



## **Executive Summary**

As part of No Child Left Behind, low-income students who attend schools that have been identified as “in need of improvement” for two (2) consecutive years are eligible to receive free math and reading tutoring services known as Supplemental Educational Services (SES). These tutoring services are offered by private providers and the school district, all of whom are pre-approved by the Illinois State Board of Education. These SES services may include academic assistance in math and reading such as tutoring, remediation and other educational interventions.

To evaluate the effectiveness of the SES program, changes in achievement performance, from the 2005 ITBS to the 2006 ISAT, of SES participants in grades three through eight were compared to other low-income, underachieving students attending the same schools. The cost-effectiveness of specific SES providers was also assessed.

### *Findings*

- In the 2005-2006 academic year, 55,600 students across 324 schools were provided the opportunity to participate in the SES program.
- SES participants represented a group that was in great need of tutoring. Nearly 61% of participants scored at or below the 25<sup>th</sup> percentile on the ITBS reading subtest and 52% scored below the 25<sup>th</sup> percentile on the math subtest.
- Participation in the SES program resulted in a small but significant improvement in reading achievement performance compared to other low-income, low-achieving students, attending the same schools.
- Participation in the SES program resulted in a negligible improvement in student math achievement performance.
- Younger SES participants demonstrated the largest improvement in both reading and math achievement scores, indicating that younger students receive a greater benefit from participating in the SES program.
- Students in the most need of academic help (those with the lowest achievement scores) obtained a greater benefit from participating in the SES program.
- Students tutored in the EdSolutions, Inc., Unparalleled Solutions, Inc., and SCORE! Educational Centers, Inc. programs demonstrated the largest improvement in achievement.
- Students tutored by CS&C and Failure Free Reading typically fell further behind.
- The A.I.M High program was the most cost-effective. Not only is the A.I.M. High program by far the least expensive SES provider, but A.I.M. High students demonstrated significantly more improvement in math and reading achievement than did students tutored by many of the other more expensive providers.

**SES Tutoring Programs:**  
*An evaluation of year 3 in the Chicago Public Schools*

This report presents an evaluation of year three in the implementation of the SES tutoring program in the Chicago Public Schools. As part of No Child Left Behind, low-income students who attend schools that have been identified as “in need of improvement” for two consecutive years are eligible to receive free math and reading tutoring services known as Supplemental Educational Services (SES). These tutoring services are offered by private providers and the school district, all of whom are pre-approved by the Illinois State Board of Education. SES services may include academic assistance in math and reading such as tutoring, remediation and other educational interventions. In this evaluation we examine the characteristics of SES participants, the costs of the program, and the benefit of the program to elementary school participants. We also compare the benefit of the program to elementary school students tutored by the different SES providers.

**Background of 2005-2006 SES program**

During the 2005-2006 school year, approximately 230,000 CPS students were eligible for SES, and approximately 75,000 students registered to receive tutoring. The number of registrants far exceeded the SES budget. As a result, students were prioritized to participate in a manner consistent with district goals. All 3<sup>rd</sup> grade students and high school students interested in receiving SES tutoring were first offered SES tutoring. Of the remaining students, those who performed the *lowest* on the 2005 ITBS reading subtest were given preference in the enrollment process. Given a flexibility agreement that was negotiated between CPS and the US Department of Education, CPS was allowed to offer its own SES program called AIM High. 18,000 students initially registered for the AIM High program. Of those students that registered for AIM High, 11,000 were selected to participate and 7,000 were placed on a waiting list. Ultimately, considering all vendors a total of 43,504 students were offered tutoring in the first phase of the program.

CPS worked to find additional money to provide tutoring to the waitlisted students. Additional funds were made available by the CEOs office to serve the 7,000 students left on the waitlist for the AIM High program. In an effort to serve waitlisted kids who originally signed up with private providers, CPS allowed schools to move students into AIM High classes when there was available space. As a result, 5,000 additional students were placed in AIM High and paid for with local funds. Finally, during the Spring, CPS was able to find additional space for 3,317 students still waitlisted. Ultimately, CPS offered tutoring to 55,600 students as part of the SES program.

**Characteristics of participants in the SES program**

Data were available for 41,645 SES program participants across 324 schools. Participants were nearly equally divided between males (20,958) and females (20,685). Most participants were black (23,273) or Hispanic (17,335), with relatively few being white (634), Asian (369), or American Indian (32). The racial breakdown of SES participants was consistent with the general

CPS elementary school population; although SES participants were more likely to be black and less likely to be white or Asian (Table 1).

**Table 1 Racial Breakdown of SES participants compared to the general student body**

	SES Participants	CPS Elementary Students
Black	55.9%	47.4%
Hispanic	41.6%	39.9%
White	1.5%	7.4%
Asian	0.9%	2.7%
American Indian	0.0%	0.1%

SES participants represented all grade levels (Table 2), but were most represented in elementary school, and especially third grade, with nearly 9,000 students participating.

**Table 2 Number of students in the SES program by grade level**

Grade	Number of Students	%
1	3,002	7.2%
2	3,657	8.8%
3	8,670	20.8%
4	5,003	12.0%
5	4,162	10.0%
6	4,209	10.1%
7	3,485	8.4%
8	3,532	8.5%
9	2,185	5.2%
10	1,646	4.0%
11	1,247	3.0%
12	847	2.0%
Total	41,645	

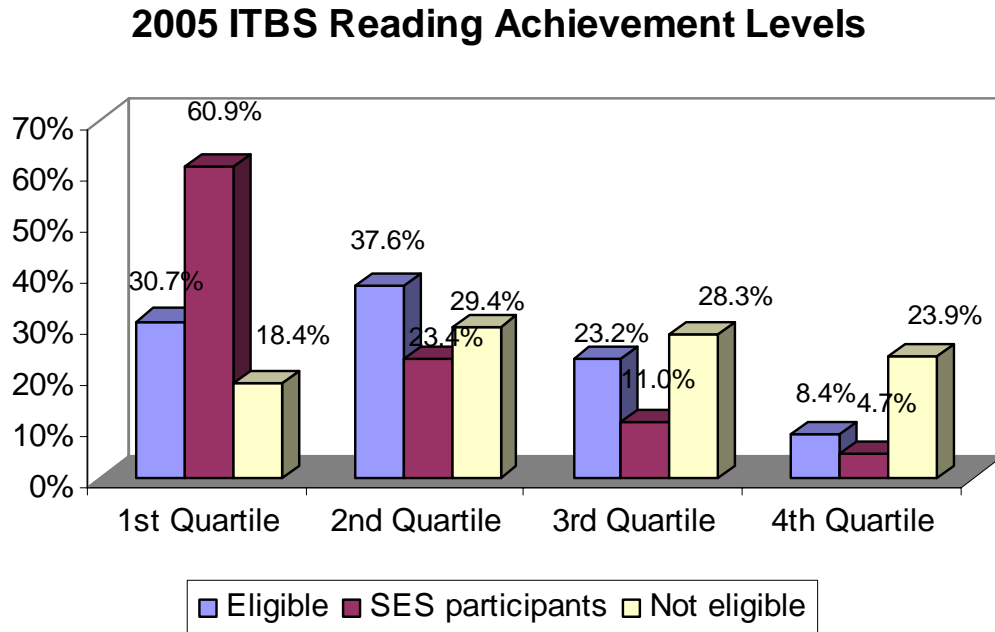
### **Baseline achievement levels of SES participants**

As previously mentioned, not all students that wanted to receive tutoring were able to participate in the SES program. As such, schools were mandated to first offer tutoring services third grade and high school students. Next, students with the lowest reading achievement scores were offered tutoring first. Figures 1 and 2 present the 2005 ITBS achievement quartile breakdown for students that participated in the SES program in grades three through eight, compared to students that were eligible to participate but did not<sup>1</sup>, and to students that were not eligible to participate. The figures clearly demonstrate that students selected to participate represented a group that was in great need of tutoring. Nearly 61% of SES participants scored at or below the 25<sup>th</sup> percentile on the ITBS reading subtest and 52% scored below the 25<sup>th</sup> percentile on the math subtest.

