

Changes in District Communication Over Time

Districts have demonstrated minor improvements in communication with parents over time.

Of the four districts with multiple post-waiver years, Hillsborough was the only district to demonstrate improvements in the readability of their communications over time. In 2006–07, the submitted documents all required at least a 12th-grade reading level. By 2008–09, the documents were written at a reading level of 9th grade or lower. In the documentation provided by Anchorage across three academic years, none of the documents required a reading level higher than 10th grade. The level of readability in district communication with parents has changed little over time in the two districts that have had the waiver the longest—Boston and Chicago. Documentation between 2005–06 and 2008–09 consistently required at least a 10th-grade reading level, as measured by the Fleisch-Kincaid scores, and some documents continued to score at the 12th-grade or higher reading level. All four districts consistently translated documentation into other languages and mentioned “free tutoring” in at least some communications.

By 2008–09, all districts produced balanced materials, including Boston and Chicago, which had not done so in the past. In 2005–06, Boston advised parents to “choose wisely” and went on to list why the district was a better SES provider than other providers. It produced similar messages in 2006–07 and 2007–08, when it highlighted Boston in the provider list, mentioned that only the district provided services at the school (requiring no additional travel or transportation), and listed the number of hours of tutoring a student would receive from the district (which was greater than the number of hours provided by non-district providers). The documents Boston submitted for 2008–09 were balanced.⁴ Chicago documentation was also biased in 2005–06, mentioning transportation and computer access issues for the non-district providers, but Chicago then offered balanced information in subsequent years. Materials from Anchorage and Hillsborough did not demonstrate a bias in any year.

All four districts used multiple communication strategies for parent outreach and student recruitment in each year. Before 2008–09, districts did not provide information on enrollment opportunities consistently. As a result, no analysis over time can be presented.

Summary

In an effort to increase the number of eligible students receiving SES, districts used multiple strategies to improve communication with parents. Districts communicated with parents in a variety of ways, including letters, flyers, fairs and advertisements in news media. Furthermore, they translated information into common languages spoken in their communities. When communicating about provider

4. Boston’s waiver approval letter for 2008–09 included the condition that Boston “[eliminate] apparent bias in its parent outreach materials so that the materials do not favor the LEA’s program over private providers’ programs.” See the approval letter at <http://www2.ed.gov/nclb/choice/help/ses/08-0804boston.pdf>.

options, all districts presented balanced information on all providers and did not show bias favoring the district provider. All five districts also provided families with enrollment windows of at least six weeks, thereby increasing the opportunity for parents to learn about SES, select an appropriate provider and enroll their children.

V. Summary

This examination of the implementation of SES and the achievement gains of SES participants in the five pilot waiver districts (Anchorage, Boston, Charlotte-Mecklenburg, Chicago and Hillsborough) resulted in eight key findings, which are summarized below.

In the three districts that did not serve as SES providers before the waiver, SES participation rates increased in the first post-waiver year.

In Anchorage, Charlotte-Mecklenburg and Hillsborough, both the number of students eligible for SES and SES participation rates rose during the first year of the waiver. In Boston and Chicago, where the districts had provided SES before the waiver, SES participation rates dropped during the first post-waiver year. By 2008–09, all five districts enrolled more students in SES than in the pre-waiver year.

In all five districts, the number of non-district SES providers increased from the first post-waiver year through the 2008–09 school year.

In all five districts, the number of non-district providers increased after the districts received the waivers. Most of the non-district providers were small, however, serving fewer than 100 students.

In the three districts that began to serve as SES providers after the waiver was granted, non-district providers served the majority of SES participants in the first year of the waiver.

During the year that the Anchorage, Charlotte-Mecklenburg and Hillsborough school districts started serving as SES providers, the non-district providers in those districts continued to serve the majority of the SES participants. In the four districts with subsequent SES years after the waiver, the distribution varied. For several years, in Anchorage and Boston, the district provider served more SES participants than did the non-district providers. In Chicago and Hillsborough, the non-district providers consistently served more SES participants than did the district provider.

There were few demographic or academic differences between students served by district providers and students served by non-district providers.

In all five districts, participation rates by students from racial and ethnic minorities were similar for district and non-district providers. District providers served students with limited English proficiency at similar rates to or higher rates than non-district providers. In four of the five districts, there were no differences by provider type in the participation rate of students with disabilities. In Anchorage, however, the non-district providers served a higher percentage of students with disabilities than the district provider did. In Boston and Chicago, district providers served students with lower prior achievement than that of students served by non-district providers.

Averaged across the five districts, the overall association between SES participation and achievement gains was statistically significant in both mathematics and reading, relative to nonparticipation.

Averaged across the five districts, the overall gain associated with SES participation, relative to nonparticipation, was statistically significant in both mathematics and reading. In Chicago and Hillsborough, SES participation was associated with a statistically significant increase in achievement

gains in both mathematics and reading. In Charlotte-Mecklenburg, SES participation was associated with statistically significant gains in mathematics. In Anchorage and Boston, there were no statistically significant gains associated with SES participation in mathematics or reading.

Averaged across five districts, the achievement gains associated with SES participation relative to nonparticipation did not differ for district and non-district providers for either mathematics or reading. When examined within each of the five districts individually, one district, Chicago, showed statistically significantly larger gains for students served by non-district providers than for students served by the district provider in reading, but not in mathematics.

Across the five districts, the gains associated with SES participation for students served by district providers did not differ statistically significantly from the gains associated with participation for students served by non-district providers. There were no statistically significant differences in mathematics gains between the students served by the two types of providers in any of the five individual districts. The only statistically significant difference between students served by the two types of providers in reading gains was in Chicago. There, although the reading gains associated with SES participation, relative to nonparticipation, were statistically significant for both the district and non-district providers, these gains were statistically significantly larger for non-district providers. Controlling for the number of hours of SES students received did not change these findings.

All five districts reported using multiple communication strategies to reach eligible families, provided balanced information about SES providers, translated information into at least one language other than English and provided enrollment periods of at least six weeks.

To improve SES participation rates, all five districts used a variety of strategies to communicate with parents; these strategies included letters, flyers, fairs and advertisements in news media. Moreover, the documentation did not appear to favor district over non-district providers. However, the written communication often included jargon and complex language, possibly making it difficult for some parents to understand.

Additional research and expanded data collection are needed for better understanding of the practices that underlie successful SES programs.

To fully identify the features and practices that characterize successful SES programs and student achievement, we will need more data and research. Additional analyses of the data on programmatic elements such as the frequency of sessions, characteristics of the instructional staff, and the curricula and instruction the staff members provide could demonstrate the characteristics associated with more successful programs. In combination with more in-depth research on the expenditures associated with SES programs, the findings could provide useful information for policymakers.

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APPENDIX A: ADDITIONAL EXHIBITS

Appendix A: Additional Exhibits

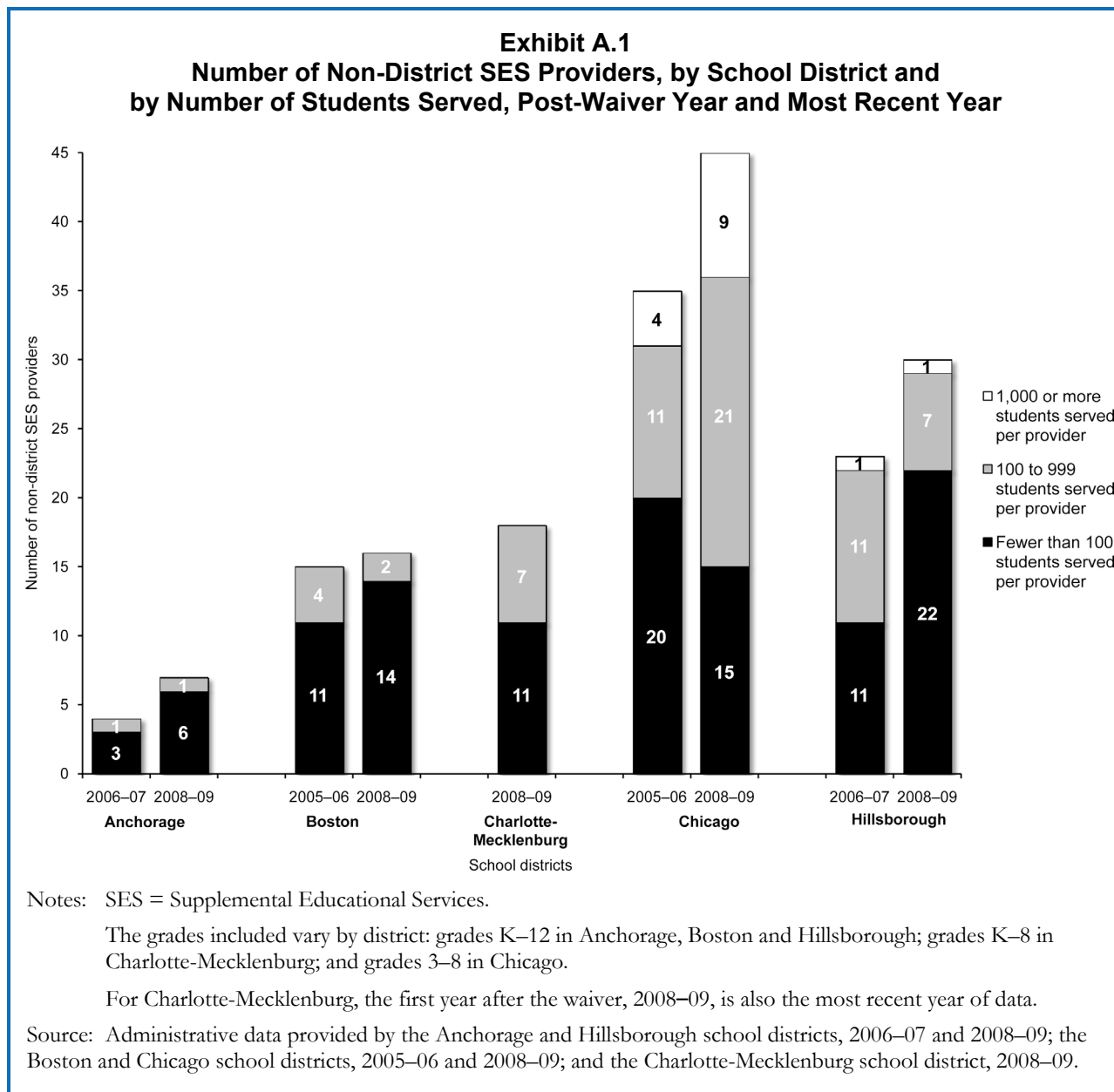
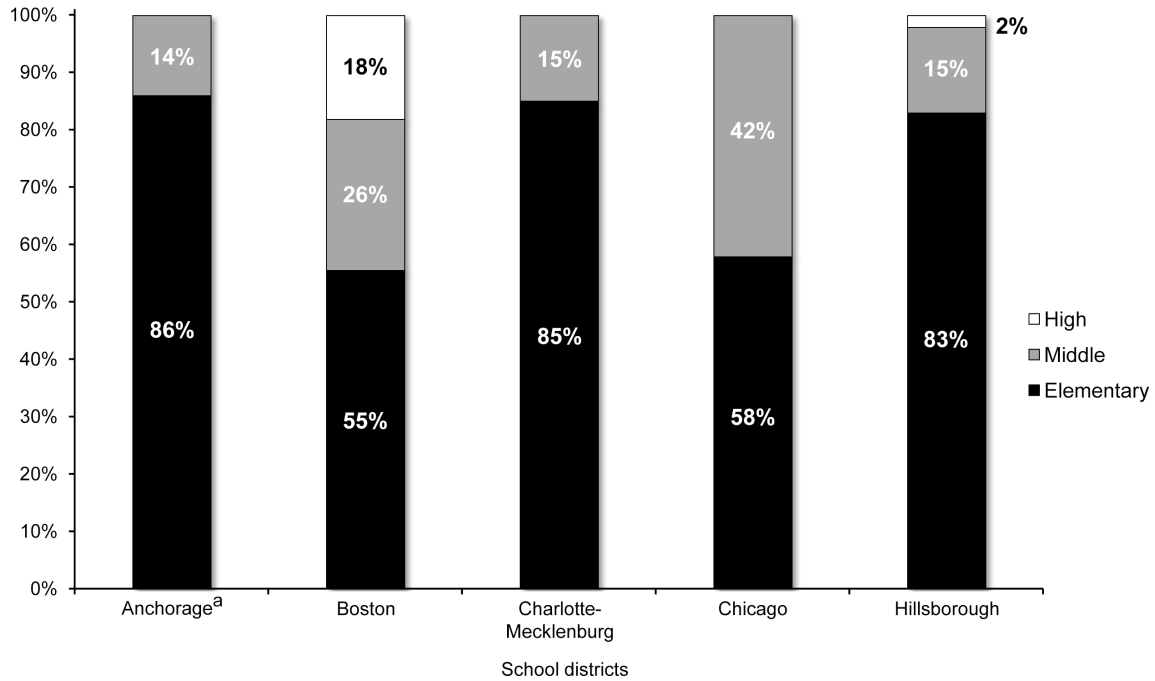


Exhibit A.2
Distribution of Students Participating in SES, by School District and
by Grade Level, 2008–09



Notes: SES = Supplemental Educational Services.

Elementary includes grades K–5, *Middle* includes grades 6–8, and *High* includes grades 9–12.

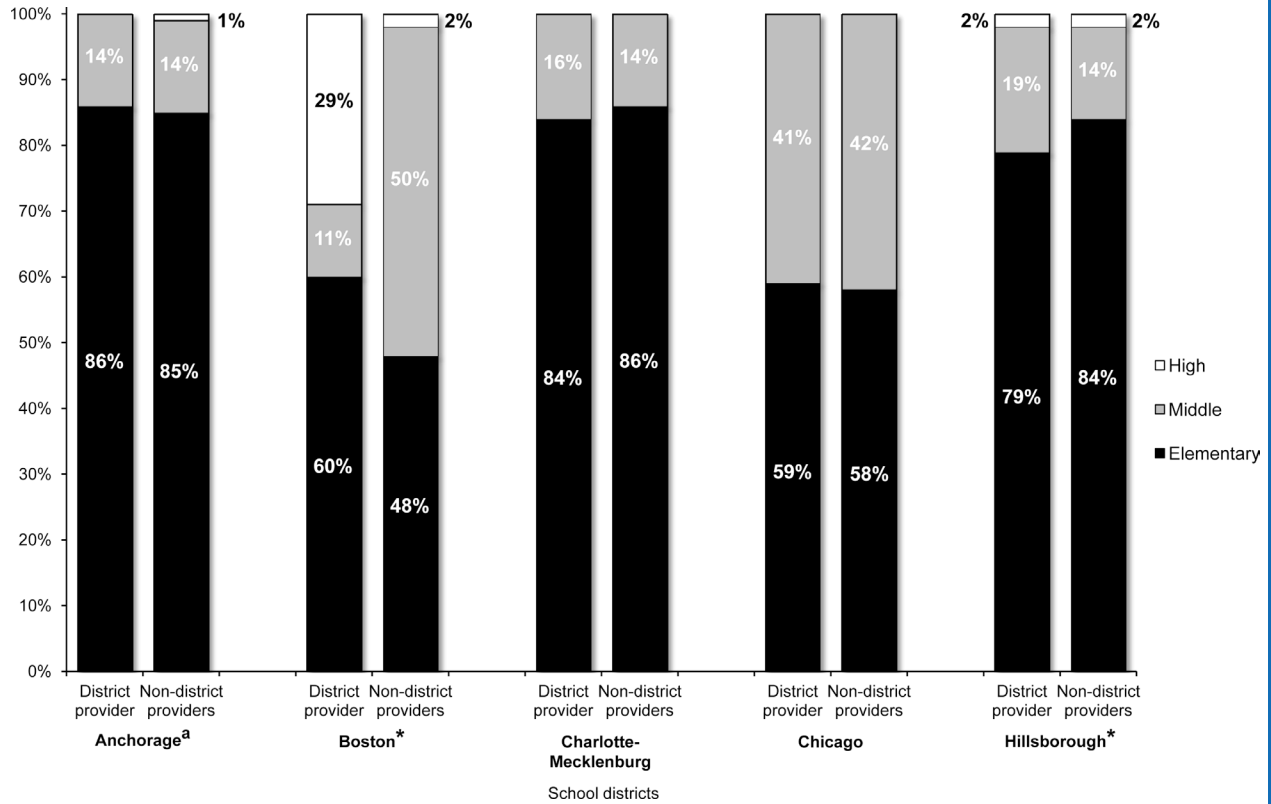
The grades included vary by district: grades K–12 in Anchorage, Boston and Hillsborough; grades K–8 in Charlotte-Mecklenburg; and grades 3–8 in Chicago.

Percentages may not total 100 due to rounding.

^a In Anchorage, less than 1 percent of SES participants were in high school grades.

Source: Administrative data provided by the Anchorage, Boston, Charlotte-Mecklenburg, Chicago and Hillsborough school districts, 2008–09.

Exhibit A.3
Percentage of Students Participating in SES, by School District,
by Provider Type and by Grade Level, 2008–09



Notes: SES = Supplemental Educational Services.

Elementary includes grades K–5, *Middle* includes grades 6–8, and *High* includes grades 9–12.

Percentages may not total 100 due to rounding.

The grades included vary by district: grades K–12 in Anchorage, Boston and Hillsborough; grades K–8 in Charlotte-Mecklenburg; and grades 3–8 in Chicago.

* Indicates a statistically significant difference between the district and non-district providers at the 0.05 level.

^a In Anchorage, less than 1 percent of SES participants with district providers were in high school grades.

Source: Administrative data provided by the Anchorage, Boston, Charlotte-Mecklenburg, Chicago and Hillsborough school districts, 2008–09.

Exhibit A.4
Average Prior (2007–08) Achievement Scores, by School District,
by 2008–09 Eligibility and by Subject

	Average 2007–08 Mathematics Achievement Scores		Average 2007–08 Reading Achievement Scores	
	Eligible Students (2008–09)	Ineligible Students (2008–09)	Eligible Students (2008–09)	Ineligible Students (2008–09)
Anchorage	–0.56*	0.04*	–0.59*	0.04*
Boston	–0.26*	0.42*	–0.26*	0.40*
Charlotte-Mecklenburg	–0.60*	0.11*	–0.61*	0.11*
Chicago	–0.10*	0.42*	–0.11*	0.43*
Hillsborough	–0.40*	0.13*	–0.44*	0.13*

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The grades included vary by district: grades 3–8 in Boston, Chicago and Charlotte-Mecklenburg, and grades 3–10 in Anchorage and Hillsborough.