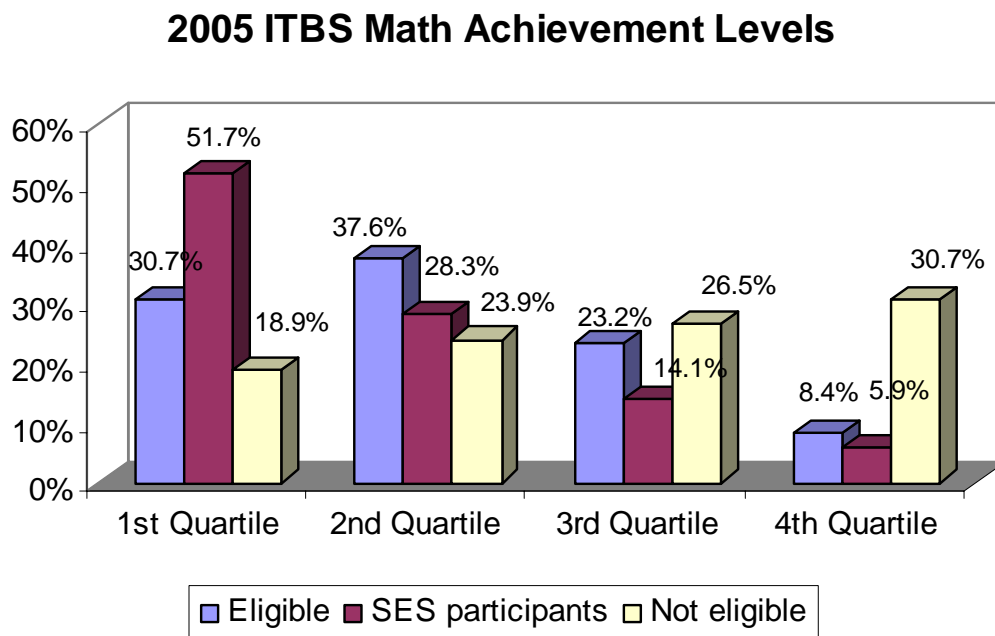
<sup>1</sup> Students eligible that did not participate attended the same schools as participants and were low-income as defined by participating in the free or reduced school lunch program.

Comparatively, only 31% and 36% of students eligible for the SES program but did not receive tutoring scored in the first quartile in reading and math respectively.

**Figure 1 – 2005 ITBS achievement percentages of students in each group**



**Figure 2 – 2005 ITBS achievement percentages of students in each group**



### **Characteristics of SES Providers**

Forty-two programs tutored students during the 2005-2006 academic year. Programs were selected by the Illinois State Board of Education through an RFP process. Table 3 summarizes the number of students offered tutoring, the number data were available for, the number of hours each provider tutored students, the grade levels providers were approved to serve, the costs to provide services to each student, and the cost per hour of tutoring. The A.I.M. High program offered by CPS was the most widely provided program, serving over 16,000 (40%) students. A.I.M High was also by far the least expensive program serving at least 100 students, costing anywhere from 20% to 37% as much per student as others.

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**Table 3 – SES provider descriptive information**

Provider	Number Offered Services	Number Data Available	Grades Served	Hours Provided	Cost per student	Location	Subjects
A.I.M. High – CPS	23,139	16,652	1st-12th	80	\$375	On-site	Reading & Math
Newton Learning	9,425	7,813	1st-8th	80	\$1,570	On-site	Reading & Math
The Princeton Review, Inc.	4,931	3,996	1st-12th	60	\$1,434	On-site	Reading & Math
Education Station, A Sylvan Partnership	5,043	2,830	1st-12th	32	\$1,792	On-site	Reading & Math
Platform Learning, Inc.	3,128	1,782	1st-12th	30	\$1,792	On-site	Reading & Math
Cambridge Educational Services	1,549	1,362	1st-12th	40	\$930	On-site	Reading & Math
Progressive Learning	1,180	950	3rd-12th	45	\$1,900	Online-onsite	Reading & Math
Socratic Learning, Inc.	996	882	3rd-12th	50	\$1867	Online-onsite	Reading & Math
School Service Systems	686	569	1st-12th	80	\$1,790	On-site	Reading & Math
Unparalleled Solutions, Inc.	745	519	1st-12th	80	\$1,581	On-site	Reading & Math
CS&C, Inc.-Julex Learning	561	482	1st-8th	60	\$1,093	On-site	Reading
A+ Tutoring Service, LTD	553	440	1st-12th	80	\$1,740	On-site	Reading & Math
Club Z! Tutoring Services	553	391	1st-12th	40	\$1,792	On-site	Reading & Math
Catapult (online)	2,161	353	3rd-12th	30	\$1,866.94	Online	Reading & Math
Brilliance Academy of Math and English	362	313	1st-12th	60	\$1,792	On-site	Reading & Math
EdSolutions, Inc.	1,035	285	1st-8th	60	\$1,792	On-site	Reading & Math
Brainfuse (One-to-One)	358	266	3rd-12th	50	\$1,750	Online-onsite	Reading & Math
SCORE! Educational Centers, Inc.	207	202	1st-12th	96	\$1,096	Off-site	Reading & Math
Brainfuse Home Tutoring (online)	334	174	3rd-12th	60	\$1,825	Online	Reading & Math
One-to-One Learning Center	202	157	1st-12th	60	\$1,387	On-site	Reading & Math
Failure Free Reading	118	130	1st-12th	40	\$1,729	On-site	Reading
Educational Specialties, Inc.	139	119	1st-12th	44	\$1,685	On-site	Reading & Math
Brain Hurricane, LLC	143	118	1st-8th	48	\$1941	On-site	Reading & Math
PLATO Learning	178	113	1st-8th	30	\$1,405	On-site	Reading & Math
SL@Home (online)	125	108		50	\$1867	Online	Reading & Math
Children's Home & Aid Society of Illinois	105	102	1st-8th	50	\$1,850	On-site	Reading & Math
Reading in Motion	90	92	1,3	60	\$1,792	On-site	Reading
Huntington Learning Centers, Inc.	108	74	1st-12th	40	\$1559.07	On-site	Reading & Math
NCLB Tutors	130	63	1st-12th	60	\$1,575	On-site	Reading & Math
Huntington Learning (offsite)	81	51	1st-12th	40	\$1,512.86	Off-site	Reading & Math
NCLB Tutors (online)	97	43	1st-12th	60	\$1,650	Online	Reading & Math
A+ Education Centers	49	41	1st-12th	48	\$1,074	On-site	Reading & Math
Kumon (offsite)	58	36	1st-12th	60	\$1,209	Off-site	Reading & Math
Spectra Services	45	29	1st-8th	40	\$1,575	On-site	Reading & Math
Babbage Net School (online)	39	28	1st-12th	80	\$360	Online	Reading & Math
KnowledgePoints Learning Centers	27	24	1st-12th	60	\$1,792	On-site	Reading & Math
Wicker Park Learning Center	29	20	1st-12th	60	\$1,500	On-site	Reading & Math
Achieve 3000 (online)	74	14	3rd-12th	120	\$642	Online	Reading
Marilyn G. Rabb Foundation d/b/a/ MGRF	11	9	1st-12th	100	\$1400	On-site	Reading & Math
The Homework Mastery Center/ Train Up a Child	9	7	1st-12th	32	\$806	On-site	Reading & Math
ATS Educational Consulting Services	14	3	1st-8th	30	\$1,200	Online	Reading & Math
KnowledgePoints (offsite)	16	3		60	\$1867	Off-site	Reading & Math
African American Images Talent Center	71	0	1st-12th	40	\$875	On-site	Reading & Math

Note: Tutoring programs occurred on-site unless otherwise noted

## **SES Evaluation Methods**

The principal method used to assess the effectiveness of the SES program was to measure changes in student math and reading achievement from the 2004-2005 ITBS to the 2005-2006 ISAT<sup>2</sup>. Changes in achievement of SES program participants were compared to students eligible to participate in the SES program (low-income students attending underperforming schools) and students not eligible for SES tutoring (either not low-income and/or not in underperforming schools).