* Indicates a statistically significant difference between eligible and ineligible students at the 0.05 level.

Source: Administrative data provided by the Anchorage, Boston, Charlotte-Mecklenburg, Chicago and Hillsborough school districts, 2007–08 and 2008–09.

Exhibit A.5
Average Prior (2007–08) Achievement Scores, by School District,
by 2008–09 Participation Status and by Subject

	Average 2007–08 Mathematics Achievement Scores		Average 2007–08 Reading Achievement Scores	
	Participants (2008–09)	Eligible Nonparticipants (2008–09)	Participants (2008–09)	Eligible Nonparticipants (2008–09)
Anchorage	–0.94*	–0.47*	–0.91*	–0.52*
Boston	–0.42*	–0.25*	–0.43*	–0.25*
Charlotte-Mecklenburg	–0.83*	–0.55*	–0.84*	–0.55*
Chicago	–0.33*	–0.03*	–0.33*	–0.04*
Hillsborough	–0.80*	–0.35*	–0.84*	–0.38*

Notes: SES = Supplemental Educational Services.

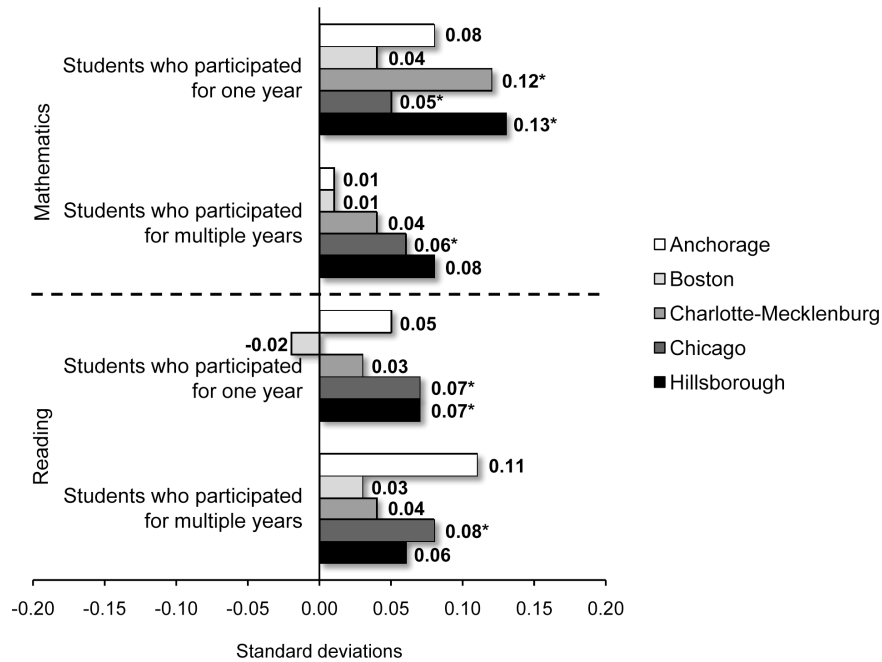
Achievement scores are z -scores standardized within year, grade level and district.

The grades included vary by district: grades 3–8 in Boston, Chicago and Charlotte-Mecklenburg, and grades 3–10 in Anchorage and Hillsborough.

* Indicates a statistically significant difference between participants and eligible nonparticipants at the 0.05 level.

Source: Administrative data provided by the Anchorage, Boston, Charlotte-Mecklenburg, Chicago and Hillsborough school districts, 2007–08 and 2008–09.

**Exhibit A.6
Mathematics and Reading Achievement Gains Associated With Single-Year or
Multiple-Year SES Participation**



Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

The grades included in analyses vary by district: grades 3–8 in Boston, Chicago and Charlotte-Mecklenburg, and grades 3–10 in Anchorage and Hillsborough. Not all grades are included in all years for Anchorage and Boston due to changes in tested grades during the study years.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Administrative data provided by the Chicago school district, 2001–02 through 2008–09; the Boston and Hillsborough school districts, 2002–03 through 2008–09; the Anchorage school district, 2003–04 through 2008–09; and the Charlotte-Mecklenburg school district, 2004–05 through 2008–09.

APPENDIX B: SUPPLEMENTAL EXHIBITS FOR ANCHORAGE

Appendix B: Supplemental Exhibits for Anchorage

Exhibit B.1
Percentage and Number of Students Eligible for SES,
by Grade, in Anchorage, 2004–05 Through 2008–09

Grade	Students Eligible for SES									
	2004–05 (n = 52,049)		2005–06 (n = 52,338)		2006–07 (n = 51,674)		2007–08 (n = 51,163)		2008–09 (n = 51,739)	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
K	1	47	3	138	11	458	14	568	15	612
1	2	59	4	146	11	428	13	502	16	619
2	1	50	4	142	12	463	13	503	14	557
3	1	52	4	145	10	377	13	525	15	590
4	2	72	4	136	11	415	12	460	15	610
5	2	66	4	156	10	372	12	448	15	569
6	2	82	4	162	10	368	11	403	13	509
7	1	28	10	424	13	508	2	71	1	45
8	1	30	10	409	13	511	2	85	1	43
9	1	44	1	34	3	111	3	118	2	84
10	1	39	1	45	3	113	3	117	2	86
11	1	32	1	27	3	117	3	110	2	75
12	3	108	3	125	5	186	5	200	5	218
Total	1	709	4	2,089	9	4,427	8	4,110	9	4,617

Note: SES = Supplemental Educational Services.

Source: Anchorage School District administrative data, 2004–05 through 2008–09.

Exhibit B.2
Percentage and Number of Eligible Students Participating in SES,
by Grade, in Anchorage, 2004–05 Through 2008–09

Grade	Eligible Students Participating in SES									
	2004–05		2005–06		2006–07		2007–08		2008–09	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
K	2	1	4	6	5	25	8	48	11	69
1	8	5	7	10	4	18	15	75	14	88
2	6	3	8	12	6	27	16	80	17	94
3	13	7	5	7	12	45	18	93	17	99
4	4	3	8	11	8	35	14	63	18	109
5	6	4	7	11	12	44	23	101	16	92
6	10	8	7	11	7	24	18	73	17	87
7	0	0	4	15	10	53	0	0	4	2
8	0	0	5	21	6	31	4	3	2	1
9	0	0	0	0	3	3	1	1	2	2
10	0	0	0	0	1	1	0	0	0	0
11	0	0	0	0	2	2	1	1	1	1
12	0	0	0	0	0	0	1	2	0	0
Total	4	31	5	104	7	308	13	540	14	644

Note: SES = Supplemental Educational Services.

Source: Anchorage School District administrative data, 2004–05 through 2008–09.

Exhibit B.3
Percentage and Number of Students in Grades K–12 Participating in SES,
by Provider, in Anchorage, 2004–05 Through 2008–09

SES Provider	Students Participating in SES									
	2004–05		2005–06		2006–07		2007–08		2008–09	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
District provider	—	—	—	—	45	138	64	347	54	349
Non-district provider A	—	—	—	—	42	128	24	130	23	148
Non-district provider AR	—	—	—	—	—	—	1	5	—	—
Non-district provider B	—	—	29	30	6	19	3	18	5	34
Non-district provider BU	—	—	—	—	—	—	—	—	<1	2
Non-district provider C	—	—	—	—	5	16	—	—	—	—
Non-district provider CL	—	—	—	—	—	—	6	35	6	37
Non-district provider CO	—	—	—	—	—	—	—	—	<1	1
Non-district provider D	—	—	10	10	2	7	1	5	1	8
Non-district provider E	52	16	59	61	—	—	—	—	—	—
Non-district provider F	48	15	2	2	—	—	—	—	—	—
Non-district provider G	—	—	1	1	—	—	—	—	—	—
Non-district provider L	—	—	—	—	—	—	—	—	10	65
Total	100	31	100	104	100	308	100	540	100	644

Notes: SES = Supplemental Educational Services.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

Providers are referenced by randomly assigned letters.

— Indicates that the provider did not serve SES participants.

Source: Anchorage School District administrative data, 2004–05 through 2008–09.

Exhibit B.4
Number and Percentage of Students Participating in SES, by Provider Type
and by Grade, in Anchorage, 2006–07 Through 2008–09

Grade	2006–07			2007–08			2008–09		
	Total Number of Students Participating in SES	Provider Type		Total Number of Students Participating in SES	Provider Type		Total Number of Students Participating in SES	Provider Type	
		Percentage Served by District Provider	Percentage Served by Non-District Providers		Percentage Served by District Provider	Percentage Served by Non-District Providers		Percentage Served by District Provider	Percentage Served by Non-District Providers
K	25	56	44	48	63	38	69	43	57
1	18	33	67	75	76	24	88	57	43
2	27	59	41	80	63	38	94	62	38
3	45	60	40	93	66	34	99	56	44
4	35	66	34	63	57	43	109	56	44
5	44	68	32	101	62	38	92	50	50
6	24	54	46	73	63	37	87	55	45
7	53	6	94	0	0	0	2	0	100
8	31	3	97	3	67	33	1	0	100
9	3	100	0	1	100	0	2	50	50
10	1	0	100	0	0	0	0	0	0
11	2	100	0	1	0	100	1	0	100
12	0	0	0	2	50	50	0	0	0
Total (n)	308	138	170	540	347	193	644	349	295
Total (%)	100	45	55	100	64	36	100	54	46

Note: SES = Supplemental Educational Services.

Source: Anchorage School District administrative data, 2006–07 through 2008–09.

Exhibit B.5
Percentage Distribution of SES Eligible Students in Grades K–12, by Demographic Characteristics,
by Participation Status and by Provider Type, in Anchorage, 2006–07 Through 2008–09

Demographic Characteristics	2006–07				2007–08				2008–09			
	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers
Total <i>n</i>	4,427	308	138	170	4,110	540	347	193	4,617	644	349	295
Minority students (%)	80	83	84	83	79*	89*	88	91	81*	89*	92	84
Percentage distribution by race/ethnicity^a												
African American	13	21	15	25	10	11	9	13	10	9	10	8
Hispanic	8	12	20	6	13	20	23	13	13	20	21	19
White	20	17	16	17	21	11	12	9	19	11	8	16
Asian	20	16	11	19	21	34	35	33	25	32	32	33
American Indian	1	1	1	1	1	0	0	0	<1	<1	<1	0
Alaska Native	27	20	22	18	17	12	12	14	16	11	13	9
Multiracial	11	14	16	13	17	12	10	17	16	15	16	15
Total	100	100	100	100	100	100	100	100	100	100	100	100
Percentage of students with special needs												
Students with limited English proficiency	—	—	—	—	14*	28*	32	20	14*	26*	26	26
Students with disabilities	—	—	—	—	19	23	21	27	15	18	14*	22*

Notes: SES = Supplemental Educational Services.

Minority students include African American, Hispanic, Asian, American Indian, Alaska Native and multiracial students.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

— Indicates that this demographic group was not identified by the district.

* Indicates a statistically significant difference between the percentage of eligible students and the percentage of participating students in the given demographic group at the 0.05 level.

+ Indicates a statistically significant difference between the percentage of district SES participants and the percentage of non-district SES participants in the given demographic group at the 0.05 level.

^a The difference in the distribution of students by race/ethnicity was not tested for significance.

Source: Anchorage School District administrative data, 2006–07 through 2008–09.

Exhibit B.6
Number of Eligible and Participating Students and SES Participation Rates
in Grades K–12, by Race/Ethnicity, in Anchorage, 2006–07 Through 2008–09

Race/Ethnicity	Number of Eligible Students	Number of Participants	Participation Rate (%)
2006–07			
African American	561	64	11
Hispanic	354	37	10
White	907	51	6
Asian	899	48	5
American Indian	49	3	6
Alaska Native	1,183	61	5
Multiracial	474	44	9
Total	4,427	308	7
2007–08			
African American	395	57	14
Hispanic	542	106	20
White	859	58	7
Asian	881	186	21
American Indian	26	0	0
Alaska Native	710	67	9
Multiracial	697	66	9
Total	4,110	540	13
2008–09			
African American	461	58	13
Hispanic	589	130	22
White	892	74	8
Asian	1,145	209	18
American Indian	23	1	4
Alaska Native	759	73	10
Multiracial	748	99	13
Total	4,617	644	14

Note: SES = Supplemental Educational Services.

Source: Anchorage School District administrative data, 2006–07 through 2008–09.

Exhibit B.7
Percentage and Number of SES Participants in Grades K–12,
by Subject and by Provider Type, in Anchorage, 2006–07 Through 2008–09

Subject of Services Received	Students Served by All Providers		Students Served by District Provider		Students Served by Non-District Providers	
	Percentage	Number	Percentage	Number	Percentage	Number
2006–07						
Mathematics and reading	23	72	39	54	11	18
Mathematics only	17	51	8	11	24	40
Reading only	44	135	38	52	49	83
No information	16	50	15	21	17	29
Total	100	308	100	138	100	170
2007–08						
Mathematics and reading	37	201	42	146	28	55
Mathematics only	18	97	18	61	19	36
Reading only	37	201	34	119	42	82
No information	8	41	6	21	10	20
Total	100	540	100	347	100	193
2008–09						
Mathematics and reading	46	296	64	223	25	73
Mathematics only	19	121	11	40	27	81
Reading only	33	211	23	79	45	132
No information	2	16	2	7	3	9
Total	100	644	100	349	100	295

Notes: SES = Supplemental Educational Services.

Percentages may not total 100 due to rounding.

Source: Anchorage School District administrative data, 2006–07 through 2008–09.

Exhibit B.8
Average Number of Hours of SES Received by Participants in Grades K–12,
by Provider Type, in Anchorage, 2004–05 Through 2008–09

Year	All Providers	District Provider	Non-District Providers
2004–05	46	—	46
2005–06	39	—	39
2006–07	28	31	25
2007–08	31	29	36
2008–09	31	32	31

Note: SES = Supplemental Educational Services.

— Indicates that data were not available because the district did not provide SES at this time.

* Indicates a statistically significant difference in average hours between district and non-district providers at the 0.05 level.

Source: Anchorage School District administrative data, 2004–05 through 2008–09.

Exhibit B.9
Percentage Distribution of SES Participants in Grades K–12, by Number of Hours of Services Received and by Provider Type, in Anchorage, 2004–05 Through 2008–09

Hours of Services Received	Students Served by All Providers		Students Served by District Provider		Students Served by Non-District Providers	
	Percentage	Number	Percentage	Number	Percentage	Number
2004–05						
Fewer than 20 hours	0	0	—	—	0	0
20–39 hours	48	15	—	—	48	15
40–59 hours	52	16	—	—	52	16
60–79 hours	0	0	—	—	0	0
80 or more hours	0	0	—	—	0	0
Total	100	31	—	—	100	31
2005–06						
Fewer than 20 hours	24	25	—	—	24	25
20–39 hours	18	19	—	—	18	19
40–59 hours	58	60	—	—	58	60
60–79 hours	0	0	—	—	0	0
80 or more hours	0	0	—	—	0	0
Total	100	104	—	—	100	104
2006–07						
Fewer than 20 hours	32	98	33	45	31	53
20–39 hours	51	157	35	48	64	109
40–59 hours	14	43	25	35	5	8
60–79 hours	3	10	7	10	0	0
80 or more hours	0	0	0	0	0	0
Total	100	308	100	138	100	170
2007–08						
Fewer than 20 hours	18	97	21	74	12	23
20–39 hours	64	346	61	211	70	135
40–59 hours	11	62	17	59	2	3
60–79 hours	6	34	1	2	17	32
80 or more hours	< 1	1	< 1	1	0	0
Total	100	540	100	347	100	193
2008–09						
Fewer than 20 hours	19	120	19	68	18	52
20–39 hours	64	412	57	198	73	214
40–59 hours	14	88	19	67	7	21
60–79 hours	4	24	5	16	3	8
80 or more hours	0	0	0	0	0	0
Total	100	644	100	349	100	295

Notes: SES = Supplemental Educational Services.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

— Indicates that data were not available because the district did not provide SES at this time.

* Indicates a statistically significant difference between the percentage of students receiving the specified hours of SES with the district provider and the percentage of students receiving the specified hours of SES with non-district providers at the 0.05 level.

Source: Anchorage School District administrative data, 2004–05 through 2008–09.

Exhibit B.10
Average Prior (2007–08) Achievement Scores for Students in Grades 3–10,
by 2008–09 Eligibility and Participation Status and by Subject, in Anchorage

	Mathematics		Reading	
	Average Prior Achievement Score	Number of Students	Average Prior Achievement Score	Number of Students
Eligibility				
Ineligible students	0.04*	25,176	0.04*	25,185
Eligible students	-0.56*	1,433	-0.59*	1,415
Participation status				
Participants	-0.94 ⁺	266	-0.91 ⁺	261
Eligible nonparticipants	-0.47 ⁺	1,167	-0.52 ⁺	1,154

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

* Indicates a statistically significant difference between ineligible students and eligible students at the 0.05 level.

⁺ Indicates a statistically significant difference between participants and eligible nonparticipants at the 0.05 level.

Source: Anchorage School District administrative data, 2007–08 and 2008–09.

Exhibit B.11
Average Prior (2007–08) Achievement Scores for Participating Students in Grades 3–10,
by 2008–09 Provider Type and by Subject, in Anchorage

Provider Type	Mathematics		Reading	
	Average Prior Achievement Score	Number of Participants	Average Prior Achievement Score	Number of Participants
District provider	-0.90	137	-0.80	133
Non-district providers	-0.98	129	-1.02	128

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

* Indicates a statistically significant difference between district and non-district providers at the 0.05 level.

Source: Anchorage School District administrative data, 2007–08 and 2008–09.

Exhibit B.12
Mathematics and Reading Achievement Gains Associated With SES Participation, for Students in Grades 3–10, Overall and for a Single Year and Multiple Years, in Anchorage, 2004–05 Through 2008–09

	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
Participation				
Overall	0.08 (0.05)	336	0.05 (0.05)	345
Years of participation				
Students with one year of SES participation	0.08 (0.05)	298	0.05 (0.04)	307
Students with multiple years of SES participation	0.01 (0.17)	38	0.11 (0.11)	38

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 82,346 for mathematics and 82,340 for reading.

All models controlled for student eligibility for services, grade, year and grade-by-year interactions.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Anchorage School District administrative data, 2003–04 through 2008–09.

Exhibit B.13
Mathematics and Reading Achievement Gains Associated With SES Participation, for Students in Grades 3–10, by Provider Type, in Anchorage, 2004–05 Through 2008–09

Provider Type	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
District provider	0.05 (0.08)	164	0.10 (0.05)	159
Non-district providers	0.10 (0.07)	169	0.00 (0.06)	183

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 82,343 for mathematics and 82,337 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Anchorage School District administrative data, 2003–04 through 2008–09.

Exhibit B.14
Difference in Achievement Gains Associated With SES Participation for Students Served by District and Non-District Providers, in Grades 3–10, by Subject, in Anchorage, 2004–05 Through 2008–09

Subject	Difference in Gain: District Minus Non-District (SE)	Number
Mathematics	-0.05 (0.12)	333
Reading	0.10 (0.07)	342

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

Differences in achievement gains were calculated by subtracting the achievement gains associated with non-district providers from the achievement gains associated with the district provider.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 82,343 for mathematics and 82,337 for reading.

* Indicates that the difference in achievement gains associated with district and non-district providers was statistically significant at the 0.05 level.

Source: Anchorage School District administrative data, 2003–04 through 2008–09.

Exhibit B.15
Mathematics and Reading Achievement Gains Associated With SES Participation,
Adjusted for Hours of SES, for Students in Grades 3–10, by Provider Type,
in Anchorage, 2004–05 Through 2008–09

	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
Provider type				
District provider	-0.12 (0.17)	164	-0.01 (0.10)	159
Non-district providers	-0.10 (0.11)	169	-0.12 (0.13)	183
Hours				
Gain adjusted for hours	0.06 (0.04)	333	0.04 (0.04)	342

Notes: SES = Supplemental Educational Services.

Achievement scores are \bar{x} -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 82,343 for mathematics and 82,337 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

The measure for hours was coded in units of 10 hours.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Anchorage Public Schools administrative data, 2003–04 through 2008–09.

Exhibit B.16
Difference in Achievement Gains Associated With SES Participation for Students in Grades 3–10 Served by District and Non-District Providers, Adjusted for Hours of SES, by Subject, in Anchorage, 2004–05 Through 2008–09

Subject	Difference in Gain: District Minus Non-District (SE)	Number
Mathematics	-0.02 (0.10)	333
Reading	0.12 (0.07)	342

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

Differences in achievement gains were calculated by subtracting the achievement gains associated with non-district providers from the achievement gains associated with the district provider.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 82,343 for mathematics and 82,337 for reading.

The measure for hours was coded in units of 10 hours.

* Indicates that the difference in achievement gains associated with district and non-district providers was statistically significant at the 0.05 level.

Source: Anchorage Public Schools administrative data, 2003–04 through 2008–09.

Exhibit B.17
Mathematics Achievement Gains Associated With SES Participation
and Average Hours of SES Participation, for Students in Grades 3–10,
by Individual Provider, in Anchorage, 2004–05 Through 2008–09

SES Provider	Gain (SE)	Average Hours per Student	Number
District provider	0.05 (0.08)	28	164
Non-district provider A	-0.06 (0.12)	29	75
Non-district provider B	0.04 (0.14)	22	31
Other providers	0.31* (0.09)	41	66

Notes: SES = Supplemental Educational Services.

Achievement scores are \bar{x} -scores standardized within year, grade level and district.

The “other providers” category includes non-district providers serving fewer than 30 students in mathematics.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 82,346.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

Providers are referenced by randomly assigned letters.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Anchorage School District administrative data, 2003–04 through 2008–09.

Exhibit B.18
Reading Achievement Gains Associated With SES Participation
and Average Hours of SES Participation, for Students in Grades 3–10,
by Individual Provider, in Anchorage, 2004–05 Through 2008–09

SES Provider	Gain (SE)	Average Hours per Student	Number
District provider	0.10 (0.05)	27	159
Non-district provider A	0.06 (0.07)	27	92
Non-district provider B	-0.03 (0.16)	22	31
Other providers	-0.04 (0.06)	40	63

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The “other providers” category includes non-district providers serving fewer than 30 students in reading.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 82,340.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

Providers are referenced by randomly assigned letters.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Anchorage School District administrative data, 2003–04 through 2008–09.

Exhibit B.19
Mathematics and Reading Achievement Gains Associated With SES Participation,
for Students in Grades 3–10, by Academic Year,
in Anchorage, 2005–06 Through 2008–09

	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
2005–06 gain	0.24* (0.08)	54	-0.11 (0.08)	54
2006–07 gain	-0.02 (0.14)	86	0.05 (0.06)	116
2007–08 gain	0.01 (0.09)	106	0.07 (0.08)	108
2008–09 gain	0.16 (0.08)	87	0.18 (0.11)	64

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 82,346 for mathematics and 82,340 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Anchorage School District administrative data, 2003–04 through 2008–09.

APPENDIX C: SUPPLEMENTAL EXHIBITS FOR BOSTON

Appendix C: Supplemental Exhibits for Boston

Exhibit C.1										
Percentage and Number of Students Eligible for SES, by Grade, in Boston, 2004–05 Through 2008–09										
Grade	Students Eligible for SES									
	2004–05 (n = 41,847)		2005–06 (n = 62,103)		2006–07 (n = 55,616)		2007–08 (n = 55,672)		2008–09 (n = 55,710)	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
K	18	988	33	1,946	39	2,267	49	3,065	52	3,441
1	21	966	35	1,612	43	1,820	58	2,447	61	2,558
2	21	911	38	1,623	45	1,792	59	2,415	67	2,785
3	22	952	38	1,578	44	1,779	59	2,387	68	2,759
4	21	974	38	1,619	44	1,667	60	2,381	68	2,756
5	22	970	38	1,622	45	1,750	61	2,204	70	2,737
6	20	857	64	2,654	70	2,579	74	2,709	81	2,739
7	17	809	56	2,629	57	2,372	61	2,486	66	2,608
8	17	849	59	2,785	58	2,495	58	2,389	66	2,710
9	—	—	19	1,221	26	1,430	29	1,472	40	2,041
10	—	—	18	930	22	945	30	1,250	36	1,512
11	—	—	19	897	20	809	26	1,093	37	1,456
12	—	—	18	838	19	724	25	1,040	33	1,411
Total	20	8,282*	35	21,954	40	22,429	49	27,338	57	31,513

Note: SES = Supplemental Educational Services.
 — Indicates that the district did not provide eligibility information.
 * There were six eligible students missing grade information in 2004–05.
 Source: Boston Public Schools administrative data, 2004–05 through 2008–09.

Exhibit C.2
Percentage and Number of Eligible Students Participating in SES,
by Grade, in Boston, 2004–05 Through 2008–09

Grade	Students Eligible Participating in SES									
	2004–05		2005–06		2006–07		2007–08		2008–09	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
K	5	50	3	61	4	96	<1	15	1	45
1	16	158	14	226	15	281	1	23	2	61
2	23	213	19	303	15	260	1	31	3	94
3	27	255	27	424	18	323	3	74	8	216
4	25	241	30	485	19	319	4	97	13	355
5	21	202	21	334	18	318	4	78	10	282
6	23	198	19	513	15	391	3	75	9	246
7	13	106	16	426	15	346	3	76	6	144
8	12	98	12	330	10	251	3	70	4	115
9	—	—	4	54	9	132	1	22	4	84
10	—	—	9	83	15	138	1	17	13	190
11	—	—	4	36	7	59	3	29	4	55
12	—	—	2	13	11	83	<1	2	2	24
Total	18	1,521	15	3,288	13	2,997	2	609	6	1,911

Notes: SES = Supplemental Educational Services.

Percentages less than one (<1) are less than 0.5 percent but greater than zero.

— Indicates that the district did not provide participation information.

Source: Boston Public Schools administrative data, 2004–05 through 2008–09.

Exhibit C.3
Percentage and Number of Students in Grades K–12 Participating in SES,
by Provider, in Boston, 2004–05 Through 2008–09

SES Provider	Students Participating in SES									
	2004–05		2005–06		2006–07		2007–08		2008–09	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
District provider	70	1,062	73	2,412	97	2,903	22	131	61	1,161
Non-district provider AD	12	187	7	229	—	—	12	73	—	—
Non-district provider AM	5	73	6	188	3	76	3	19	10	200
Non-district provider AN	3	42	5	159	—	—	18	108	3	48
Non-district provider AO	9	134	5	155	—	—	11	68	5	101
Non-district provider AP	2	23	1	43	<1	1	7	44	2	44
Non-district provider AQ	—	—	<1	13	—	—	—	—	—	—
Non-district provider AR	—	—	<1	9	<1	14	10	63	1	25
Non-district provider AS	—	—	<1	5	<1	2	2	12	<1	9
Non-district provider AT	—	—	<1	4	—	—	—	—	—	—
Non-district provider AU	—	—	<1	3	<1	1	1	8	<1	6
Non-district provider AV	—	—	<1	3	—	—	1	8	1	16
Non-district provider AW	—	—	<1	2	—	—	—	—	—	—
Non-district provider AX	—	—	<1	1	—	—	<1	2	2	29
Non-district provider AZ	—	—	—	—	—	—	<1	2	<1	7
Non-district provider BU	—	—	—	—	—	—	—	—	2	40
Non-district provider BV	—	—	—	—	—	—	—	—	2	41
Non-district provider BW	—	—	—	—	—	—	8	50	4	75
Non-district provider BX	—	—	—	—	—	—	—	—	2	45
Non-district provider EQ	—	—	—	—	—	—	2	15	—	—
Non-district provider ER	—	—	—	—	—	—	<1	1	—	—
Non-district provider ES	—	—	—	—	—	—	—	—	<1	2
Non-district provider L	—	—	2	58	—	—	1	5	3	62
Non-district provider P	—	—	<1	4	—	—	—	—	—	—
Total	100	1,521	100	3,288	100	2,997	100	609	100	1,911

Notes: SES = Supplemental Educational Services.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

Providers are referenced by randomly assigned letters.

2004–05 data included only grades K–8.

— Indicates that the provider did not serve SES participants.

Source: Boston Public Schools administrative data, 2004–05 through 2008–09.

Exhibit C.4
Number and Percentage of Students Participating in SES,
by Provider Type and by Grade, in Boston, 2004–05 Through 2008–09

Grade	2004–05			2005–06			2006–07			2007–08			2008–09		
	Total Number of Students Participating in SES	Provider Type		Total Number of Students Participating in SES	Provider Type		Total Number of Students Participating in SES	Provider Type		Total Number of Students Participating in SES	Provider Type		Total Number of Students Participating in SES	Provider Type	
		Percentage Served by District Provider	Percentage Served by Non-District Providers		Percentage Served by District Provider	Percentage Served by Non-District Providers		Percentage Served by District Provider	Percentage Served by Non-District Providers		Percentage Served by District Provider	Percentage Served by Non-District Providers			
K	50	62	38	61	85	15	96	100	0	15	13	87	45	51	49
1	158	68	32	226	71	29	281	100	0	23	9	91	61	41	59
2	213	64	36	303	74	26	260	100	0	31	23	77	94	40	60
3	255	61	39	424	82	18	323	100	0	74	18	82	216	72	28
4	241	73	27	485	73	27	319	100	0	97	6	94	355	72	28
5	202	64	36	334	64	36	318	99	<1	78	8	92	282	69	31
6	198	89	11	513	74	26	391	86	14	75	17	83	246	17	83
7	106	68	32	426	81	19	346	92	8	76	16	84	144	34	66
8	98	81	19	330	72	28	251	98	2	70	31	69	115	35	65
9	—	—	—	54	19	81	132	99	1	22	59	41	84	88	12
10	—	—	—	83	81	19	138	100	0	17	71	29	190	100	0
11	—	—	—	36	33	67	59	100	0	29	72	28	55	91	9
12	—	—	—	13	46	54	83	99	1	2	100	0	24	92	8
Total (n)	1,521	1,062	459	3,288	2,412	876	2,997	2,903	94	609	131	478	1,911	1,161	750
Total (%)	100	70	30	100	73	27	100	97	3	100	22	78	100	61	39

Note: SES = Supplemental Educational Services.

— Indicates that the district did not provide participation information.

Source: Boston Public Schools administrative data, 2004–05 through 2008–09.

Exhibit C.5
Percentage Distribution of SES Eligible Students in Grades K–12, by Demographic Characteristics,
by Participation Status and by Provider Type, in Boston, 2004–05 Through 2008–09

Demographic Characteristics	2004–05				2005–06				2006–07				2007–08				2008–09			
	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers
Total <i>n</i>	8,276	1,521	1,062	459	21,954	3,288	2,412	876	22,429	2,997	2,903	94	27,338	609	131	478	31,513	1,911	1,161	750
Minority students (%)	93	93	92	95	92*	94*	94	95	93	93	93	86	93	94	95	93	93*	92*	92	91
Percentage distribution by race/ethnicity^a																				
African American	50	53	46	69	46	47	45	53	43	44	44	35	42	47	40	49	40	41	40	41
Hispanic	39	36	40	24	39	41	42	38	42	38	38	34	41	38	39	38	44	43	43	43
White	7	7	8	5	8	6	6	5	7	7	7	14	7	6	5	7	7	8	8	9
Asian	3	4	5	1	6	5	6	4	6	11	11	16	9	8	16	5	8	6	7	6
American Indian	<1	<1	<1	<1	<1	1	1	<1	<1	<1	<1	1	<1	<1	0	<1	<1	1	1	<1
Alaska Native	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Multiracial	<1	0	0	0	1	<1	<1	<1	1	<1	0	<1	1	0	0	0	1	1	1	1
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Percentage of students with special needs																				
Students with limited English proficiency	16	17	19	12	19*	23*	26*	16*	20*	25*	26*	5*	23	19	25	17	26*	32*	38*	22*
Students with disabilities	24	25	26	22	25	27	28	26	26	27	27	35	25	28	21	31	24	25	24	26

Notes: SES = Supplemental Educational Services.

Minority students include African American, Hispanic, Asian, American Indian and multiracial students.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

2004–05 data included only grades K–8.

— Indicates that this demographic group was not identified by the district.

* Indicates a statistically significant difference between the percentage of eligible students and the percentage of participating students in the given demographic group at the 0.05 level.

+ Indicates a statistically significant difference between the percentage of district SES participants and the percentage of non-district SES participants in the given demographic group at the 0.05 level.

^a The difference in the distribution of students by race/ethnicity was not tested for significance.

Source: Boston Public Schools administrative data, 2004–05 through 2008–09.

Exhibit C.6
Number of Eligible and Participating Students and SES Participation Rates
in Grades K–12, by Race/Ethnicity, in Boston, 2004–05 Through 2008–09

Race/Ethnicity	Number of Eligible Students	Number of Participants	Participation Rate (%)	Race/Ethnicity	Number of Eligible Students	Number of Participants	Participation Rate (%)
2004–05				2005–06			
African American	4,110	807	20	African American	10,177	1,545	15
Hispanic	3,243	541	17	Hispanic	8,512	1,348	16
White	613	107	23	White	1,773	192	11
Asian	267	61	17	Asian	1,288	169	13
American Indian	40	5	13	American Indian	94	21	22
Alaska Native	—	—	—	Alaska Native	—	—	—
Multiracial	3	0	0	Multiracial	110	13	12
Total	8,276	1,521	18	Total	21,954	3,288	15
2006–07				2007–08			
African American	9,643	1,304	14	African American	11,349	287	3
Hispanic	9,509	1,133	12	Hispanic	11,213	234	2
White	1,624	207	13	White	1,964	39	2
Asian	1,377	322	23	Asian	2,404	46	2
American Indian	99	13	13	American Indian	110	1	1
Alaska Native	—	—	—	Alaska Native	—	—	—
Multiracial	177	18	10	Multiracial	298	2	1
Total	22,429	2,997	13	Total	27,338	609	2
2008–09							
African American	12,601	776	6				
Hispanic	13,755	822	6				
White	2,160	161	7				
Asian	2,482	120	5				
American Indian	122	13	11				
Alaska Native	—	—	—				
Multiracial	393	19	5				
Total	31,513	1,911	6				

Notes: SES = Supplemental Educational Services.

2004–05 data included only grades K–8.

— Indicates that this demographic group was not identified by the district.

Source: Boston Public Schools administrative data, 2004–05 through 2008–09.

Exhibit C.7
Percentage and Number of SES Participants in Grades K–12,
by Subject and by Provider Type, in Boston, 2004–05 Through 2008–09

Subject of Services Received	Student Served by All Providers		Students Served by District Provider		Students Served by Non-District Providers	
	Percentage	Number	Percentage	Number	Percentage	Number
2004–05						
Mathematics and reading	61	929	66	703	49	226
Mathematics only	4	67	4	43	5	24
Reading only	6	96	3	34	14	62
No information	28	429	27	282	32	147
Total	100	1,521	100	1,062	100	459
2005–06						
Mathematics and reading	43	1,422	45	1,082	39	340
Mathematics only	10	340	10	230	13	110
Reading only	16	519	15	367	17	152
No information	31	1,007	30	733	31	274
Total	100	3,288	100	2,412	100	876
2006–07						
Mathematics and reading	100	2,992	100	2,898	100	94
Mathematics only	<1	3	<1	3	0	0
Reading only	<1	2	<1	2	0	0
No information	0	0	0	0	0	0
Total	100	2,997	100	2,903	100	94
2007–08						
Mathematics and reading	25	151	1	1	31	150
Mathematics only	41	247	99	130	24	117
Reading only	34	210	0	0	44	210
No information	<1	1	0	0	<1	1
Total	100	609	100	131	100	478
2008–09						
Mathematics and reading	64	1,232	75	868	49	364
Mathematics only	18	352	12	140	28	212
Reading only	17	317	12	143	23	174
No information	1	10	1	10	0	0
Total	100	1,911	100	1,161	100	750

Notes: SES = Supplemental Educational Services.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

2004–05 data included only grades K–8.

Source: Boston Public Schools administrative data, 2004–05 through 2008–09.

Exhibit C.8
Average Number of Hours of SES Received by Participants in Grades K–12,
by Provider Type, in Boston, 2004–05 Through 2008–09

Year	All Providers	District Provider	Non-District Providers
2004–05	44	48*	34*
2005–06	44	45	43
2006–07	79	80*	57*
2007–08	46	80*	36*
2008–09	43	40	47

Notes: SES = Supplemental Educational Services.

2004–05 data included only grades K–8.

* Indicates a statistically significant difference in average hours between district and non-district providers at the 0.05 level.

Source: Boston Public Schools administrative data, 2004–05 through 2008–09.