### *Participants*

The population of students included in analyses included students in grades 3 through 8 (the 2006 ISAT was administered to students in these grades only), that were not English language learners (defined as being in the first six years of English language education)<sup>3</sup>, and that scored at or below the 50<sup>th</sup> percentile on each 2005 ITBS subtest.<sup>4</sup> SES participants had to receive at least 30 hours of tutoring prior to being administered the ISAT to be included.<sup>5</sup> SES participants that received less than 30 hours of tutoring were excluded from analyses. Appendix A summarizes the breakdown of the number of students included in these analyses.

### *Analysis Plan*

To compare the changes in reading and math achievement of SES participants to the other groups two general linear models (GLM) were created, one predicting reading achievement (n=96,256) and one for math (n=90,713). In each model we compared group differences in 2005-2006 ISAT achievement scale scores after accounting for prior achievement (the 2004-2005 ITBS math and reading scale scores), and demographic differences among the groups (race, gender, grade level, disability status).

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<sup>2</sup> The Chicago Public Schools discontinued its use of the ITBS after the 2004-2005 academic year, when the state of Illinois began administering the ISAT to all students in grades 3 through 8. The Illinois Standards Achievement Test (ISAT) measures individual student achievement relative to the Illinois Learning Standards.

<sup>3</sup> ELL students do not take the ISAT for their first three years, and taking the ISAT is optional for the next three years of their education. Therefore, only students in years seven or higher were included.

<sup>4</sup> To make the three groups more comparable, students scoring at or below the 50<sup>th</sup> percentile in the 2005 reading ITBS subtest were included in the analyses of changes in reading achievement, and students scoring at or below the 50<sup>th</sup> percentile in math were included in the analyses of changes in math achievement. SES participants represented a lower achieving group than the eligible or non eligible groups. As presented in Figures 1 and 2, SES participants were much more likely to score in the first quartile on both the reading and math ITBS subtests.

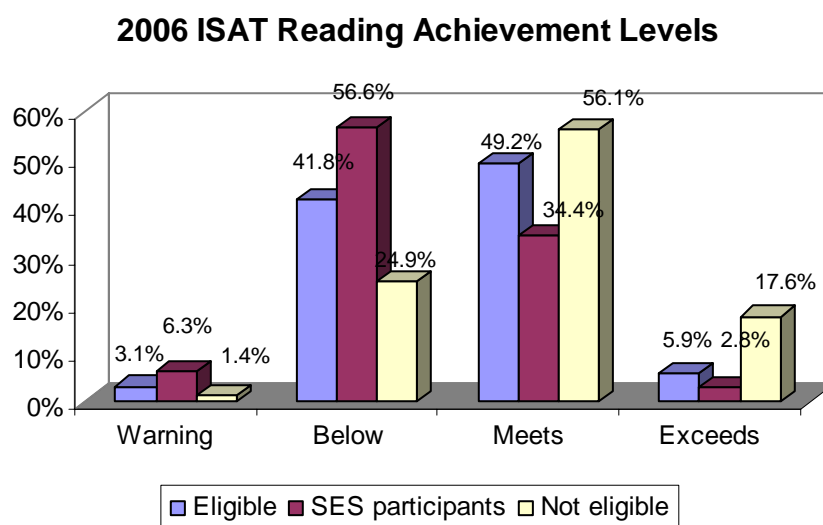
<sup>5</sup> Students receiving less than 30 hours of tutoring and students starting the SES program after March 1<sup>st</sup>, 2006, were not included in the analyses. 30 hours was chosen as a cutoff amount since the fewest number of tutoring hours a provider was supposed to provide was 30.

## SES Program Effectiveness Results

### *Reading Achievement Results*

Figure 3 presents the 2005-2006 ISAT unadjusted reading performance breakdown for each group. SES participants performed the lowest when compared to eligible students that did not receive SES tutoring and non-eligible students. After adjusting for differences due to 2004-2005 ITBS scores, race, gender, grade level, and disability status, SES participants demonstrated a small but significant improvement in reading achievement compared to students eligible that did not receive SES (Appendix B). Translated to ISAT reading scale score points, eligible students scored an average of 0.8 adjusted scale score points lower than SES participants, which translates into a small effect considering the average student scored +/-15.60 adjusted scale score points different from 0. Prior achievement was a much better predictor, uniquely accounting for 8 scale score points in the model, while group membership uniquely accounted for only 1.6 scale score points (Appendix B).