Exhibit C.9
Percentage Distribution of SES Participants in Grades K–12, by Number of Hours of Services Received and by Provider Type, in Boston, 2004–05 Through 2008–09

Hours of Services Received	Students Served by All Providers		Students Served by District Provider		Students Served by Non-District Providers	
	Percentage	Number	Percentage	Number	Percentage	Number
2004–05						
Fewer than 20 hours	26	389	25*	261	28*	128
20–39 hours	18	277	14*	151	27*	126
40–59 hours	21	315	17*	176	30*	139
60–79 hours	29	442	35*	376	14*	66
80 or more hours	6	98	9*	98	0*	0
Total	100	1,521	100	1,062	100	459
2005–06						
Fewer than 20 hours	22	714	19*	451	30*	263
20–39 hours	21	694	20*	474	25*	220
40–59 hours	26	854	29*	693	18*	161
60–79 hours	26	841	30*	735	12*	106
80 or more hours	6	185	2*	59	14*	126
Total	100	3,288	100	2,412	100	876
2006–07						
Fewer than 20 hours	0	0	0	0	0	0
20–39 hours	0	0	0	0	0	0
40–59 hours	1	21	<1*	6	16*	15
60–79 hours	3	95	1*	18	82*	77
80 or more hours	96	2,881	99*	2,879	2*	2
Total	100	2,997	100	2,903	100	94
2007–08						
Fewer than 20 hours	10	63	0*	0	13*	63
20–39 hours	34	205	1*	1	43*	204
40–59 hours	23	141	0*	0	29*	141
60–79 hours	9	57	0*	0	12*	57
80 or more hours	23	143	99*	130	3*	13
Total	100	609	100	131	100	478
2008–09						
Fewer than 20 hours	15	291	16	190	13	101
20–39 hours	29	562	29	341	29	221
40–59 hours	28	544	33	388	21	156
60–79 hours	26	494	21	242	34	252
80 or more hours	1	20	0	0	3	20
Total	100	1,911	100	1,161	100	750

Notes: SES = Supplemental Educational Services.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

2004–05 data included only grades K–8.

* Indicates a statistically significant difference between the percentage of students receiving the specified hours of SES with the district provider and the percentage of students receiving the specified hours of SES with non-district providers at the 0.05 level.

Source: Boston Public Schools administrative data, 2004–05 through 2008–09.

Exhibit C.10
Average Prior (2007–08) Achievement Scores for Students in Grades 3–8,
by 2008–09 Eligibility and Participation Status and by Subject, in Boston

	Mathematics		Reading	
	Average Prior Achievement Score	Number of Students	Average Prior Achievement Score	Number of Students
Eligibility				
Ineligible students	0.42*	8,097	0.40*	8,077
Eligible students	-0.26*	11,832	-0.26*	11,702
Participation status				
Participants	-0.42 ⁺	832	-0.43 ⁺	815
Eligible nonparticipants	-0.25 ⁺	11,000	-0.25 ⁺	10,887

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

* Indicates a statistically significant difference between ineligible students and eligible students at the 0.05 level.

⁺ Indicates a statistically significant difference between participants and eligible nonparticipants at the 0.05 level.

Source: Boston Public Schools administrative data, 2007–08 and 2008–09.

Exhibit C.11
Average Prior (2007–08) Achievement Score for Participating Students in Grades 3–8,
by 2008–09 Provider Type and by Subject, in Boston

Provider Type	Mathematics		Reading	
	Average Prior Achievement Score	Number of Participants	Average Prior Achievement Score	Number of Participants
District provider	-0.58*	384	-0.64*	374
Non-district providers	-0.27*	448	-0.25*	441

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

* Indicates a statistically significant difference between district and non-district providers at the 0.05 level.

Source: Boston Public Schools administrative data, 2007–08 and 2008–09.

Exhibit C.12
Mathematics and Reading Achievement Gains Associated With SES Participation,
for Students in Grades 3–8, Overall and for a Single Year and Multiple Years,
in Boston, 2002–03 Through 2008–09

	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
Participation				
Overall	0.03 (0.02)	2,418	-0.01 (0.02)	2,397
Years of participation				
Students with one year of SES participation	0.04 (0.03)	1,822	-0.02 (0.03)	1,797
Students with multiple years of SES participation	0.01 (0.03)	596	0.03 (0.03)	600

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 44,882 for mathematics and 43,306 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Boston Public Schools administrative data, 2002–03 through 2008–09.

Exhibit C.13
Mathematics and Reading Achievement Gains Associated With SES Participation,
for Students in Grades 3–8, by Provider Type, in Boston, 2002–03 Through 2008–09

Provider Type	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
District provider	0.04 (0.03)	1,370	0.03 (0.03)	1,369
Non-district providers	0.05 (0.04)	565	0.00 (0.03)	573

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 44,880 for mathematics and 43,303 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Boston Public Schools administrative data, 2002–03 through 2008–09.

Exhibit C.14
Difference in Achievement Gains Associated With SES Participation for Students Served by District and Non-District Providers, in Grades 3–8, by Subject, in Boston, 2002–03 Through 2008–09

Subject	Difference in Gain: District Minus Non-District (SE)	Number
Mathematics	-0.01 (0.05)	1,935
Reading	0.03 (0.04)	1,942

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

Differences in achievement gains were calculated by subtracting the achievement gains associated with non-district providers from the achievement gains associated with the district provider.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 44,880 for mathematics and 43,303 for reading.

* Indicates that the difference in achievement gains associated with district and non-district providers was statistically significant at the 0.05 level.

Source: Boston Public Schools administrative data, 2002–03 through 2008–09.

Exhibit C.15
Mathematics and Reading Achievement Gains Associated With SES Participation,
Adjusted for Hours of SES, for Students in Grades 3–8, by Provider Type,
in Boston, 2002–03 Through 2008–09

	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
Provider type				
District provider	0.06 (0.08)	1,370	0.06 (0.07)	1,369
Non-district providers	0.06 (0.08)	565	0.02 (0.07)	573
Hours				
Gain adjusted for hours	0.00 (0.01)	1,935	-0.01 (0.01)	1,942

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 44,392 for mathematics and 42,843 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

The measure for hours was coded in units of 10 hours.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Boston Public Schools administrative data, 2002–03 through 2008–09.

Exhibit C.16
Difference in Achievement Gains Associated With SES Participation for Students in Grades 3–8 Served by District and Non-District Providers, Adjusted for Hours of SES, by Subject, in Boston, 2002–03 Through 2008–09

Subject	Difference in Gain: District Minus Non-District (SE)	Number
Mathematics	-0.01 (0.05)	1,935
Reading	0.04 (0.04)	1,942

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

Differences in achievement gains were calculated by subtracting the achievement gains associated with non-district providers from the achievement gains associated with the district provider.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 44,392 for mathematics and 44,843 for reading.

The measure for hours was coded in units of 10 hours.

* Indicates that the difference in achievement gains associated with district and non-district providers was statistically significant at the 0.05 level.

Source: Boston Public Schools administrative data, 2002–03 through 2008–09.

Exhibit C.17
Mathematics Achievement Gains Associated With SES Participation
and Average Hours of SES Participation, for Students in Grades 3–8,
by Individual Provider, in Boston, 2002–03 Through 2008–09

SES Provider	Gain (SE)	Average Hours per Student	Number
District provider	0.04 (0.03)	65	1,370
Non-district provider AM	0.07 (0.05)	67	214
Non-district provider AO	0.10 (0.10)	63	115
Non-district provider AD	-0.07 (0.14)	33	101
Non-district provider AP	0.15* (0.06)	50	55
Other providers	0.00 (0.11)	26	80

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The “other providers” category includes non-district providers serving fewer than 30 students in mathematics.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 44,882.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

Providers are referenced by randomly assigned letters.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Boston Public Schools administrative data, 2002–03 through 2008–09.

Exhibit C.18
Reading Achievement Gains Associated With SES Participation
and Average Hours of SES Participation for Students in Grades 3–8,
by Individual Provider, in Boston, 2002–03 Through 2008–09

SES Provider	Gain (SE)	Average Hours per Student	Number
District provider	0.03 (0.03)	65	1,369
Non-district provider AM	-0.01 (0.04)	67	156
Non-district provider AO	-0.09 (0.09)	62	115
Non-district provider AD	-0.02 (0.03)	26	82
Non-district provider AP	0.15* (0.06)	50	55
Other providers	0.02 (0.06)	37	165

Notes: SES = Supplemental Educational Services.

Achievement scores are \bar{x} -scores standardized within year, grade level and district.

The “other providers” category includes non-district providers serving fewer than 30 students in reading.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 43,306.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

Providers are referenced by randomly assigned letters.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Boston Public Schools administrative data, 2002–03 through 2008–09.

Exhibit C.19
Mathematics and Reading Achievement Gains Associated With SES Participation,
for Students in Grades 3–8, by Academic Year,
in Boston, 2005–06 Through 2008–09

	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
2005–06 gain	0.13* (0.06)	612	0.08 (0.05)	671
2006–07 gain	-0.06 (0.05)	672	-0.02 (0.04)	660
2007–08 gain	0.05 (0.06)	120	0.07 (0.07)	123
2008–09 gain	0.06 (0.05)	257	0.03 (0.05)	227

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 44,882 for mathematics and 43,306 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Boston Public Schools administrative data, 2002–03 through 2008–09.

APPENDIX D: SUPPLEMENTAL EXHIBITS FOR CHARLOTTE-MECKLENBURG

Appendix D: Supplemental Exhibits for Charlotte-Mecklenburg

Exhibit D.1
Percentage and Number of Students Eligible for SES,
by Grade, in Charlotte-Mecklenburg, 2005–06 Through 2008–09

Grade	Students Eligible for SES							
	2005–06 (n = 95,369)		2006–07 (n = 98,997)		2007–08 (n = 101,615)		2008–09 (n = 101,712)	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
K	2	270	5	628	8	966	16	1,951
1	2	266	5	574	7	860	16	1,941
2	2	234	5	566	7	829	16	1,933
3	2	231	5	553	7	804	16	1,885
4	2	229	5	522	7	763	15	1,687
5	2	228	5	484	7	705	15	1,603
6	13	1,265	12	1,230	17	1,738	18	1,921
7	12	1,197	12	1,231	16	1,663	19	1,955
8	12	1,244	11	1,186	17	1,781	19	1,989
Total	5	5,164	7	6,974	10	10,109	17	16,865

Note: SES = Supplemental Educational Services.

Source: Charlotte-Mecklenburg School District administrative data, 2005–06 through 2008–09.

Exhibit D.2
Percentage and Number of Eligible Students Participating in SES,
by Grade, in Charlotte-Mecklenburg, 2005–06 Through 2008–09

Grade	Eligible Students Participating in SES							
	2005–06		2006–07		2007–08		2008–09	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
K	4	11	19	119	25	238	25	490
1	5	14	20	112	33	282	31	607
2	4	10	24	135	32	262	31	606
3	7	17	24	131	38	307	35	659
4	6	14	26	134	33	248	32	535
5	11	26	25	119	30	212	31	497
6	8	96	11	139	14	251	13	250
7	5	54	9	105	12	203	9	172
8	6	70	7	87	10	172	8	156
Total	6	312	16	1,081	22	2,175	24	3,972

Note: SES = Supplemental Educational Services.

Source: Charlotte-Mecklenburg School District administrative data, 2005–06 through 2008–09.

Exhibit D.3
Percentage and Number of Students in Grades K–8 Participating in SES,
by Provider, in Charlotte-Mecklenburg, 2005–06 Through 2008–09

SES Provider	Students Participating in SES							
	2005–06		2006–07		2007–08		2008–09	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
District provider	—	—	—	—	—	—	24	944
Non-district provider A	40	126	26	285	28	612	22	872
Non-district provider AD	—	—	40	437	16	354	—	—
Non-district provider AI	34	105	—	—	—	—	—	—
Non-district provider AL	2	6	—	—	—	—	—	—
Non-district provider AU	<1	1	<1	2	—	—	<1	4
Non-district provider BJ	8	26	8	87	3	74	1	57
Non-district provider BV	—	—	—	—	—	—	7	290
Non-district provider BY	—	—	—	—	1	16	—	—
Non-district provider BZ	—	—	—	—	—	—	2	65
Non-district provider CA	—	—	—	—	—	—	1	48
Non-district provider CB	—	—	—	—	—	—	2	73
Non-district provider CC	—	—	—	—	2	39	—	—
Non-district provider CD	—	—	—	—	—	—	1	56
Non-district provider CE	—	—	—	—	—	—	2	93
Non-district provider CF	—	—	—	—	—	—	10	406
Non-district provider CG	—	—	3	30	10	218	3	139
Non-district provider CH	—	—	—	—	3	74	11	422
Non-district provider CI	<1	1	—	—	6	133	—	—
Non-district provider CJ	7	21	4	47	5	105	1	49
Non-district provider CN	—	—	5	59	15	334	6	233
Non-district provider DP	<1	1	—	—	—	—	—	—
Non-district provider DW	—	—	—	—	—	—	<1	5
Non-district provider L	—	—	<1	4	—	—	—	—
Non-district provider M	6	18	10	105	5	118	5	181
Non-district provider P	2	7	2	25	—	—	1	20
Non-district provider R	—	—	—	—	5	98	<1	15
Total	100	312	100	1,081	100	2,175	100	3,972

Notes: SES = Supplemental Educational Services.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

Providers are referenced by randomly assigned letters.

— Indicates that the provider did not serve SES participants.

Source: Charlotte-Mecklenburg School District administrative data, 2005–06 through 2008–09.

**Exhibit D.4
Number and Percentage of Students Participating in SES,
by Provider Type and by Grade, in Charlotte-Mecklenburg, 2008–09**

Grade	Total Number of Students Participating in SES	Provider Type	
		Percentage Served by District Provider	Percentage Served by Non-District Providers
K	490	33	67
1	607	21	79
2	606	25	75
3	659	22	78
4	535	21	79
5	497	20	80
6	250	31	69
7	172	22	78
8	156	21	79
Total (n)	3,972	944	3,028
Total (%)	100	24	76

Note: SES = Supplemental Educational Services.

Source: Charlotte-Mecklenburg School District administrative data, 2008–09.

Exhibit D.5
Percentage Distribution of SES Eligible Students in Grades K–8,
by Demographic Characteristics, by Participation Status and by Provider Type,
in Charlotte-Mecklenburg, 2008–09

Demographic Characteristics	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers
Total <i>n</i>	16,865	3,972	944	3,028
Minority students (%)	96*	98*	98	98
Percentage distribution by race/ethnicity^a				
African American	61	64	59	66
Hispanic	27	28	33	27
White	4	2	2	2
Asian	5	3	3	3
American Indian	<1	<1	1	<1
Alaska Native	—	—	—	—
Multiracial	3	3	2	3
Total	100	100	100	100
Percentage of students with special needs				
Students with limited English proficiency	25	26	30 ⁺	25 ⁺
Students with disabilities	12	14	14	14

Notes: SES = Supplemental Educational Services.

Minority students include African American, Hispanic, Asian, American Indian and multiracial students.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

— Indicates that this demographic group was not identified by the district.

* Indicates a statistically significant difference between the percentage of eligible students and the percentage of participating students in the given demographic group at the 0.05 level.

⁺ Indicates a statistically significant difference between the percentage of district SES participants and the percentage of non-district SES participants in the given demographic group at the 0.05 level.

^a The difference in distribution of students by race/ethnicity was not tested for significance.

Source: Charlotte-Mecklenburg School District administrative data, 2008–09.

Exhibit D.6
Number of Eligible and Participating Students and SES Participation Rates
in Grades K–8, by Race/Ethnicity, in Charlotte-Mecklenburg, 2008–09

Race/Ethnicity	Number of Eligible Students	Number of Participants	Participation Rate (%)
African American	10,248	2,559	25
Hispanic	4,474	1,113	25
White	693	69	10
Asian	850	113	13
American Indian	87	17	20
Alaska Native	—	—	—
Multiracial	513	101	20
Total	16,865	3,972	24

Note: SES = Supplemental Educational Services.

— Indicates that this demographic group was not identified by the district.

Source: Charlotte-Mecklenburg School District administrative data, 2008–09.

Exhibit D.7
Percentage and Number of SES Participants in Grades K–8,
by Subject and by Provider Type, in Charlotte-Mecklenburg, 2008–09

Subject of Services Received	Students Served by All Providers		Students Served by District Provider		Students Served by Non-District Providers	
	Percentage	Number	Percentage	Number	Percentage	Number
Mathematics and reading	53	2,088	100	944	38	1,144
Mathematics only	10	415	0	0	14	415
Reading only	37	1,469	0	0	49	1,469
No information	0	0	0	0	0	0
Total	100	3,972	100	944	100	3,028

Notes: SES = Supplemental Educational Services.

Percentages may not total 100 due to rounding.

Source: Charlotte-Mecklenburg School District administrative data, 2008–09.

Exhibit D.8
Average Number of Hours of SES Received by Participants in Grades K–8,
by Provider Type, in Charlotte-Mecklenburg, 2005–06 Through 2008–09

Year	All Providers	District Provider	Non-District Providers
2005–06	20	—	20
2006–07	21	—	21
2007–08	24	—	24
2008–09	27	26	27

Note: SES = Supplemental Educational Services.

— Indicates that data were not available because the district did not provide SES at this time.

* Indicates a statistically significant difference in average hours between district and non-district providers at the 0.05 level.

Source: Charlotte-Mecklenburg School District administrative data, 2005–06 through 2008–09.

Exhibit D.9
Percentage Distribution of SES Participants in Grades K–8,
by Number of Hours of Services Received and by Provider Type,
in Charlotte-Mecklenburg, 2005–06 Through 2008–09

Hours of Services Received	Students Served by All Providers		Students Served by District Provider		Students Served by Non-District Providers	
	Percentage	Number	Percentage	Number	Percentage	Number
2005–06						
Fewer than 20 hours	56	176	—	—	56	176
20–39 hours	43	135	—	—	43	135
40–59 hours	<1	1	—	—	<1	1
60–79 hours	0	0	—	—	0	0
80 or more hours	0	0	—	—	0	0
Total	100	312	—	—	100	312
2006–07						
Fewer than 20 hours	39	421	—	—	39	421
20–39 hours	58	624	—	—	58	624
40–59 hours	3	36	—	—	3	36
60–79 hours	0	0	—	—	0	0
80 or more hours	0	0	—	—	0	0
Total	100	1,081	—	—	100	1,081
2007–08						
Fewer than 20 hours	28	612	—	—	28	612
20–39 hours	70	1,521	—	—	70	1,521
40–59 hours	2	42	—	—	2	42
60–79 hours	0	0	—	—	0	0
80 or more hours	0	0	—	—	0	0
Total	100	2,175	—	—	100	2,175
2008–09						
Fewer than 20 hours	23	902	23*	213	23*	689
20–39 hours	71	2,820	77*	729	69*	2,091
40–59 hours	6	250	<1*	2	8*	248
60–79 hours	0	0	0	0	0	0
80 or more hours	0	0	0	0	0	0
Total	100	3,972	100	944	100	3,028

Notes: SES = Supplemental Educational Services.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

— Indicates that data were not available because the district did not provide SES at this time.

* Indicates a statistically significant difference between the percentage of students receiving the specified hours of SES with the district provider and the percentage of students receiving the specified hours of SES with non-district providers at the 0.05 level.

Source: Charlotte-Mecklenburg School District administrative data, 2005–06 through 2008–09.

Exhibit D.10
Average Prior (2007–08) Achievement Scores for Students in Grades 3–8,
by 2008–09 Eligibility and Participation Status and by Subject, in Charlotte-Mecklenburg

	Mathematics		Reading	
	Average Prior Achievement Score	Number of Students	Average Prior Achievement Score	Number of Students
Eligibility				
Ineligible students	0.11*	38,847	0.11*	38,673
Eligible students	-0.60*	7,613	-0.61*	7,557
Participation status				
Participants	-0.83 ⁺	1,424	-0.84 ⁺	1,419
Eligible nonparticipants	-0.55 ⁺	6,189	-0.55 ⁺	6,138

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

* Indicates a statistically significant difference between ineligible students and eligible students at the 0.05 level.

⁺ Indicates a statistically significant difference between participants and eligible nonparticipants at the 0.05 level.

Source: Charlotte-Mecklenburg School District administrative data, 2007–08 and 2008–09.

Exhibit D.11
Average Prior (2007–08) Achievement Scores for Participating Students in Grades 3–8,
by 2008–09 Provider Type and by Subject, in Charlotte-Mecklenburg

Provider Type	Mathematics		Reading	
	Average Prior Achievement Score	Number of Participants	Average Prior Achievement Score	Number of Participants
District provider	-0.86	317	-0.87	315
Non-district providers	-0.82	1,107	-0.83	1,104

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

* Indicates a statistically significant difference between district and non-district providers at the 0.05 level.

Source: Charlotte-Mecklenburg School District administrative data, 2007–08 and 2008–09.

Exhibit D.12
Mathematics and Reading Achievement Gains Associated With SES Participation,
for Students in Grades 3–8, Overall and for a Single Year and Multiple Years,
in Charlotte-Mecklenburg, 2005–06 Through 2008–09

	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
Participation				
Overall	0.11* (0.06)	724	0.03 (0.03)	1,456
Years of participation				
Students with one year of SES participation	0.12* (0.06)	640	0.03 (0.03)	1,274
Students with multiple years of SES participation	0.04 (0.10)	84	0.04 (0.07)	182

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 132,602 for mathematics and 133,135 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Charlotte-Mecklenburg School District administrative data, 2004–05 through 2008–09.

Exhibit D.13
Mathematics and Reading Achievement Gains Associated With SES Participation,
for Students in Grades 3–8, by Provider Type, in Charlotte-Mecklenburg,
2005–06 Through 2008–09

Provider Type	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
District provider	0.23* (0.08)	152	0.04 (0.06)	151
Non-district providers	0.10 (0.08)	263	0.02 (0.07)	319

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 132,269 for mathematics and 132,034 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Charlotte-Mecklenburg School District administrative data, 2004–05 through 2008–09.

Exhibit D.14
Difference in Achievement Gains Associated With SES Participation
for Students Served by District and Non-District Providers, in Grades 3–8, by Subject,
in Charlotte-Mecklenburg, 2005–06 Through 2008–09

Subject	Difference in Gain: District Minus Non-District (SE)	Number
Mathematics	0.12 (0.07)	415
Reading	0.03 (0.08)	470

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

Differences in achievement gains were calculated by subtracting the achievement gains associated with non-district providers from the achievement gains associated with the district provider.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 132,269 for mathematics and 132,034 for reading.

* Indicates that the difference in achievement gains associated with district and non-district providers was statistically significant at the 0.05 level.

Source: Charlotte-Mecklenburg Public Schools administrative data, 2004–05 through 2008–09.

Exhibit D.15
Mathematics and Reading Achievement Gains Associated With SES Participation,
Adjusted for Hours of SES, for Students in Grades 3–8, by Provider Type,
in Charlotte-Mecklenburg, 2005–06 Through 2008–09

	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
Provider type				
District provider	0.21* (0.09)	152	0.12 (0.10)	151
Non-district providers	0.09 (0.11)	263	0.10 (0.10)	319
Hours				
Gain adjusted for hours	0.01 (0.04)	415	-0.04 (0.03)	470

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 132,269 for mathematics and 132,034 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

The measure for hours was coded in units of 10 hours.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Charlotte-Mecklenburg Public Schools administrative data, 2004–05 through 2008–09.

Exhibit D.16
Difference in Achievement Gains Associated With SES Participation for Students in Grades 3–8 Served by District and Non-District Providers, Adjusted for Hours of SES, by Subject, in Charlotte-Mecklenburg, 2005–06 Through 2008–09

Subject	Difference in Gain: District Minus Non-District (SE)	Number
Mathematics	0.13 (0.07)	415
Reading	0.02 (0.08)	470

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

Differences in achievement gains were calculated by subtracting the achievement gains associated with non-district providers from the achievement gains associated with the district provider.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 132,269 for mathematics and 132,034 for reading.

The measure for hours was coded in units of 10 hours.

* Indicates that the difference in achievement gains associated with district and non-district providers was statistically significant at the 0.05 level.

Source: Charlotte-Mecklenburg Public Schools administrative data, 2004–05 through 2008–09.

Exhibit D.17
Mathematics Achievement Gains Associated With SES Participation
and Average Hours of SES Participation, for Students in Grades 3–8,
by Individual Provider, in Charlotte-Mecklenburg, 2005–06 Through 2008–09

SES Provider	Gain (SE)	Average Hours per Student	Number
District provider	0.22* (0.08)	22	152
Non-district provider A	0.08 (0.10)	27	149
Non-district provider CN	0.05 (0.11)	22	101
Non-district provider CH	0.03 (0.10)	21	74
Non-district provider CF	0.01 (0.12)	30	53
Non-district provider AI	0.07 (0.11)	14	47
Non-district provider CG	0.11 (0.19)	22	44
Non-district provider CJ	0.34* (0.10)	20	30
Other providers	0.13 (0.08)	20	74

Notes: SES = Supplemental Educational Services.

Achievement scores are \bar{x} -scores standardized within year, grade level and district.

The “other providers” category includes non-district providers serving fewer than 30 students in mathematics.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 132,602.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

Providers are reference by randomly assigned letters.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Charlotte-Mecklenburg School District administrative data, 2004–05 through 2008–09.

Exhibit D.18
Reading Student Achievement Gains Associated With SES Participation
and Average Hours of SES Participation, for Students in Grades 3–8,
by Individual Provider, in Charlotte-Mecklenburg, 2005–06 Through 2008–09

SES Provider	Gain (SE)	Average Hours per Student	Number
Non-district provider A	0.00 (0.06)	23	381
District provider	0.01 (0.06)	22	151
Non-district provider CN	-0.02 (0.09)	22	99
Non-district provider BJ	0.09 (0.09)	21	77
Non-district provider M	-0.06 (0.09)	20	70
Non-district provider CH	0.17 (0.11)	20	60
Non-district provider CG	-0.01 (0.12)	21	55
Non-district provider CF	-0.16 (0.18)	30	52
Non-district provider AI	0.11 (0.06)	14	47
Non-district provider R	0.27 (0.20)	16	37
Non-district provider CJ	0.12 (0.16)	22	31
Other providers	0.06 (0.05)	19	396

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The “other providers” category includes non-district providers serving fewer than 30 students in reading.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 133,135.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

Providers are referenced by randomly assigned letters.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Charlotte-Mecklenburg School District administrative data, 2004–05 through 2008–09.

Exhibit D.19
Mathematics and Reading Achievement Gains Associated With SES Participation,
for Students in Grades 3–8, by Academic Year,
in Charlotte-Mecklenburg, 2005–06 Through 2008–09

	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
2005–06 gain	0.10 (0.12)	53	0.07 (0.07)	113
2006–07 gain	0.29* (0.13)	31	0.03 (0.05)	385
2007–08 gain	0.04 (0.08)	225	0.04 (0.05)	488
2008–09 gain	0.14 (0.07)	415	0.02 (0.05)	470

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 132,602 for mathematics and 133,135 reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Charlotte-Mecklenburg School District administrative data, 2004–05 through 2008–09.

APPENDIX E: SUPPLEMENTAL EXHIBITS FOR CHICAGO

Appendix E: Supplemental Exhibits for Chicago

Exhibit E.1
Percentage and Number of Students Eligible for SES,
by Grade, in Chicago, 2004–05 Through 2008–09

Grade	Students Eligible for SES									
	2004–05 (n = 169,217)		2005–06 (n = 156,884)		2006–07 (n = 164,791)		2007–08 (n = 181,511)		2008–09 (n = 176,906)	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
3	55	15,445	56	13,921	73	18,276	72	22,738	77	24,405
4	57	15,859	54	13,379	72	17,124	71	20,509	77	22,128
5	56	15,751	53	13,487	72	19,009	71	20,870	77	21,822
6	56	15,548	53	14,249	73	22,114	71	21,830	77	22,803
7	57	15,740	52	13,795	72	22,168	71	21,148	76	21,956
8	57	15,547	53	14,324	70	19,956	71	21,936	75	22,224
Total	56	93,890	53	83,155	72	118,647	71	129,031	77	135,338

Note: SES = Supplemental Educational Services.

Source: Chicago Public Schools administrative data, 2004–05 through 2008–09.

Exhibit E.2
Percentage and Number of Eligible Students Participating in SES,
by Grade, in Chicago, 2004–05 Through 2008–09

Grade	Eligible Students Participating in SES									
	2004–05		2005–06		2006–07		2007–08		2008–09	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
3	42	6,499	53	7,426	27	4,997	25	5,694	32	7,789
4	38	5,996	32	4,243	23	3,988	22	4,467	28	6,305
5	36	5,647	25	3,314	20	3,773	19	4,038	26	5,616
6	31	4,880	21	2,945	18	4,048	18	3,947	25	5,706
7	27	4,296	20	2,804	15	3,254	14	2,879	20	4,324
8	30	4,632	20	2,899	13	2,618	14	3,165	19	4,317
Total	34	31,950	28	23,631	19	22,678	19	24,190	25	34,057

Note: SES = Supplemental Educational Services.

Source: Chicago Public Schools administrative data, 2004–05 through 2008–09.

Exhibit E.3
Percentage and Number of Students in Grades 3–8 Participating in SES,
by Provider, in Chicago, 2004–05 Through 2008–09

SES Provider	Students Participating in SES									
	2004–05		2005–06		2006–07		2007–08		2008–09	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
District provider	49	15,580	38	9,017	31	7,065	23	5,610	13	4,505
Non-district provider AD	6	1,933	7	1,759	9	1,983	5	1,279	—	—
Non-district provider AI	<1	137	1	339	1	259	1	265	2	807
Non-district provider AJ	—	—	—	—	—	—	<1	12	—	—
Non-district provider AL	—	—	<1	75	—	—	—	—	—	—
Non-district provider AR	—	—	<1	76	4	939	2	563	4	1,364
Non-district provider AY	15	4,664	21	5,061	11	2,408	10	2,494	11	3,743
Non-district provider AZ	—	—	9	2,121	6	1,380	15	3,606	9	3,049
Non-district provider BA	1	473	<1	85	—	—	—	—	—	—
Non-district provider BB	1	333	3	768	6	1,394	6	1,367	7	2,403
Non-district provider BC	—	—	2	441	2	527	4	942	4	1,346
Non-district provider BD	1	290	2	405	2	503	2	570	2	595
Non-district provider BE	<1	97	1	328	2	359	1	198	1	330
Non-district provider BF	1	262	1	308	1	148	1	164	<1	146
Non-district provider BG	3	880	1	209	—	—	—	—	—	—
Non-district provider BH	—	—	1	193	3	712	1	289	<1	160
Non-district provider BI	—	—	<1	117	—	—	—	—	—	—
Non-district provider BJ	<1	117	<1	86	1	206	<1	79	1	196
Non-district provider BK	—	—	<1	92	1	154	<1	43	—	—
Non-district provider BL	17	5,582	5	1,234	5	1,076	4	853	2	630
Non-district provider BM	<1	121	<1	69	1	154	<1	89	<1	155
Non-district provider BN	1	247	1	167	2	452	1	239	1	507
Non-district provider BO	<1	10	<1	23	1	199	<1	48	—	—
Non-district provider BP	1	466	—	—	—	—	—	—	—	—
Non-district provider BQ	<1	51	—	—	—	—	—	—	—	—
Non-district provider BR	<1	80	<1	26	<1	88	<1	29	—	—
Non-district provider BS	1	220	—	—	—	—	—	—	—	—
Non-district provider BT	1	407	—	—	—	—	—	—	—	—
Non-district provider BY	—	—	—	—	—	—	<1	4	<1	161
Non-district provider CV	—	—	<1	2	<1	8	—	—	—	—
Non-district provider CZ	—	—	—	—	<1	70	<1	56	—	—
Non-district provider DI	—	—	<1	14	<1	31	<1	21	<1	43
Non-district provider DX	—	—	—	—	<1	22	<1	18	<1	102
Non-district provider DY	—	—	—	—	<1	82	<1	41	<1	34
Non-district provider DZ	—	—	<1	12	—	—	<1	23	1	396
Non-district provider EA	—	—	—	—	—	—	<1	27	1	194
Non-district provider EB	—	—	<1	65	1	188	2	475	2	743
Non-district provider EC	—	—	<1	61	<1	33	1	183	1	190
Non-district provider ED	—	—	—	—	<1	35	<1	61	<1	5
Non-district provider EE	—	—	—	—	<1	112	<1	106	1	404
Non-district provider EF	—	—	—	—	—	—	<1	35	<1	6
Non-district provider EG	—	—	—	—	—	—	—	—	<1	102

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Exhibit E.3 (continued)
Percentage and Number of Students in Grades 3–8 Participating in SES,
by Provider, in Chicago, 2004–05 Through 2008–09

SES Provider	Students Participating in SES									
	2004–05		2005–06		2006–07		2007–08		2008–09	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
Non-district provider EH	—	—	—	—	<1	78	1	286	2	610
Non-district provider EI	—	—	—	—	—	—	<1	117	1	198
Non-district provider EJ	—	—	—	—	<1	86	7	1,579	18	6,047
Non-district provider EK	—	—	<1	69	<1	42	<1	33	—	—
Non-district provider EL	—	—	—	—	—	—	—	—	3	1,013
Non-district provider EM	—	—	—	—	—	—	2	541	5	1,615
Non-district provider EN	—	—	<1	7	<1	67	<1	45	<1	37
Non-district provider EO	—	—	—	—	—	—	—	—	<1	98
Non-district provider EP	—	—	—	—	<1	61	<1	42	<1	73
Non-district provider ET	—	—	<1	5	<1	22	—	—	—	—
Non-district provider EU	—	—	—	—	—	—	<1	2	—	—
Non-district provider EV	—	—	—	—	—	—	—	—	<1	19
Non-district provider EW	—	—	—	—	—	—	<1	9	<1	15
Non-district provider EX	—	—	—	—	—	—	<1	6	<1	8
Non-district provider EY	—	—	—	—	<1	13	<1	30	—	—
Non-district provider EZ	—	—	—	—	<1	4	—	—	—	—
Non-district provider FA	—	—	—	—	<1	13	<1	1	—	—
Non-district provider FB	—	—	—	—	—	—	—	—	<1	3
Non-district provider FC	—	—	—	—	—	—	<1	43	—	—
Non-district provider FD	—	—	<1	22	<1	14	—	—	—	—
Non-district provider FE	—	—	—	—	—	—	—	—	<1	41
Non-district provider FF	—	—	<1	23	—	—	<1	3	—	—
Non-district provider FG	—	—	—	—	<1	8	<1	13	<1	8
Non-district provider FH	—	—	—	—	—	—	<1	4	—	—
Non-district provider FI	—	—	—	—	—	—	—	—	<1	14
Non-district provider FJ	—	—	<1	12	<1	27	<1	5	—	—
Non-district provider L	—	—	1	268	3	732	1	211	1	448
Non-district provider N	—	—	—	—	3	786	4	931	—	—
Non-district provider O	—	—	—	—	<1	14	<1	61	<1	121
Non-district provider P	—	—	<1	72	1	124	2	435	4	1,366
Non-district provider T	—	—	—	—	—	—	<1	4	<1	7
Total	100	31,950	100	23,631	100	22,678	100	24,190	100	34,057

Notes: SES = Supplemental Educational Services.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

Providers are referenced by randomly assigned letters.

— Indicates that the provider did not serve SES participants.

Source: Chicago Public Schools administrative data, 2004–05 through 2008–09.

Exhibit E.4
Number and Percentage of Students Participating in SES, by Provider Type and by Grade,
in Chicago, 2004–05 Through 2008–09

Grade	2004–05			2005–06			2006–07			2007–08			2008–09		
	Total Number of Students Participating in SES	Provider Type		Total Number of Students Participating in SES	Provider Type		Total Number of Students Participating in SES	Provider Type		Total Number of Students Participating in SES	Provider Type		Total Number of Students Participating in SES	Provider Type	
		Percentage Served by District Provider	Percentage Served by Non-District Providers		Percentage Served by District Provider	Percentage Served by Non-District Providers		Percentage Served by District Provider	Percentage Served by Non-District Providers		Percentage Served by District Provider	Percentage Served by Non-District Providers		Percentage Served by District Provider	Percentage Served by Non-District Providers
3	6,499	53	47	7,426	25	75	4,997	31	69	5,694	24	76	7,789	14	86
4	5,996	48	52	4,243	41	59	3,988	30	70	4,467	23	77	6,305	13	87
5	5,647	48	52	3,314	42	58	3,773	30	70	4,038	22	78	5,616	13	87
6	4,880	48	52	2,945	47	53	4,048	30	70	3,947	25	75	5,706	13	87
7	4,296	46	54	2,804	42	58	3,254	33	67	2,879	21	79	4,324	12	88
8	4,632	50	50	2,899	50	50	2,618	34	66	3,165	23	77	4,317	14	86
Total (n)	31,950	15,580	16,370	23,631	9,017	14,614	22,678	7,065	15,613	24,190	5,610	18,580	34,057	4,505	29,552
Total (%)	100	49	51	100	38	62	100	31	69	100	23	77	100	13	87

Note: SES = Supplemental Educational Services.