**Figure 3 – 2006 ISAT unadjusted achievement performance**

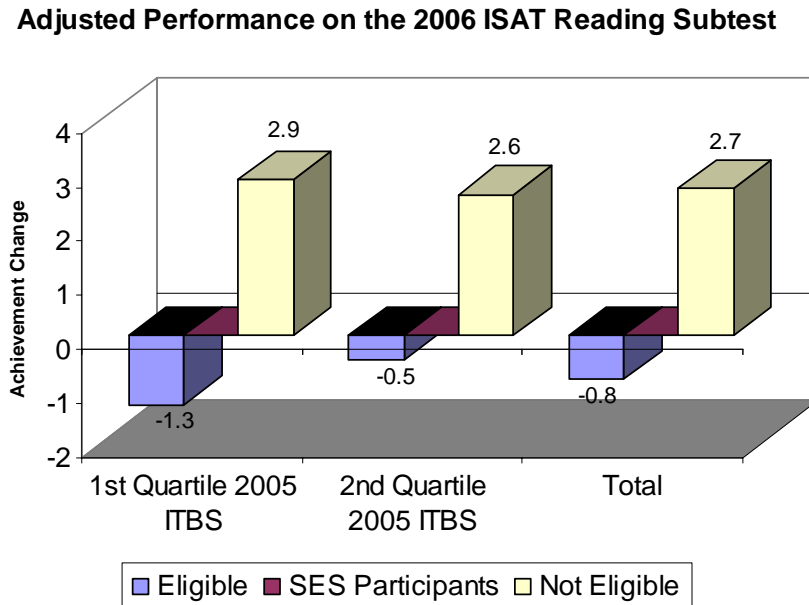


### Reading achievement results by grade level and prior achievement

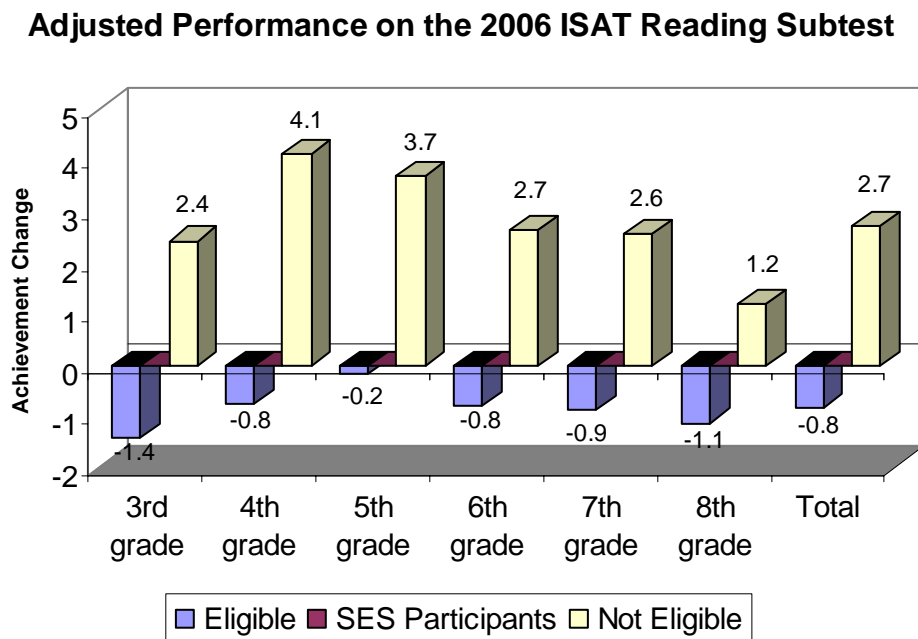
In addition to analyzing the main effects of SES participation, we explored whether students at different achievement levels and grade levels received the same benefit from participating in the SES program. To do this, the interaction terms of SES participation group with grade, and ITBS reading scale scores were added to the models. The results show that the SES program impacted students differently depending on their entering achievement levels, and depending on their grade level (Appendix B). Figure 4 compares the adjusted changes in achievement for students at different entering achievement levels, with changes in achievement of SES participants set as the baseline. This figure shows that the lowest achieving students that were eligible but did not participate in the SES program scored 1.3 ISAT adjusted reading scale points lower than did SES students. Figure 5 breaks down the changes in achievement of the three groups by grade level,

again with the achievement of SES participants set as the baseline: This figure indicates that SES students in 3<sup>rd</sup> grade scored 1.4 adjusted reading scale score points higher than did eligible students that did not participate.

**Figure 4 – Changes in achievement compared to SES participants for students with different beginning achievement levels**



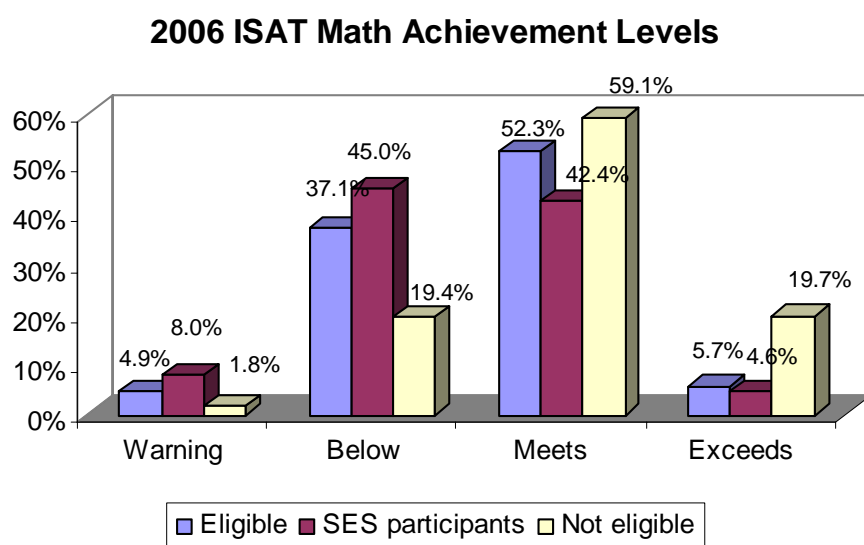
**Figure 5 – Changes in achievement compared to SES participants for students in different grades**



*Math Achievement Results*

Figure 6 presents the 2005-2006 ISAT unadjusted math performance breakdown for each group. SES participants performed the lowest when compared to eligible students and non-eligible students. After adjusting for differences due to 2004-2005 ITBS math scale scores, race, gender, grade level, and disability status, students eligible that did not participate were found to score similarly to SES participants (Appendix C). Eligible students that did not participate scored an average of only 0.2 scale score points lower than SES participants. The average student scored +/-12.90 points different than the mean. Prior math achievement performance was by far the strongest predictor, uniquely accounting for 8.3 scale score points in the model, while group membership uniquely accounted for only 1.2 scale score points (Appendix C).

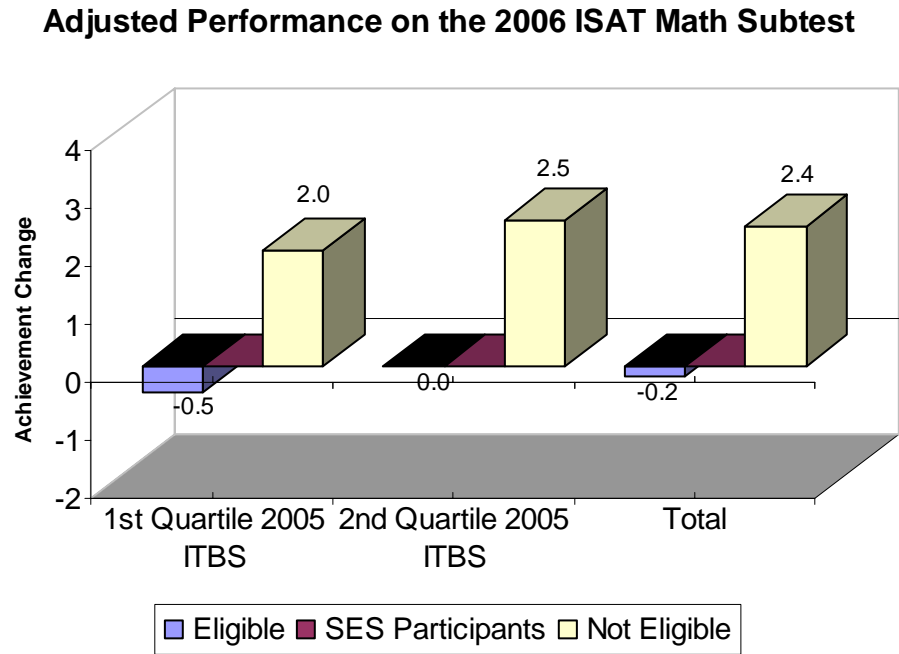
**Figure 6 – 2006 ISAT unadjusted achievement performance**



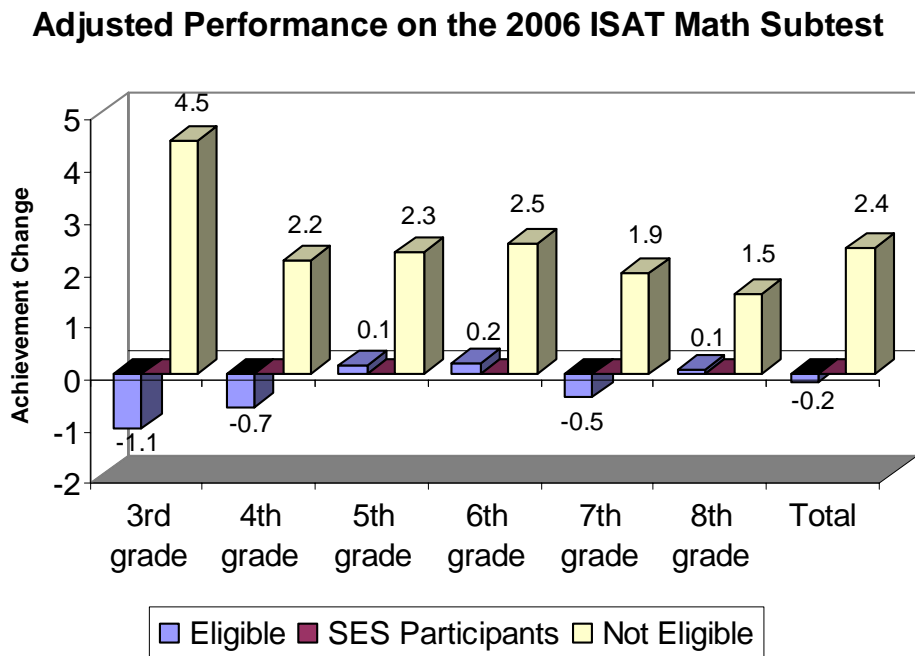
Comparisons of students by grade level and prior achievement level