Source: Chicago Public Schools administrative data, 2004–05 through 2008–09.

Exhibit E.5
Percentage Distribution of SES Eligible Students in Grades 3–8, by Demographic Characteristics, by Participation Status and by Provider Type, in Chicago, 2004–05 Through 2008–09

Demographic Characteristics	2004–05				2005–06				2006–07				2007–08				2008–09			
	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers
Total <i>n</i>	63,950	22,270	10,445	11,825	75,283	17,609	7,265	10,344	118,646	22,677	7,065	15,612	129,031	24,190	5,610	18,580	135,338	34,057	4,505	29,552
Minority students (%)	98*	99*	99*	99*	99*	99*	99	99	97*	99*	99	99	96*	99*	99	99	96*	98*	99	98
Percentage distribution by race/ethnicity^a																				
African American	61	65	52	77	65	72	71	73	60*	78	79	78	49	62	58	63	46	55	48	56
Hispanic	35	32	44	21	31	24	26	23	33	19	19	19	42	35	39	34	44	40	48	39
White	2	1	1	1	1	1	1	1	3	1	1	1	4	1	1	1	4	2	1	2
Asian	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	2	<1	<1	<1	3	1	<1	1
American Indian	<1	<1	0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Alaska Native	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Multiracial	2	2	2	1	2	2	2	2	2	2	2	2	3	2	2	2	3	2	2	2
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Percentage of students with special needs																				
Students with limited English proficiency	12*	14*	20*	8*	4	11	8	13	8*	5*	4	5	14	14	16	13	14*	16*	20	16
Students with disabilities	14*	13*	13	13	13*	16*	13*	18*	14	14	14	14	12*	13*	13	13	13*	14*	14	14

Notes: SES = Supplemental Educational Services.

In 2004–05, the data provided by Chicago Public Schools did not have the race/ethnicity information for 29,940 eligible students, of whom 9,680 (32 percent) were SES participants. In 2005–06, the data provided did not have the race/ethnicity information for 7,872 eligible students, of whom 6,022 (76 percent) were SES participants. In 2006–07, the data provided did not have the race/ethnicity information for one eligible student, who also participated in SES.

Minority students include African American, Hispanic, Asian, American Indian and multiracial students.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

— Indicates that this demographic group was not identified by the district.

* Indicates a statistically significant difference between the percentage of eligible students and the percentage of participating students in the given demographic group at the 0.05 level.

+ Indicates a statistically significant difference between the percentage of district SES participants and the percentage of non-district SES participants in the given demographic group at the 0.05 level.

^a The distribution of students by race/ethnicity was not tested for significance.

Source: Chicago Public Schools administrative data, 2004–05 through 2008–09.

Exhibit E.6
Number of Eligible and Participating Students and SES Participation Rates
in Grades 3–8, by Race/Ethnicity, in Chicago, 2004–05 Through 2008–09

Race/ Ethnicity	Number of Eligible Students	Number of Participants	Participation Rate (%)	Race/Ethnicity	Number of Eligible Students	Number of Participants	Participation Rate (%)
2004–05				2005–06			
African American	38,818	14,485	37	African American	49,185	12,741	26
Hispanic	22,611	7,090	31	Hispanic	23,017	4,288	19
White	982	247	25	White	1,129	175	16
Asian	253	57	23	Asian	409	45	11
American Indian	33	11	33	American Indian	44	15	34
Alaska Native	—	—	—	Alaska Native	—	—	—
Multiracial	1,253	380	30	Multiracial	1,499	345	23
Total	63,950	22,270	35	Total	75,283	17,609	23
2006–07				2007–08			
African American	71,028	17,728	25	African American	63,821	14,926	23
Hispanic	39,018	4,354	11	Hispanic	53,946	8,483	16
White	3,598	171	5	White	4,761	214	4
Asian	2,116	61	3	Asian	2,843	70	2
American Indian	76	7	9	American Indian	97	8	8
Alaska Native	—	—	—	Alaska Native	—	—	—
Multiracial	2,810	356	13	Multiracial	3,563	489	14
Total	118,646	22,677	19	Total	129,031	24,190	19
2008–09							
African American	62,117	18,774	30				
Hispanic	60,188	13,765	23				
White	5,518	526	10				
Asian	3,685	318	9				
American Indian	103	12	12				
Alaska Native	—	—	—				
Multiracial	3,727	662	18				
Total	135,338	34,057	25				

Notes: SES = Supplemental Educational Services.

In 2004–05, the data provided by Chicago Public Schools did not have the race/ethnicity information for 29,940 eligible students, and 9,680 (32 percent) of those eligible students were SES participants. In 2005–06, the data provided did not have the race/ethnicity information for 7,872 eligible students, and 6,022 (76 percent) of those eligible students were SES participants. In 2006–07, the data provided did not have the race/ethnicity information for one eligible student, who also participated in SES.

— Indicates that this demographic group was not identified by the district.

Source: Chicago Public Schools administrative data, 2004–05 through 2008–09.

Exhibit E.7
Percentage and Number of SES Participants in Grades 3–8,
by Subject and by Provider Type, in Chicago, 2004–05 Through 2008–09

Subject of Services Received	Students Served by All Providers		Students Served by District Provider		Students Served by Non-District Providers	
	Percentage	Number	Percentage	Number	Percentage	Number
2004–05						
Mathematics and reading	—	—	—	—	—	—
Mathematics only	—	—	—	—	—	—
Reading only	—	—	—	—	—	—
No information	100	31,950	100	15,580	100	16,370
Total	100	31,950	100	15,580	100	16,370
2005–06						
Mathematics and reading	—	—	—	—	—	—
Mathematics only	—	—	—	—	—	—
Reading only	—	—	—	—	—	—
No information	100	23,631	100	9,017	100	14,614
Total	100	23,631	100	9,017	100	14,614
2006–07						
Mathematics and reading	—	—	—	—	—	—
Mathematics only	—	—	—	—	—	—
Reading only	—	—	—	—	—	—
No information	100	22,678	100	7,065	100	15,613
Total	100	22,678	100	7,065	100	15,613
2007–08						
Mathematics and reading	—	—	—	—	—	—
Mathematics only	—	—	—	—	—	—
Reading only	—	—	—	—	—	—
No information	100	24,190	100	5,610	100	18,580
Total	100	24,190	100	5,610	100	18,580
2008–09						
Mathematics and reading	—	—	—	—	—	—
Mathematics only	—	—	—	—	—	—
Reading only	—	—	—	—	—	—
No information	100	34,057	100	4,505	100	29,552
Total	100	34,057	100	4,505	100	29,552

Note: SES = Supplemental Educational Services.

— Indicates that the district did not provide data on the subject of tutoring.

Source: Chicago Public Schools administrative data, 2004–05 through 2008–09.

Exhibit E.8
Average Number of Hours of SES Received by Participants in Grades 3–8,
by Provider Type, in Chicago, 2004–05 Through 2008–09

Year	All Providers	District Provider	Non-District Providers
2004–05	55	58	53
2005–06	81	80*	81*
2006–07	38	47*	34*
2007–08	37	46*	34*
2008–09	39	55*	37*

Note: SES = Supplemental Educational Services.

* Indicates a statistically significant difference in average hours between district and non-district providers at the 0.05 level.

Source: Chicago Public Schools administrative data, 2004–05 through 2008–09.

Exhibit E.9
Percentage Distribution of SES Participants in Grades 3–8, by Number of Hours of Services Received and by Provider Type, in Chicago, 2004–05 Through 2008–09

Hours of Services Received	Students Served by All Providers		Students Served by District Provider		Students Served by Non-District Providers	
	Percentage	Number	Percentage	Number	Percentage	Number
2004–05						
Fewer than 20 hours	17	5,391	14	2,164	20	3,227
20–39 hours	19	6,114	18	2,877	20	3,237
40–59 hours	22	6,874	19	3,021	24	3,853
60–79 hours	27	8,785	31	4,821	24	3,964
80 or more hours	15	4,786	17	2,697	13	2,089
Total	100	31,950	100	15,580	100	16,370
2005–06						
Fewer than 20 hours	6	1,345	3*	248	8*	1,097
20–39 hours	5	1,067	6*	549	4*	518
40–59 hours	19	4,439	5*	458	27*	3,981
60–79 hours	14	3,252	8*	755	17*	2,497
80 or more hours	57	13,528	78*	7,007	45*	6,521
Total	100	23,631	100	9,017	100	14,614
2006–07						
Fewer than 20 hours	22	4,939	20*	1,388	23*	3,551
20–39 hours	31	6,947	16*	1,139	37*	5,808
40–59 hours	30	6,858	22*	1,520	34*	5,338
60–79 hours	16	3,740	40*	2,841	6*	899
80 or more hours	1	194	3*	177	<1*	17
Total	100	22,678	100	7,065	100	15,613
2007–08						
Fewer than 20 hours	21	4,980	17*	959	22*	4,021
20–39 hours	39	9,384	22*	1,248	44*	8,136
40–59 hours	27	6,546	26*	1,475	27*	5,071
60–79 hours	13	3,177	33*	1,840	7*	1,337
80 or more hours	0	103	2*	88	<1*	15
Total	100	24,190	100	5,610	100	18,580
2008–09						
Fewer than 20 hours	16	5,581	15*	667	17*	4,914
20–39 hours	31	10,547	12*	552	34*	9,995
40–59 hours	37	12,484	16*	728	40*	11,756
60–79 hours	14	4,876	45*	2,034	10*	2,842
80 or more hours	2	569	12*	524	<1*	45
Total	100	34,057	100	4,505	100	29,552

Notes: SES = Supplemental Educational Services.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

* Indicates a statistically significant difference between the percentage of students receiving the specified hours of SES with the district provider and the percentage of students receiving the specified hours of SES with the non-district providers at the 0.05 level.

Source: Chicago Public Schools administrative data, 2004–05 through 2008–09.

Exhibit E.10
Average Prior (2007–08) Achievement Scores for Students in Grades 3–8,
by 2008–09 Eligibility and Participation Status and by Subject, in Chicago

	Mathematics		Reading	
	Average Prior Achievement Score	Number of Students	Average Prior Achievement Score	Number of Students
Eligibility				
Ineligible students	0.42*	31,742	0.43*	31,571
Eligible students	-0.10*	106,276	-0.11*	105,364
Participation status				
Participants	-0.33 ⁺	25,827	-0.33 ⁺	25,592
Eligible nonparticipants	-0.03 ⁺	80,449	-0.04 ⁺	79,772

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

* Indicates a statistically significant difference between ineligible students and eligible students at the 0.05 level.

⁺ Indicates a statistically significant difference between participants and eligible nonparticipants at the 0.05 level.

Source: Chicago Public Schools administrative data, 2007–08 and 2008–09.

Exhibit E.11
Average Prior (2007–08) Achievement Scores for Participating Students in Grades 3–8,
by 2008–09 Provider Type and by Subject, in Chicago

Provider Type	Mathematics		Reading	
	Average Prior Achievement Score	Number of Participants	Average Prior Achievement Score	Number of Participants
District provider	-0.37	3,389	-0.39*	3,356
Non-district providers	-0.33	22,438	-0.32*	22,236

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

* Indicates a statistically significant difference between district and non-district providers at the 0.05 level.

Source: Chicago Public Schools administrative data, 2007–08 and 2008–09.

Exhibit E.12
Mathematics and Reading Achievement Gains Associated With SES Participation,
for Students in Grades 3–8, Overall and for a Single Year and Multiple Years,
in Chicago, 2002–03 Through 2008–09

	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
Participation				
Overall	0.05* (0.01)	61,843	0.07* (0.01)	62,011
Years of participation				
Students with one year of SES participation	0.05* (0.01)	40,898	0.07* (0.01)	41,017
Students with multiple years of SES participation	0.06* (0.01)	20,945	0.08* (0.01)	20,994

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 742,696 for mathematics and 744,695 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Chicago Public Schools administrative data, 2001–02 through 2008–09.

Exhibit E.13
Mathematics and Reading Achievement Gains Associated With SES Participation,
for Students in Grades 3–8, by Provider Type, in Chicago, 2002–03 Through 2008–09

Provider Type	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
District provider	0.06* (0.01)	21,909	0.03* (0.01)	21,974
Non-district providers	0.04* (0.01)	39,934	0.09* (0.01)	40,037

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 742,696 for mathematics and 744,695 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Chicago Public Schools administrative data, 2001–02 through 2008–09.

Exhibit E.14
**Difference in Achievement Gains Associated With SES Participation for Students Served
 by District and Non-District Providers, in Grades 3–8,
 by Subject, in Chicago, 2002–03 Through 2008–09**

Subject	Difference in Gain: District Minus Non-District (SE)	Number
Mathematics	0.01 (0.01)	61,843
Reading	-0.06* (0.01)	62,011

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

Differences in achievement gains were calculated by subtracting the achievement gains associated with non-district providers from the achievement gains associated with the district provider.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 742,696 for mathematics and 744,695 for reading.

* Indicates that the difference in achievement gains associated with district and non-district providers was statistically significant at the 0.05 level.

Source: Chicago Public Schools administrative data, 2001–02 through 2008–09.

Exhibit E.15
Mathematics and Reading Achievement Gains Associated With SES Participation,
Adjusted for Hours of SES, for Students in Grades 3–8,
by Provider Type, in Chicago, 2002–03 Through 2008–09

	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
Provider type				
District provider	0.02 (0.01)	21,909	-0.05* (0.01)	21,974
Non-district providers	0.02* (0.01)	39,934	0.03* (0.01)	40,037
Hours				
Gain adjusted for hours	0.01* (0.00)	61,843	0.02* (0.00)	62,011

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 742,696 for mathematics and 744,695 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

The measure for hours was coded in units of 10 hours.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Chicago Public Schools administrative data, 2001–02 through 2008–09.

Exhibit E.16
Difference in Achievement Gains Associated With SES Participation
for Students in Grades 3–8 Served by District and Non-District Providers,
Adjusted for Hours of SES, by Subject, in Chicago, 2002–03 Through 2008–09

Subject	Difference in Gain: District Minus Non-District (SE)	Number
Mathematics	0.01 (0.01)	61,843
Reading	-0.08* (0.01)	62,011

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

Differences in achievement gains were calculated by subtracting the achievement gains associated with non-district providers from the achievement gains associated with the district provider.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 742,696 for mathematics and 744,695 for reading.

The measure for hours was coded in units of 10 hours.

* Indicates that the difference in achievement gains associated with district and non-district providers was statistically significant at the 0.05 level.

Source: Chicago Public Schools administrative data, 2001–02 through 2008–09.

Exhibit E.17
Mathematics Achievement Gains Associated With SES Participation
and Average Hours of SES Participation, for Students in Grades 3–8,
by Individual Provider, in Chicago, 2002–03 Through 2008–09

SES Provider	Gain (SE)	Average Hours per Student	Number
District provider	0.06* (0.01)	55	21,909
Non-district provider AY	0.05* (0.01)	56	8,029
Non-district provider BL	0.02 (0.02)	44	4,933
Non-district provider AZ	0.07* (0.02)	40	3,925
Non-district provider AD	0.00 (0.02)	37	3,233
Non-district provider BB	0.04 (0.02)	31	2,697
Non-district provider EJ	0.07* (0.02)	31	2,391
Non-district provider BC	0.06* (0.03)	59	1,446
Non-district provider AR	0.04 (0.02)	21	1,402
Non-district provider BD	0.08* (0.03)	57	1,049
Non-district provider BN	0.02 (0.05)	23	767
Non-district provider N	0.04 (0.04)	31	723
Non-district provider AI	0.12* (0.04)	31	718
Non-district provider EM	0.10* (0.05)	32	717
Non-district provider L	0.03 (0.03)	30	649
Non-district provider P	0.01 (0.04)	27	584
Non-district provider BG	0.00 (0.04)	41	567
Non-district provider BH	-0.01 (0.04)	34	561
Non-district provider BE	0.11* (0.04)	38	485
Non-district provider EB	0.08* (0.03)	25	474
Non-district provider BP	0.12 (0.08)	49	421
Non-district provider BA	0.02 (0.03)	35	402
Non-district provider BF	0.08 (0.05)	33	371
Non-district provider EL	-0.02 (0.06)	28	342
Non-district provider BM	0.09 (0.05)	48	274
Non-district provider EH	-0.05 (0.06)	37	253
Non-district provider BJ	-0.02 (0.06)	30	235
Non-district provider BT	-0.03 (0.04)	46	234

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Exhibit E.17 (continued)
Mathematics Achievement Gains Associated With SES Participation
and Average Hours of SES Participation, for Students in Grades 3–8,
by Individual Provider, in Chicago, 2002–03 Through 2008–09

SES Provider	Gain (SE)	Average Hours per Student	Number
Non-district provider EE	0.06 (0.09)	45	226
Non-district provider BS	0.14* (0.04)	48	171
Non-district provider DZ	0.12* (0.05)	39	160
Non-district provider BO	0.05 (0.08)	35	137
Non-district provider BK	0.06 (0.08)	27	127
Non-district provider EI	0.10 (0.07)	38	119
Non-district provider BR	0.13 (0.08)	37	95
Non-district provider DX	-0.05 (0.11)	38	95
Non-district provider EC	0.08 (0.10)	37	95
Non-district provider EA	0.01 (0.07)	39	83
Non-district provider DY	0.01 (0.09)	22	61
Non-district provider EN	0.09 (0.08)	36	59
Non-district provider EO	-0.02 (0.07)	36	59
Non-district provider EP	0.06 (0.09)	42	57
Non-district provider CZ	0.05 (0.10)	36	55
Non-district provider ED	0.05 (0.05)	27	54
Non-district provider DI	-0.01 (0.10)	38	48
Non-district provider O	-0.15* (0.05)	38	38
Non-district provider BQ	-0.11* (0.02)	16	38
Non-district provider EG	-0.02 (0.04)	47	32
Other providers	0.00 (0.06)	35	243

Notes: SES = Supplemental Educational Services.

Achievement scores are $\hat{\alpha}$ -scores standardized within year, grade level and district.

The “other providers” category includes non-district providers serving fewer than 30 students in mathematics.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 742,696.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

Providers are referenced by randomly assigned letters.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Chicago Public Schools administrative data, 2001–02 through 2008–09.