In addition to analyzing the main effects of SES participation, we also explored if students at different baseline ITBS math achievement levels and grade levels received a differential benefit from participating in the SES program. To do this, the interaction terms of SES group with grade level, and with ITBS math standard scores were analyzed. The results show that the SES program had a different impact on math achievement for students in different grades but almost no differences were found among students at different beginning math achievement levels (Appendix C). Figure 7 compares changes in achievement for students at different beginning achievement levels, with the achievement of SES participants set as the baseline. Students that were eligible but did not participate in the SES program scored about the same as SES participants regardless of prior math achievement. Figure 8 breaks down the impact of the SES program by grade level and shows that SES students in 3<sup>rd</sup> grade scored 1.1 ISAT math scale score points higher than did eligible students.

**Figure 7 – Changes in achievement compared to SES participants for students with different beginning achievement levels**



**Figure 8 – Changes in achievement compared to SES participants for students in different grades**



## **SES Evaluation Methods – Comparison of SES Programs**

The effectiveness of different providers of SES tutoring were also evaluated to address three main questions:

1. Which SES programs demonstrated more or less improvement in reading and math achievement than the CPS A.I.M. High program?
2. How much of an achievement change did students tutored by specific providers demonstrate?
3. How cost effective were the different SES programs?

### *Methods*

#### Which SES programs demonstrated more or less improvement in reading and math achievement than the CPS A.I.M. High program?

The principal method used to assess the effectiveness of the SES programs was to measure changes in student math and reading achievement from the 2004-2005 ITBS to the 2005-2006 ISAT. Changes in the achievement of SES participants in each program were analyzed to determine if certain programs were more effective than the AIM High program. The population of students included in these analyses consisted only of students that took both the 2005 ITBS and 2006 ISAT, participated in SES, and had received at least 30 hours of tutoring as part of a program that served at least 40 students before the administration of the 2006 ISAT.<sup>6</sup> Table 6 lists the providers that tutored at least 40 students for 30 hours prior to the 2006 ISAT administration.

To compare the changes in reading and math achievement of SES participants to the AIM High CPS program, two general linear models (GLM) were created, one modeling 2005-2006 ISAT reading scale scores (n=17,957) and one for math (n=17,343). In each model the 2005-2006 ISAT achievement scale scores of students in each SES program were compared, after controlling for prior achievement (the 2004-2005 ITBS math and reading scale scores), and demographic differences among the groups (race, gender, grade level, disability status). The A.I.M. High CPS sponsored program was set as the reference group since it was by far the most utilized program. Appendix A summarizes the sample of students included in these analyses.

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<sup>6</sup> Students receiving less than 30 hours of tutoring and students starting the SES program after March 1<sup>st</sup>, 2006, were not included in the analyses. 30 hours was chosen as a cutoff amount since the fewest number of tutoring hours a provider was supposed to provide was 30.

**Table 6 – SES providers included in analyses**

A.I.M. High - CPS  
A+ Tutoring Service, LTD  
Brain Hurricane, LLC  
Brainfuse (One-to-One)  
Brainfuse Home Tutoring (online)  
Brilliance Academy of Math and English  
Cambridge Educational Services  
Catapult (online)  
Club Z! In-Home Tutoring Services  
CS&C, Inc.-Julex Learning  
EdSolutions, Inc.  
Education Station, A Sylvan Partnership  
Educational Specialties, Inc.  
Failure Free Reading  
NCLB Tutors  
Newton Learning  
One-to-One Learning Center  
Platform Learning, Inc.  
PLATO Learning  
Progressive Learning  
School Service Systems  
SCORE! Educational Centers, Inc.  
The Princeton Review, Inc.  
Unparalleled Solutions, Inc.

How large of a change in achievement did students tutored by different providers demonstrate?

The method used to assess the size of the achievement differences between SES programs was again to measure changes in student math and reading achievement from the 2004-2005 ITBS to the 2005-2006 ISAT. The sizes of adjusted changes in the achievement of SES participants in different programs were compared to the population of students that were eligible for participation in the SES program.

All students eligible to participate in the SES program were included in these analyses. To compare the size of the achievement change two general linear models (GLM) were created, one modeling 2005-2006 ISAT reading scale scores (n=98,657) and one for math (n=98,481). Predicted 2005-2006 ISAT scores were modeled utilizing prior achievement (the 2004-2005 ITBS math and reading scale scores) and demographic characteristics (race, gender, grade level, disability status). The average residual scores were then used as an indicator of the size of achievement changes of students in different SES programs, indicating how better or worse students in each SES program did on the 2005-2005 ISAT than did other low-income students in underperforming schools.

How cost effective were the different SES programs?

To address this question, the cost to tutor each SES participant was compared to the relative changes in achievement demonstrated by SES participants. To measure cost effectiveness the residual scores obtained in the previous analysis of effect size were compared with the relative cost per student of each program.

## *Results*

### Where there differences in the reading and math achievement of students tutored by the CPS A.I.M. High program compared to other programs?

A.I.M. High students performed significantly better in reading than did students in the A+ Tutoring Service, LTD, CS&C, Inc. – Julex Learning, Education Station, A Sylvan Partnership, and Failure Free Reading programs (Appendix D). The only program that performed significantly better than the A.I.M. High CPS program was the EdSolutions, Inc. program. The changes in achievement from 2005 to 2006 of students in the remainder of the programs were not found to differ from students in the A.I.M. High program.

A.I.M. High students performed significantly better in math than students in the Education Station - A Sylvan Partnership, NCLB Tutors, Newton Learning, Platform Learning, Inc., Progressive Learning, and The Princeton Review, Inc. programs (Appendix E). The only program that performed significantly better than the A.I.M. High CPS program was Unparalleled Solutions, Inc. Changes in math achievement of students in the rest of the programs were not found to differ from those of students in the A.I.M. High program.

### How much of an achievement change did students tutored by specific providers demonstrate?

Students in the EdSolutions, Inc program demonstrated the largest improvement in reading achievement, scoring an average of 4.43 adjusted scale points higher on the ISAT reading test than did other CPS students eligible for the SES program, while students in the Failure Free Reading program performed the worst, scoring an average of 3.44 adjusted scale points lower. A.I.M. High participants scored 0.22 scale points higher. Figure 9 summarizes these results.

Students in the Unparalleled Solutions Inc program demonstrated the largest improvement in math achievement, scoring an average of 2.91 adjusted scale points higher on the ISAT math test than other low income students in underperforming schools, while students in the NCLB Tutors program performed the worst, scoring an average of 6.07 adjusted scale points lower. A.I.M. High program participants scored 0.72 scale points higher on ISAT math subtest than did other low-income students in underperforming schools. Figure 10 summarizes these results.