Exhibit E.18
Reading Achievement Gains Associated With SES Participation
and Average Hours of SES Participation, for Students in Grades 3–8,
by Individual Provider, in Chicago, 2002–03 Through 2008–09

SES Provider	Gain (SE)	Average Hours per Student	Number
District provider	0.03* (0.01)	55	21,974
Non-district provider AY	0.13* (0.02)	56	8,040
Non-district provider BL	0.06* (0.02)	44	4,953
Non-district provider AZ	0.13* (0.02)	40	3,928
Non-district provider AD	0.07* (0.02)	37	3,246
Non-district provider BB	0.13* (0.02)	31	2,698
Non-district provider EJ	0.06* (0.02)	31	2,397
Non-district provider BC	0.12* (0.03)	59	1,452
Non-district provider AR	0.03 (0.02)	21	1,408
Non-district provider BD	0.13* (0.03)	57	1,050
Non-district provider BN	0.00 (0.03)	23	767
Non-district provider N	0.05 (0.03)	30	726
Non-district provider AI	0.10* (0.04)	31	725
Non-district provider EM	0.06 (0.04)	32	718
Non-district provider L	0.06 (0.04)	30	656
Non-district provider P	0.05 (0.03)	27	584
Non-district provider BG	0.10* (0.05)	41	569
Non-district provider BH	0.00 (0.03)	34	561
Non-district provider BE	0.13* (0.05)	38	493
Non-district provider EB	0.08 (0.05)	25	472
Non-district provider BP	0.00 (0.06)	48	422
Non-district provider BA	0.04 (0.04)	35	404
Non-district provider BF	0.11 (0.07)	33	372
Non-district provider EL	0.01 (0.06)	28	340
Non-district provider BM	0.12* (0.05)	47	276
Non-district provider EH	0.09 (0.05)	37	253
Non-district provider BJ	0.13* (0.06)	30	237
Non-district provider BT	-0.02 (0.06)	46	237

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Exhibit E.18 (continued)
Reading Achievement Gains Associated With SES Participation
and Average Hours of SES Participation, for Students in Grades 3–8,
by Individual Provider, in Chicago, 2002–03 Through 2008–09

SES Provider	Gain (SE)	Average Hours per Student	Number
Non-district provider EE	0.06 (0.05)	45	225
Non-district provider BS	-0.06 (0.08)	48	171
Non-district provider DZ	0.08 (0.10)	39	160
Non-district provider BO	0.12 (0.08)	35	138
Non-district provider BK	0.18* (0.06)	27	127
Non-district provider EI	0.10 (0.07)	38	119
Non-district provider BR	0.20 (0.12)	37	96
Non-district provider DX	-0.04 (0.05)	38	95
Non-district provider EC	0.14 (0.07)	37	94
Non-district provider EA	0.13 (0.11)	39	85
Non-district provider EN	0.07 (0.09)	35	61
Non-district provider DY	-0.05 (0.12)	22	60
Non-district provider EO	0.01 (0.09)	36	59
Non-district provider EP	0.15 (0.09)	42	57
Non-district provider CZ	0.01 (0.15)	36	55
Non-district provider ED	0.05 (0.12)	27	53
Non-district provider DI	0.16 (0.12)	38	48
Non-district provider O	0.19 (0.10)	38	38
Non-district provider BQ	0.10* (0.03)	16	38
Non-district provider EG	0.09 (0.09)	47	32
Other providers	0.09 (0.06)	35	242

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The “other providers” category includes non-district providers serving fewer than 30 students in reading.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 744,695.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

Providers are referenced by randomly assigned letters.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Chicago Public Schools administrative data, 2001–02 through 2008–09.

Exhibit E.19
Mathematics and Reading Achievement Gains Associated With SES Participation,
for Students in Grades 3–8, by Academic Year,
in Chicago, 2005–06 Through 2008–09

	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
2005–06 gain	0.06* (0.01)	9,856	0.17* (0.02)	9,890
2006–07 gain	0.04* (0.01)	11,200	0.02* (0.01)	11,213
2007–08 gain	0.06* (0.01)	9,707	0.06* (0.01)	9,730
2008–09 gain	0.07* (0.01)	10,327	0.07* (0.01)	10,353

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 742,696 for mathematics and 744,695 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Chicago Public Schools administrative data, 2001–02 through 2008–09.

APPENDIX F: SUPPLEMENTAL EXHIBITS FOR HILLSBOROUGH

Appendix F: Supplemental Exhibits for Hillsborough

**Exhibit F.1
Percentage and Number of Students Eligible for SES,
by Grade, in Hillsborough, 2004–05 Through 2008–09**

Grade	Students Eligible for SES									
	2004–05 (n = 94,784)		2005–06 (n = 204,062)		2006–07 (n = 203,468)		2007–08 (n = 201,704)		2008–09 (n = 200,782)	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
K	2	337	25	4,032	30	4,881	34	5,310	35	5,388
1	2	356	24	4,191	31	5,329	35	5,858	36	5,976
2	2	296	24	3,832	29	4,726	33	5,409	35	5,719
3	2	309	24	3,829	29	4,705	32	5,171	34	5,647
4	2	279	23	3,562	28	4,415	31	4,796	34	5,323
5	2	266	22	3,523	27	4,192	31	4,865	32	5,033
6	—	—	20	3,112	23	3,608	26	4,073	27	4,273
7	—	—	20	3,306	22	3,501	25	3,942	26	3,993
8	—	—	19	3,169	21	3,500	24	3,761	25	3,944
9	—	—	6	1,020	6	988	6	945	9	1,489
10	—	—	6	864	6	903	6	821	8	1,236
11	—	—	5	712	5	702	5	757	8	1,061
12	—	—	4	481	5	598	2	305	5	645
Total	2	1,843	17	35,633	21	42,048	23	46,013	25	49,727

Note: SES = Supplemental Educational Services.

— Indicates that the district did not provide eligibility information.

Source: Hillsborough School District administrative data, 2004–05 through 2008–09.

Exhibit F.2
Percentage and Number of Eligible Students Participating in SES,
by Grade, in Hillsborough, 2004–05 Through 2008–09

Grade	Eligible Students Participating in SES									
	2004–05		2005–06		2006–07		2007–08		2008–09	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
K	17	57	9	370	16	788	7	354	3	159
1	14	50	16	680	21	1,136	13	744	9	537
2	14	41	17	637	24	1,119	16	844	18	1,032
3	16	48	16	595	21	980	18	924	21	1,178
4	8	23	14	498	16	723	15	734	19	1,032
5	17	46	11	402	15	640	14	688	17	869
6	—	—	5	158	7	240	6	261	10	408
7	—	—	4	139	4	153	4	146	7	288
8	—	—	3	105	5	188	3	130	4	164
9	—	—	2	19	2	23	2	18	2	28
10	—	—	2	17	2	19	2	15	3	38
11	—	—	2	15	1	9	2	14	3	37
12	—	—	1	5	2	10	2	7	2	16
Total	14	265	10	3,640	14	6,028	11	4,879	12	5,786

Note: SES = Supplemental Educational Services.

— Indicates that the district did not provide participation information.

Source: Hillsborough School District administrative data, 2004–05 through 2008–09.

Exhibit F.3
Percentage and Number of Students in Grades K–12 Participating in SES,
by Provider, in Hillsborough, 2004–05 Through 2008–09

SES Provider	Students Participating in SES									
	2004–05		2005–06		2006–07		2007–08		2008–09	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
District provider	—	—	—	—	16	944	17	809	18	1,055
Non-district provider A	—	—	—	—	1	69	—	—	—	—
Non-district provider B	—	—	—	—	4	262	4	188	2	133
Non-district provider C	—	—	—	—	—	—	—	—	1	41
Non-district provider H	—	—	17	608	20	1,191	18	877	20	1,165
Non-district provider I	14	36	20	721	13	797	—	—	—	—
Non-district provider J	—	—	3	117	13	765	11	554	17	977
Non-district provider K	—	—	8	292	5	320	4	198	2	130
Non-district provider L	18	48	8	303	5	294	4	183	4	219
Non-district provider M	—	—	—	—	5	293	6	284	—	—
Non-district provider N	—	—	8	293	3	206	—	—	—	—
Non-district provider O	5	14	5	178	2	148	1	31	—	—
Non-district provider P	—	—	2	68	2	142	2	104	1	72
Non-district provider Q	—	—	1	39	2	118	1	39	<1	26
Non-district provider R	—	—	8	292	2	105	1	31	1	29
Non-district provider S	—	—	—	—	1	82	—	—	<1	10
Non-district provider T	3	7	2	65	1	64	2	76	1	73
Non-district provider U	—	—	2	67	1	66	1	35	—	—
Non-district provider V	—	—	1	27	1	57	—	—	—	—
Non-district provider W	—	—	—	—	1	42	—	—	—	—
Non-district provider Y	—	—	3	95	1	31	—	—	—	—
Non-district provider Z	—	—	—	—	<1	21	1	27	<1	22
Non-district provider AA	—	—	—	—	<1	5	—	—	—	—
Non-district provider AB	—	—	—	—	<1	4	—	—	—	—
Non-district provider AC	—	—	—	—	<1	2	<1	17	—	—
Non-district provider AD	20	54	4	134	—	—	1	35	—	—
Non-district provider AE	10	27	2	61	—	—	—	—	—	—
Non-district provider AF	—	—	2	55	—	—	—	—	—	—
Non-district provider AG	—	—	1	51	—	—	—	—	—	—
Non-district provider AH	18	48	1	53	—	—	—	—	—	—
Non-district provider AI	—	—	1	37	—	—	—	—	—	—
Non-district provider AJ	3	9	1	39	—	—	—	—	—	—
Non-district provider AK	—	—	1	26	—	—	—	—	—	—
Non-district provider AL	—	—	<1	17	—	—	—	—	—	—
Non-district provider AU	6	16	—	—	—	—	1	56	—	—
Non-district provider AZ	—	—	<1	2	—	—	—	—	—	—
Non-district provider CP	—	—	—	—	—	—	—	—	1	63
Non-district provider CQ	—	—	—	—	—	—	—	—	8	449
Non-district provider CR	—	—	—	—	—	—	21	1,006	9	543
Non-district provider CT	—	—	—	—	—	—	—	—	<1	15
Non-district provider CU	—	—	—	—	—	—	—	—	1	72
Non-district provider CW	—	—	—	—	—	—	—	—	<1	11

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Exhibit F.3 (continued)
Percentage and Number of Students in Grades K–12 Participating in SES,
by Provider, in Hillsborough, 2004–05 Through 2008–09

SES Provider	Students Participating in SES									
	2004–05		2005–06		2006–07		2007–08		2008–09	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
Non-district provider CX	—	—	—	—	—	—	1	30	—	—
Non-district provider CY	—	—	—	—	—	—	—	—	1	53
Non-district provider CZ	—	—	—	—	—	—	<1	15	<1	15
Non-district provider DA	—	—	—	—	—	—	<1	4	<1	26
Non-district provider DB	—	—	—	—	—	—	—	—	1	34
Non-district provider DC	—	—	—	—	—	—	—	—	<1	6
Non-district provider DE	—	—	—	—	—	—	—	—	1	83
Non-district provider DG	—	—	—	—	—	—	2	98	5	289
Non-district provider DH	—	—	—	—	—	—	1	33	—	—
Non-district provider DI	—	—	—	—	—	—	1	50	1	52
Non-district provider DJ	—	—	—	—	—	—	—	—	1	66
Non-district provider DK	—	—	—	—	—	—	<1	10	—	—
Non-district provider DL	—	—	—	—	—	—	<1	23	—	—
Non-district provider DM	—	—	—	—	—	—	<1	8	<1	4
Non-district provider DN	—	—	—	—	—	—	1	36	1	48
Non-district provider DQ	—	—	—	—	—	—	<1	22	—	—
Non-district provider DR	—	—	—	—	—	—	—	—	<1	5
Non-district provider FK	2	6	—	—	—	—	—	—	—	—
Total	100	265	100	3,640	100	6,028	100	4,879	100	5,786

Notes: SES = Supplemental Educational Services.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

Providers are referenced randomly by letters.

2004–05 data included only grades K–5.

— Indicates that the provider did not serve SES participants.

Source: Hillsborough School District administrative data, 2004–05 through 2008–09.

Exhibit F.4
Number and Percentage of Students Participating in SES,
by Provider Type and by Grade, in Hillsborough, 2006–07 Through 2008–09

Grade	2006–07			2007–08			2008–09		
	Total Number of Students Participating in SES	Provider Type		Total Number of Students Participating in SES	Provider Type		Total Number of Students Participating in SES	Provider Type	
		Percentage Served by District Provider	Percentage Served by Non-District Providers		Percentage Served by District Provider	Percentage Served by Non-District Providers		Percentage Served by District Provider	Percentage Served by Non-District Providers
K	788	14	86	354	16	84	159	20	80
1	1,136	16	84	744	17	83	537	20	80
2	1,119	16	84	844	19	81	1,032	18	82
3	980	17	83	924	16	84	1,178	17	83
4	723	17	83	734	16	84	1,032	16	84
5	640	15	85	688	15	85	869	16	84
6	240	15	85	261	15	85	408	24	76
7	153	12	88	146	18	82	288	22	78
8	188	16	84	130	15	85	164	22	78
9	23	4	96	18	6	94	28	7	93
10	19	11	89	15	20	80	38	28	82
11	9	0	100	14	14	86	37	24	76
12	10	0	100	7	14	86	16	13	88
Total (n)	6,028	944	5,084	4,879	809	4,070	5,786	1,055	4,731
Total (%)	100	16	84	100	17	83	100	18	82

Note: SES = Supplemental Educational Services.

Source: Hillsborough School District administrative data, 2006–07 through 2008–09.

Exhibit F.5
Percentage Distribution of SES Eligible Students in Grades K–12, by Demographic Characteristics,
by Participation Status and by Provider Type, in Hillsborough, 2006–07 Through 2008–09

Demographic Characteristics	2006–07				2007–08				2008–09			
	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers	All Eligible	All Participants	Served by District Provider	Served by Non-District Providers
Total <i>n</i>	42,048	6,028	944	5,084	46,013	4,879	809	4,070	49,727	5,786	1,055	4,731
Minority students (%)	83*	87*	85	87	84*	87*	84+	88+	84*	87*	84+	87*
Percentage distribution by race/ethnicity^a												
African American	35	33	36	32	35	38	35	38	34	38	35	39
Hispanic	43	48	45	49	43	44	42	44	43	43	43	43
White	17	13	15	13	16	13	16	12	1	13	16	13
Asian	1	1	1	1	1	1	1	1	1	1	1	1
American Indian	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Alaska Native	—	—	—	—	—	—	—	—	—	—	—	—
Multiracial	4	4	3	4	5	5	5	5	5	4	5	4
Total	100	100	100	100	100	100	100	100	100	100	100	100
Percentage of students with special needs												
Students with limited English proficiency	27*	37*	34	38	27*	33*	35	33	26*	33*	35	32
Students with disabilities	18*	21*	23	21	18*	24*	24	24	18*	28*	29	28

Notes: SES = Supplemental Educational Services.

Minority students include African American, Hispanic, Asian, American Indian and multiracial students.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

— Indicates that this demographic group was not identified by the district.

* Indicates a statistically significant difference between the percentage of eligible students and the percentage of participating students in the given demographic group at the 0.05 level.

+ Indicates a statistically significant difference between the percentage of district SES participants and the percentage of non-district SES participants in the given demographic group at the 0.05 level.

^a The difference in the distribution of students by race/ethnicity was not tested for significance.

Source: Hillsborough School District administrative data, 2006–07 through 2008–09.

Exhibit F.6
Number of Eligible and Participating Students and SES Participation Rates
in Grades K–12, by Race/Ethnicity, in Hillsborough, 2006–07 Through 2008–09

Race/Ethnicity	Number of Eligible Students	Number of Participants	Participation Rate (%)
2006–07			
African American	14,652	1,979	14
Hispanic	17,921	2,911	16
White	7,047	810	11
Asian	563	70	12
American Indian	78	9	12
Alaska Native	—	—	—
Multiracial	1,787	249	14
Total	42,048	6,028	14
2007–08			
African American	16,220	1,842	11
Hispanic	19,706	2,129	11
White	7,224	614	8
Asian	651	66	10
American Indian	70	6	9
Alaska Native	—	—	—
Multiracial	2,142	222	10
Total	46,013	4,879	11
2008–09			
African American	16,876	2,192	13
Hispanic	21,557	2,502	12
White	8,137	761	9
Asian	734	67	9
American Indian	69	10	14
Alaska Native	—	—	—
Multiracial	2,354	254	11
Total	49,727	5,786	12

Note: SES = Supplemental Educational Services.

— Indicates that this demographic group was not identified by the district.

Source: Hillsborough School District administrative data, 2006–07 through 2008–09.

Exhibit F.7
Percentage and Number of SES Participants in Grades K–12,
by Subject and by Provider Type, in Hillsborough, 2006–07 Through 2008–09

Subject of Services Received	Students Served by All Providers		Students Served by District Provider		Students Served by Non-District Providers	
	Percentage	Number	Percentage	Number	Percentage	Number
2006–07						
Mathematics and reading	<1	27	1	5	<1	22
Mathematics only	21	1,252	30	287	19	965
Reading only	79	4,749	69	652	81	4,097
No information	0	0	0	0	0	0
Total	100	6,028	100	944	100	5,084
2007–08						
Mathematics and reading	2	74	1	9	2	65
Mathematics only	24	1,169	23	188	24	981
Reading only	75	3,636	76	612	74	3,024
No information	0	0	0	0	0	0
Total	100	4,879	100	809	100	4,070
2008–09						
Mathematics and reading	1	39	1	7	1	32
Mathematics only	29	1,659	26	275	29	1,384
Reading only	71	4,088	73	773	70	3,315
No information	0	0	0	0	0	0
Total	100	5,786	100	1,055	100	4,731

Notes: SES = Supplemental Educational Services.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

Source: Hillsborough School District administrative data, 2006–07 through 2008–09.

Exhibit F.8
Average Number of Hours of SES Received by Participants in Grades K–12,
by Provider Type, in Hillsborough, 2004–05 Through 2008–09

Year	All Providers	District Provider	Non-District Providers
2004–05	25	—	25
2005–06	23	—	23
2006–07	22	22	23
2007–08	23	32*	22*
2008–09	22	29*	21*

Notes: SES = Supplemental Educational Services.

2004–05 data included only grades K–5.

— Indicates that data were not available because the district did not provide SES at this time.

* Indicates a statistically significant difference in average hours between district and non-district providers at the 0.05 level.

Source: Hillsborough School District administrative data, 2004–05 through 2008–09.