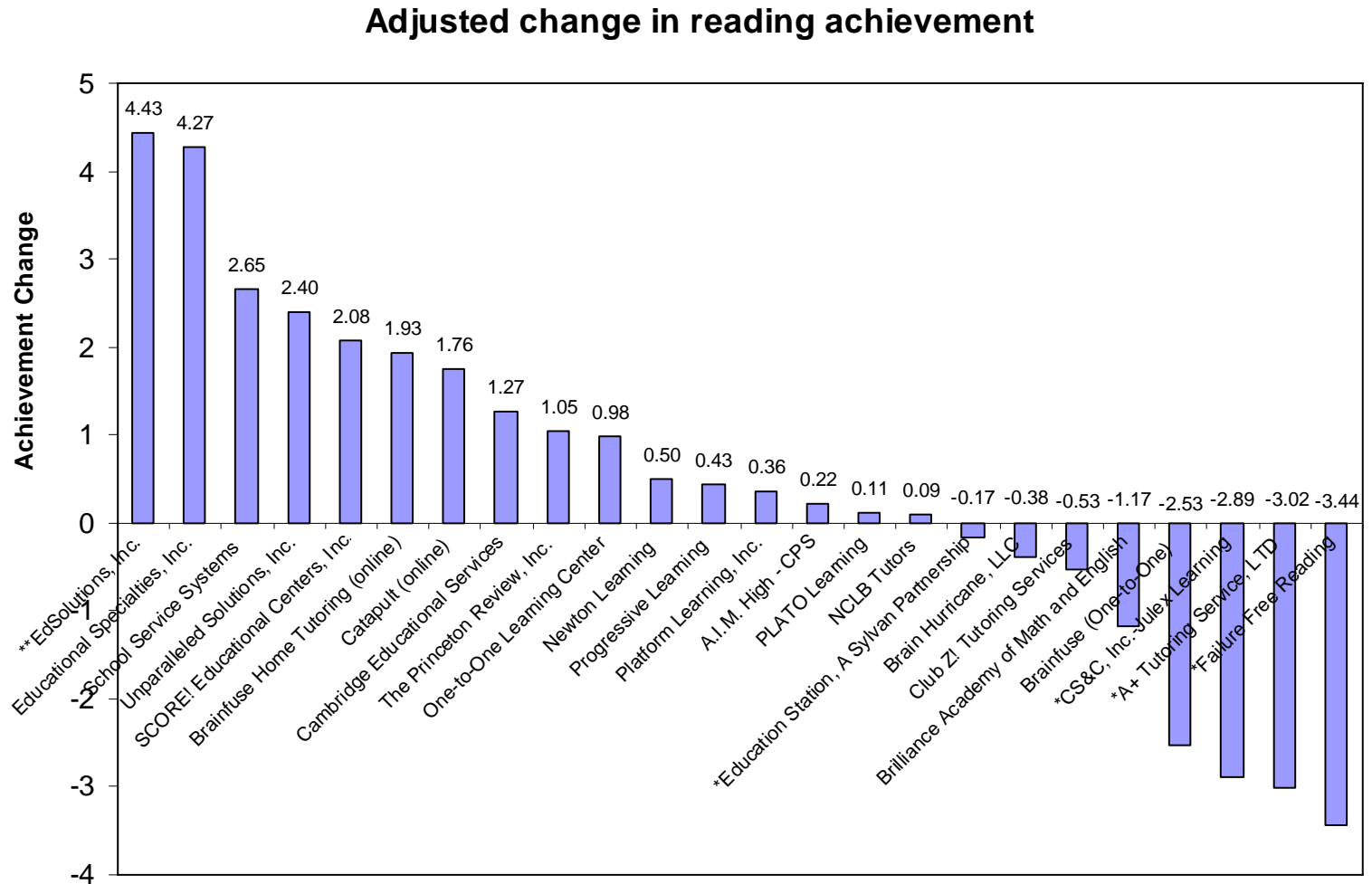
Generally, the results show that larger programs tended to demonstrate less variability in the size of the achievement change. Figure 11 summarizes the size of the adjusted change in reading and math achievement of students in different SES programs ordered by the number of students tutored in each program. Generally, students in larger programs tended to demonstrate a smaller change in achievement compared to the population of students eligible for SES. There were some notable exceptions to this however, such as the Unparalleled Solutions Inc program, which demonstrated strong improvement in both math and reading achievement and was one of the larger programs.

Appendix F presents the results of the GLMs that were used to estimate changes in achievement changes between SES providers.

How cost effective were the different SES programs?

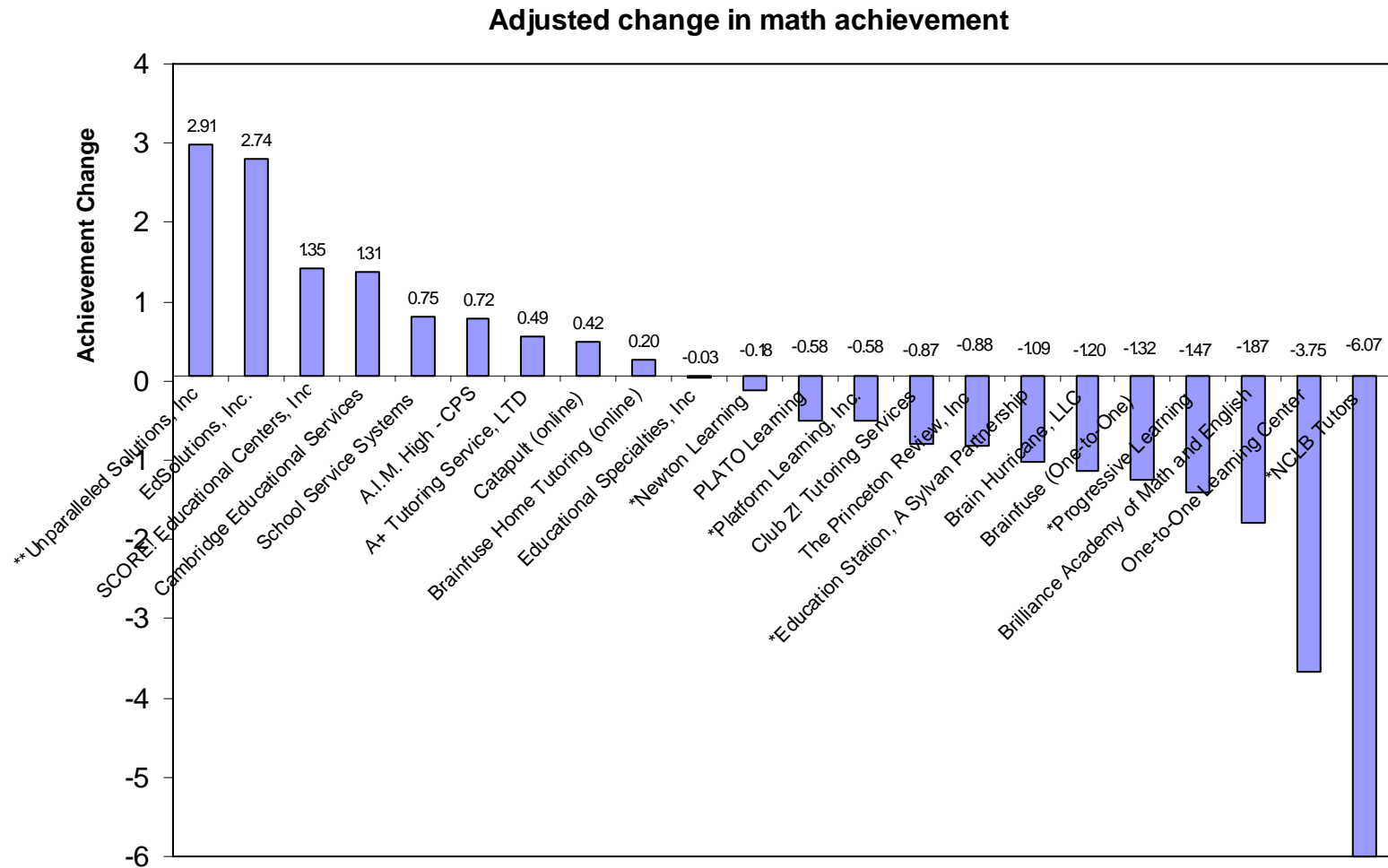
As previously discussed, there were distinct cost differences between the different SES providers, with the A.I.M. High CPS program costing considerably less than most other programs. Considering the cost differences, do the added costs translate into improved reading and math achievement scores? In general, this was not found to be true. Other than a few exceptions like EdSolutions Inc., Unparalleled Solutions Inc., and SCORE! Educational Centers Inc, students tutored in the more expensive programs performed either similarly to or did not perform as well as did students in the less expensive A.I.M. High CPS tutoring program. Figure 12 summarizes the achievement changes of students in tutoring programs compared to other low-income students in underperforming schools, along with the cost per student of each program. As is apparent in the figure, spending more money did not consistently translate into larger positive changes in student achievement.

**Figure 9 – Provider breakdown of the adjusted change in reading achievement of SES participants compared to other low-income students in underperforming schools**



\*Students performed significantly worse than A.I.M. High CPS students.  
 \*\*Students performed significantly better than A.I.M. High CPS students.

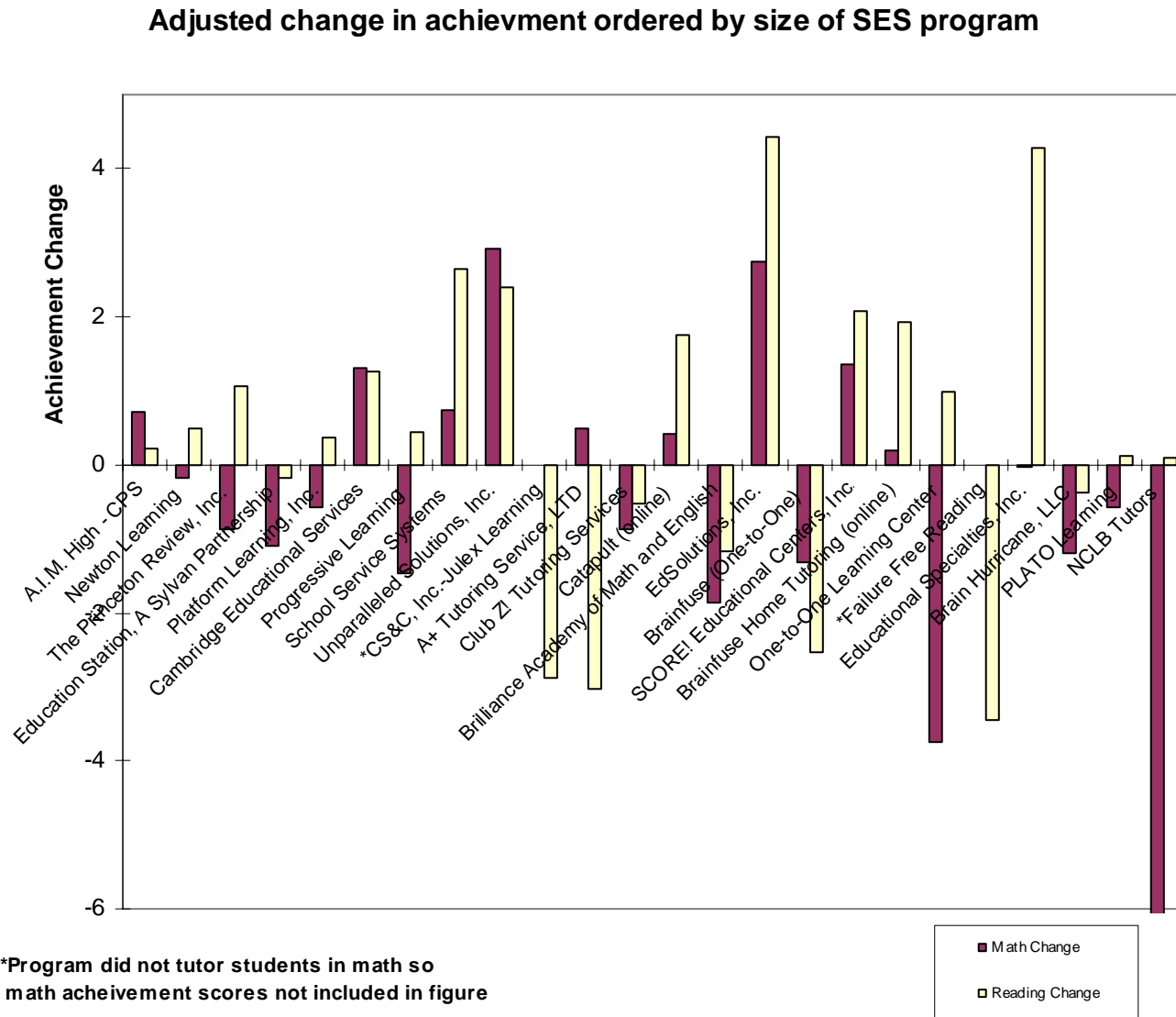
**Figure 10 – Provider breakdown of the adjusted change in math achievement of SES participants compared to other low-income students in underperforming schools**



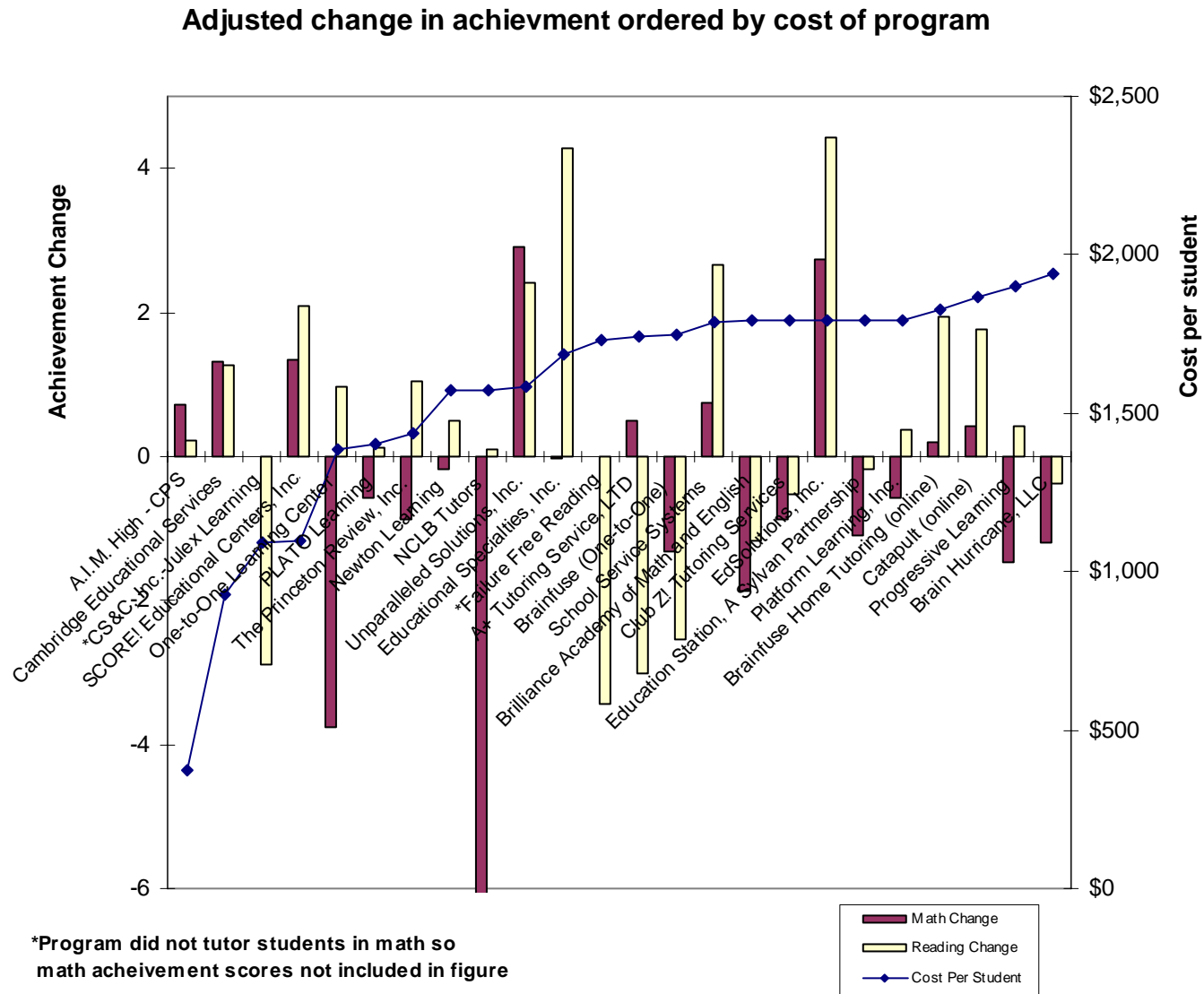
\*Students performed significantly worse than A.I.M. High CPS participants.