Exhibit F.9
Percentage Distribution of SES Participants in Grades K–12, by Number of Hours of Services Received and by Provider Type, in Hillsborough, 2004–05 Through 2008–09

Hours of Services Received	Students Served by All Providers		Students Served by District Provider		Students Served by Non-District Providers	
	Percentage	Number	Percentage	Number	Percentage	Number
2004–05						
Fewer than 20 hours	21	55	—	—	21	55
20–39 hours	79	210	—	—	79	210
40–59 hours	0	0	—	—	0	0
60–79 hours	0	0	—	—	0	0
80 or more hours	0	0	—	—	0	0
Total	100	265	—	—	100	265
2005–06						
Fewer than 20 hours	38	1,387	—	—	38	1,387
20–39 hours	55	2,009	—	—	55	2,009
40–59 hours	6	232	—	—	6	232
60–79 hours	<1	12	—	—	<1	12
80 or more hours	0	0	—	—	0	0
Total	100	3,640	—	—	100	3,640
2006–07						
Fewer than 20 hours	32	1,952	45*	422	30*	1,530
20–39 hours	63	3,824	46*	434	67*	3,390
40–59 hours	4	251	9*	87	3*	164
60–79 hours	<1	1	<1*	1	0*	0
80 or more hours	0	0	0	0	0	0
Total	100	6,028	100	944	100	5,084
2007–08						
Fewer than 20 hours	30	1,487	24*	197	32*	1,290
20–39 hours	64	3,139	47*	381	68*	2,758
40–59 hours	4	190	21*	168	1*	22
60–79 hours	1	63	8*	63	0*	0
80 or more hours	0	0	0	0	0	0
Total	100	4,879	100	809	100	4,070
2008–09						
Fewer than 20 hours	32	1,861	35*	372	31*	1,489
20–39 hours	62	3,616	39*	410	68*	3,206
40–59 hours	4	259	21*	223	1*	36
60–79 hours	1	48	5*	48	0*	0
80 or more hours	<1	2	<1*	2	0*	0
Total	100	5,786	100	1,055	100	4,731

Notes: SES = Supplemental Educational Services.

Percentages may not total 100 due to rounding. Percentages less than one (<1) are less than 0.5 percent but greater than zero.

2004–05 data included only grades K–5.

— Indicates that data were not available because the district did not provide SES at this time.

* Indicates a statistically significant difference between the percentage of students receiving the specified hours of SES with the district provider and the percentage of students receiving the specified hours of SES with the non-district providers at the 0.05 level.

Source: Hillsborough School District administrative data, 2004–05 through 2008–09.

Exhibit F.10
Average Prior (2007–08) Achievement Scores for Students in Grades 3–10,
by 2008–09 Eligibility and Participation Status and by Subject, in Hillsborough

	Mathematics		Reading	
	Average Prior Achievement Score	Number of Students	Average Prior Achievement Score	Number of Students
Eligibility				
Ineligible students	0.13*	83,044	0.13*	83,197
Eligible students	-0.40*	23,299	-0.44*	23,317
Participation status				
Participants	-0.80 ⁺	2,700	-0.84 ⁺	2,706
Eligible nonparticipants	-0.35 ⁺	20,599	-0.38 ⁺	20,611

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

* Indicates a statistically significant difference between ineligible students and eligible students at the 0.05 level.

⁺ Indicates a statistically significant difference between participants and eligible nonparticipants at the 0.05 level.

Source: Hillsborough School District administrative data, 2007–08 and 2008–09.

Exhibit F.11
Average Prior (2007–08) Achievement Scores for Participating Students in Grades 3–10,
by 2008–09 Provider Type and by Subject, in Hillsborough

Provider Type	Mathematics		Reading	
	Average Prior Achievement Score	Number of Participants	Average Prior Achievement Score	Number of Participants
District provider	-0.82	477	-0.87	480
Non-district providers	-0.80	2,223	-0.83	2,226

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

* Indicates a statistically significant difference between district and non-district providers at the 0.05 level.

Source: Hillsborough School District administrative data, 2007–08 and 2008–09.

Exhibit F.12
Mathematics and Reading Achievement Gains Associated With SES Participation,
for Students in Grades 3–10, Overall and for a Single Year and Multiple Years,
in Hillsborough, 2003–04 Through 2008–09

	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
Participation				
Overall	0.12* (0.02)	1,658	0.06* (0.02)	2,441
Years of participation				
Students with one year of SES participation	0.13* (0.03)	1,283	0.07* (0.02)	1,870
Students with multiple years of SES participation	0.08 (0.05)	375	0.06 (0.04)	571

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 404,595 for mathematics and 405,995 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Hillsborough School District administrative data, 2002–03 through 2008–09.

Exhibit F.13
Mathematics and Reading Achievement Gains Associated With SES Participation,
for Students in Grades 3–10, by Provider Type,
in Hillsborough, 2003–04 Through 2008–09

Provider Type	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
District provider	0.11* (0.05)	293	0.10 (0.07)	281
Non-district providers	0.13* (0.03)	1,342	0.06* (0.02)	2,129

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 404,571 for mathematics and 405,963 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Hillsborough School District administrative data, 2002–03 through 2008–09.

Exhibit F.14
Difference in Achievement Gains Associated With SES Participation
for Students Served by District and Non-District Providers,
in Grades 3–10, by Subject, in Hillsborough, 2003–04 Through 2008–09

Subject	Difference in Gain: District Minus Non-District (SE)	Number
Mathematics	-0.01 (0.06)	1,635
Reading	0.04 (0.07)	2,410

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

Differences in achievement gains were calculated by subtracting the achievement gains associated with non-district providers from the achievement gains associated with the district provider.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 404,571 for mathematics and 405,963 for reading.

* Indicates that the difference in achievement gains associated with district and non-district providers was statistically significant at the 0.05 level.

Source: Hillsborough School District administrative data, 2002–03 through 2008–09.

Exhibit F.15
Mathematics and Reading Achievement Gains Associated With SES Participation,
Adjusted for Hours of SES, for Students in Grades 3–10,
by Provider Type, in Hillsborough, 2003–04 Through 2008–09

	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
Provider type				
District provider	-0.01 (0.07)	293	0.08 (0.08)	281
Non-district providers	0.03 (0.05)	1,342	0.04 (0.04)	2,129
Hours				
Gain adjusted for hours	0.05* (0.02)	1,635	0.01 (0.02)	2,410

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 404,571 for mathematics and 405,963 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

The measure for hours was coded in units of 10 hours.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Hillsborough Public Schools administrative data, 2002–03 through 2008–09.

Exhibit F.16
Difference in Achievement Gains Associated With SES Participation
for Students in Grades 3–10 Served by District and Non-District Providers,
Adjusted for Hours of SES, by Subject, in Hillsborough, 2003–04 Through 2008–09

Subject	Difference in Gain: District Minus Non-District (SE)	Number
Mathematics	-0.04 (0.06)	1,635
Reading	0.04 (0.07)	2,410

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

Differences in achievement gains were calculated by subtracting the achievement gains associated with non-district providers from the achievement gains associated with the district provider.

The *number* column indicates the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 404,571 for mathematics and 405,963 for reading.

The measure for hours was coded in units of 10 hours.

* Indicates that the difference in achievement gains associated with district and non-district providers was statistically significant at the 0.05 level.

Source: Hillsborough School District administrative data, 2002–03 through 2008–09.

Exhibit F.17
Mathematics Achievement Gains Associated With SES Participation
and Average Hours of SES Participation, for Students in Grades 3–10,
by Individual Provider, in Hillsborough, 2003–04 Through 2008–09

SES Provider	Gain (SE)	Average Hours per Student	Number
District provider	0.11* (0.05)	26	293
Non-district provider H	0.18* (0.07)	23	224
Non-district provider CR	0.24* (0.08)	19	178
Non-district provider L	0.07 (0.08)	18	116
Non-district provider K	0.23* (0.09)	21	106
Non-district provider J	0.11 (0.11)	20	103
Non-district provider I	0.13 (0.09)	19	102
Non-district provider Q	0.10 (0.12)	23	52
Non-district provider N	0.06 (0.11)	31	37
Other providers	0.06 (0.04)	20	447

Notes: SES = Supplemental Educational Services.

Achievement scores are \bar{x} -scores standardized within year, grade level and district.

The “other providers” category includes non-district providers serving fewer than 30 students in mathematics.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 404,595.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

Providers are reference by randomly assigned letters.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Hillsborough School District administrative data, 2002–03 through 2008–09.

Exhibit F.18
Reading Achievement Gains Associated With SES Participation
and Average Hours of SES Participation, for Students in Grades 3–10,
by Individual Provider, in Hillsborough, 2003–04 Through 2008–09

SES Provider	Gain (SE)	Average Hours per Student	Number
Non-district provider H	0.03 (0.06)	25	336
Non-district provider J	0.08 (0.06)	22	328
District provider	0.10 (0.07)	25	281
Non-district provider K	0.03 (0.07)	23	170
Non-district provider I	0.08 (0.08)	18	166
Non-district provider CR	0.01 (0.08)	19	154
Non-district provider M	-0.05 (0.09)	18	146
Non-district provider L	-0.01 (0.07)	17	115
Non-district provider N	0.11 (0.19)	31	59
Non-district provider Q	0.15 (0.21)	23	50
Other providers	0.10* (0.04)	22	636

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The “other providers” category includes non-district providers serving fewer than 30 students in reading.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 405,995.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

Providers are referenced by randomly assigned letters.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Hillsborough School District administrative data, 2002–03 through 2008–09.

Exhibit F.19
Mathematics and Reading Achievement Gains Associated With SES Participation,
for Students in Grades 3–10, by Academic Year,
in Hillsborough, 2005–06 Through 2008–09

	Mathematics		Reading	
	Gain (SE)	Number	Gain (SE)	Number
2005–06 gain	0.12 (0.06)	182	0.06 (0.04)	599
2006–07 gain	0.10* (0.04)	502	0.06 (0.04)	713
2007–08 gain	0.11* (0.05)	483	0.04 (0.05)	680
2008–09 gain	0.18* (0.05)	468	0.12* (0.05)	418

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

The *number* column includes the number of achievement gain scores that contributed to the estimate.

The total number of achievement gain scores in the analysis was 404,595 for mathematics and 405,995 for reading.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Hillsborough School District administrative data, 2002–03 through 2008–09.

APPENDIX G: COMPARISON OF FULL AND PARTIAL SAMPLES ON SES PROVIDER TYPE ACHIEVEMENT GAINS

Appendix G: Comparison of Full and Partial Samples on SES Provider Type Achievement Gains

This appendix describes sensitivity tests conducted to examine how different choices of the analysis sample would affect the achievement gains associated with SES participation, relative to nonparticipation. The gains reported in the body of the report and appendices are based on all students in the district with at least two achievement gain scores. Although this approach makes maximal use of the available data, many of the students in the full sample either never participated in SES or participated in all years for which data are available. Although these students contribute to the estimation of many variables in the model, they do not contribute to the estimated impact of SES participation. Thus, a reasonable alternative approach would be to estimate the achievement gains associated with SES participation by restricting the sample to only students who participated in SES in some years but not others.

To examine how the sample choice affects the achievement gains associated with SES participation, we assessed the gains by provider type based on both the full sample and the restricted sample. The two samples included the following students:

1. Full Sample—All students in each district with at least two achievement gain scores.
2. Restricted Sample—Only students who participated in SES in some years and not in other years who also had at least two achievement gain scores.

In a simple model with SES participation as the only independent variable, achievement gains associated with SES participation, relative to nonparticipation, will be the same for both full-sample and restricted-sample analyses. This situation is the case because in both models only students with at least one period of participation and one period of nonparticipation will contribute to the estimates. However, the models used for this evaluation included additional variables: eligibility, grade, year and grade-by-year interactions. The estimated coefficients of these variables may differ for the full and restricted samples, and these differences may influence the estimated gains associated with SES participation.

Specifically, the estimated achievement gains from full-sample analyses and restricted-sample analyses are similar in most cases, although the analyses based on the restricted sample did not generate as many significant findings (see Appendix Exhibits G.1 and G.2). The one exception was Boston, where findings based on the two samples differed. On the basis of the full sample, SES participation was not associated with statistically significant achievement gains in Boston for either provider type. On the basis of the restricted sample, however, for students served by the district provider, SES participation was associated with statistically significant achievement gains in mathematics and all other gains remained not statistically significant. Therefore, the results for Boston should be interpreted with caution because they are sensitive to the choice of the analytic sample on which the estimates are based.

Exhibit G.1
Mathematics Achievement Gains Associated With SES Participation,
by School District, by Provider Type and by Sample Type

	District Provider		Non-District Providers		Number of Students	
	Full Sample	Restricted Sample	Full Sample	Restricted Sample	Full Sample	Restricted Sample
Anchorage	0.05	0.09	0.10	0.17	28,155	312
Boston	0.04	0.08*	0.05	0.02	12,022	2,031
Charlotte-Mecklenburg	0.23*	0.23	0.10	0.10	47,005	701
Chicago	0.06*	0.06*	0.04*	0.05*	220,419	48,403
Hillsborough	0.11*	0.12*	0.13*	0.14*	113,169	1,545

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

The grades included in analyses vary by district: grades 3–8 in Boston, Chicago and Charlotte-Mecklenburg; and grades 3–10 in Anchorage and Hillsborough. Not all grades are included in all years for Anchorage and Boston due to changes in tested grades during the study years.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Administrative data provided by the Chicago school district, 2001–02 through 2008–09; the Boston and Hillsborough school districts, 2002–03 through 2008–09; the Anchorage school district, 2003–04 through 2008–09; and the Charlotte-Mecklenburg school district, 2004–05 through 2008–09.

Exhibit G.2
Reading Achievement Gains Associated With SES Participation,
by School District, by Provider Type and by Sample Type

	District Provider		Non-District Providers		Number of Students	
	Full Sample	Restricted Sample	Full Sample	Restricted Sample	Full Sample	Restricted Sample
Anchorage	0.10	0.07	0.00	-0.02	28,141	321
Boston	0.03	0.03	0.00	-0.03	11,774	2,002
Charlotte-Mecklenburg	0.04	0.07	0.02	0.02	47,112	1,333
Chicago	0.03*	0.04*	0.09*	0.09*	220,786	48,517
Hillsborough	0.10	0.07	0.06*	0.05	113,481	2,201

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

The grades included in analyses vary by district: grades 3–8 in Boston, Chicago and Charlotte-Mecklenburg; and grades 3–10 in Anchorage and Hillsborough. Not all grades are included in all years for Anchorage and Boston due to changes in tested grades during the study years.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Administrative data provided by the Chicago school district, 2001–02 through 2008–09; the Boston and Hillsborough school districts, 2002–03 through 2008–09; the Anchorage school district, 2003–04 through 2008–09; and the Charlotte-Mecklenburg school district, 2004–05 through 2008–09.

**APPENDIX H:
AVERAGE ACHIEVEMENT GAINS ASSOCIATED
WITH SES PARTICIPATION
ACROSS FIVE DISTRICTS**

Appendix H: Average Achievement Gains Associated With SES Participation Across Five Districts

This evaluation is a multisite study in which each of the five districts constitutes a study site and achievement gains associated with SES participation were assessed within each individual site. Once the site-specific gains were obtained, it was possible to calculate average achievement gains across the five districts. Two alternative approaches for combining effects across study sites are the fixed-effects approach and the random-effects approach. These two approaches are based on different assumptions about the nature of the study sample and the variation in gains across sites and, therefore, have different implications for the analytic method used for combining gains.

Under the fixed-effects approach, each study site is regarded as a unique entity (for example, as in a purposive sample), and the goal of the study is to understand the treatment effect just for the sites included in the particular study sample rather than to generalize study findings to a larger identifiable population of sites. Under the assumption that each unique site has its own unique treatment effect, an appropriate estimator of the overall gain in the fixed-effects approach is the simple mean of the site-specific gains, with equal weight for each site.¹ In contrast, under the random-effect approach, the sites in a study are considered a sample of sites randomly drawn from a larger identifiable population, and the goal of the study is to generalize the treatment effect observed based on the study sites to the larger population of all possible sites. Viewing each site as a random draw from a certain population, an appropriate estimator of the overall gain (that is, the true population gain) under the random-effects approach is the precision-weighted average of site-specific gains, with larger weights given to sites with more precise estimates.

Given that this evaluation included only five study sites (districts), and given the uniqueness of each district, it is not appropriate to construe these particular five districts as a representative sample of a larger, clearly defined population of districts. Therefore, the reported average achievement gains across the five districts are based on the fixed-effects approach rather than on the random-effects approach (see Exhibit H.1). This analytic decision is consistent with Schochet's argument that fixed-effects models are usually more realistic for evaluations of education interventions because the sites in most multisite studies are limited in number, purposively selected, and not representative of a larger, well-defined population.² A previous U.S. Department of Education study used the random-effects approach to combine district-specific effects of SES across districts, but that study included more districts and used different site selection criteria.³

1. H. S. Bloom, "Using 'Short' Interrupted Time-Series Analysis to Measure the Impacts of Whole-School Reforms: With Applications to a Study of Accelerated Schools," *Evaluation Review* 27 (2003): 3–49.

2. P. Z. Schochet, "Statistical Power for Random Assignment Evaluations of Education Programs," *Journal of Educational and Behavioral Statistics* 33, no. 1 (2008): 62–87.

3. U.S. Department of Education, Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service, *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, 2007).

Exhibit H.1
Mathematics and Reading Achievement Gains Associated With SES Participation
Across Five Districts, Overall, by Provider Type and Differences for Students Served
by District and Non-District Providers

Gains Associated With SES Participation	Average Gain Across Districts (SE)	
	Mathematics	Reading
Overall	0.08* (0.02)	0.04* (0.01)
District provider	0.10* (0.03)	0.06* (0.02)
Non-district provider	0.09* (0.02)	0.03 (0.02)
Differences between district and non-district provider gains	0.01 (0.04)	0.03 (0.03)

Notes: SES = Supplemental Educational Services.

Achievement scores are z -scores standardized within year, grade level and district.

All models controlled for student eligibility, grade, year and grade-by-year interactions.

Differences in achievement gains were calculated by subtracting the achievement gains associated with non-district providers from the achievement gains associated with the district provider.

The grades included in analyses vary by district: grades 3–8 in Boston, Chicago and Charlotte-Mecklenburg; and grades 3–10 in Anchorage and Hillsborough. Not all grades are included in all years for Anchorage and Boston due to changes in tested grades during the study years.

* Indicates that the gain was statistically significant at the 0.05 level.

Source: Administrative data provided by the Chicago school district, 2001–02 through 2008–09; the Boston and Hillsborough school districts, 2002–03 through 2008–09; the Anchorage school district, 2003–04 through 2008–09; and the Charlotte-Mecklenburg school district, 2004–05 through 2008–09.



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