\*\*Students performed significantly better than A.I.M. High CPS participants.

**Figure 11 - Provider breakdown of the adjusted change in achievement of SES participants compared to other low-income students in underperforming schools ordered by the number of students tutored by providers**



**Figure 12 Provider breakdown of the adjusted change in achievement of SES participants compared to other low-income students in underperforming schools ordered by the cost per student**



## **Summary and Conclusions**

Although there was only a small effect, participation in the SES program resulted in a small significant improvement in the reading achievement levels of students compared to other low-income, low-achieving students, attending the same schools. Overall, participation in the SES program had a negligible effect on student math achievement scores.

Low achieving students not eligible for the SES program demonstrated the largest improvement in both math and reading achievement from 2005 to 2006. This finding emphasizes the importance that schools and access to resources have on the remediation of students. Students not in the SES program, either due to larger family income or being enrolled in a better performing school, are likely to have access to additional resources or programming that could result in improved achievement scores.

Younger and lower achieving students demonstrated the largest benefit from participating in the SES program. It is important for low achieving students to receive support at as early an age as possible before they fall too far behind in their education.

Students tutored in the EdSolutions Inc, Unparalleled Solutions Inc, and SCORE! Educational Centers Inc. programs demonstrated the largest improvement in achievement from 2005 to 2006.

Students tutored in the CS&C and Failure Free Reading programs typically fell further behind.

Generally, the effect of larger programs tended to be more stable, with less pronounced changes in achievement demonstrated by students. The Unparalleled Solutions program was one exception, in that it was shown to be a highly effective program and it was among the larger providers.

In general, more expensive tutoring programs did not translate into greater improvement in student achievement levels. Not only was the A.I.M. High program by far the least expensive provider, but A.I.M. High students performed significantly better on math and reading than students tutored by many of the other providers.

**Appendix A**

**Breakdown of sample included in each analysis**

Analyses	Not Eligible	Eligible but did not receive SES	SES	Total
<i>GLM predicting ISAT scores with all low-achieving students in grades 3 through 8</i>				
Reading Achievement	27,499	53,224	15,533	96,256
Math Achievement	24,625	51,358	14,730	90,713
<i>GLM comparing SES providers ISAT scores</i>				
Reading Achievement	-	-	17,957	17,957
Math Achievement	-	-	17,343	17,343
<i>GLM predicting ISAT scores with all students eligible to receive SES tutoring in grades 3 through 8</i>				
Reading Achievement	-	78,181	20,476	98,657
Math Achievement	-	77,959	20,522	98,481

**Appendix B**

**Results of GLM predicting reading ISAT scores with all low-achieving students in grades 3 through 8**

Source	DF	Sum of Squares	Mean Square	F Value	Pr	
MODEL	19	44201843.23	2326412.80	9661.35	<.0001	
ERROR	96236	23173231.19	240.80			
CORRECTED TOTAL	96255	67375074.41				

Source	DF	Type III SS	Mean Square	F Value	Pr	Effect Size
Reading Standard Scores	1	39189123.33	39189123.33	162748.00	<.0001	7.99
Race	4	357954.35	89488.59	371.64	<.0001	1.65
Gender	1	190632.86	190632.86	791.68	<.0001	1.08
Grade level	5	1393690.42	278738.08	1157.57	<.0001	3.66
Disability	1	1827794.92	1827794.92	7590.64	<.0001	4.34
Reading * Grade level	5	989775.75	197955.15	822.09	<.0001	3.16
SES group	2	252871.59	126435.80	525.07	<.0001	1.62

Total R-Square = .656

**Comparison of the effects of groups in the GLM predicting reading ISAT scores**

Parameter	Estimate	Standard Error	T-value	Pr
Not Eligible Group	3.17	0.16	19.25	<.0001
Eligible Group	-0.71	0.15	-4.90	<.0001
SES Participants	0			

**Results of GLM predicting reading ISAT scores including interactions with SES groups**

Source	DF	Sum of Squares	Mean Square	F Value	Pr	
Model	31	44234394.23	1426915.94	5933.43	<.0001	
Error	96224	23140680.19	240.49			
Corrected Total	96255	67375074.41				

Source	DF	Type III SS	Mean Square	F Value	Pr	Effect Size
Reading Standard Scores	1	39189123.33	39189123.33	162957.00	<.0001	7.18
Race	4	357954.35	89488.59	372.11	<.0001	1.63
Gender	1	190632.86	190632.86	792.69	<.0001	1.08
Grade level	5	1393690.42	278738.08	1159.05	<.0001	3.58
Disability	1	1827794.92	1827794.92	7600.37	<.0001	4.34
Reading * Grade level	5	989775.75	197955.15	823.14	<.0001	3.08
SES group	2	252871.59	126435.80	525.75	<.0001	0.48
SES group*ITBS	2				<.0001	
Reading		14765.61	7382.80	30.70		0.42
SES group*Grade level	10	17785.39	1778.54	7.40	<.0001	0.43

Total R-Square = .657

**Appendix C**

**Results of GLM predicting math ISAT scores with all low-achieving students in grades 3 through 8**

Source	DF	Sum of Squares	Mean Square	F Value	Pr	
MODEL	19	41486091.12	2183478.48	13225.80	<.0001	
ERROR	90693	14972745.57	165.09			
CORRECTED TOTAL	90712	56458836.70				

Source	DF	Type III SS	Mean Square	F Value	Pr	Effect Size
Math Standard Scores	1	6263324.42	6263324.42	30092.4	<.0001	8.31
Race	4	300765.49	75191.37	431.06	<.0001	1.82
Gender	1	14541.46	14541.46	90.56	<.0001	0.40
Grade level	5	871989.24	174397.85	540.64	<.0001	3.10
Disability	1	275212.01	275212.01	1742.76	<.0001	1.74
Math * Grade level	5	679514.12	135902.82	472.12	<.0001	2.74
SES group	2	130390.21	65195.11	362.86	<.0001	1.20

Total R-Square = .735

**Comparison of the effects of groups in the GLM predicting math ISAT scores**

Parameter	Estimate	Standard Error	T-value	Pr
Not Eligible Group	2.73	0.14	19.61	<.0001
Eligible Group	-0.13	0.12	-1.04	0.30
SES Participants	0			

**Results of GLM predicting ISAT math scores including interactions with SES groups**

Source	DF	Sum of Squares	Mean Square	F Value	Pr	
Model	31	41518096.09	1339293.42	8128.68	<.0001	
Error	90681	14940740.61	164.76			
Corrected Total	90712	56458836.70				

Source	DF	Type III SS	Mean Square	F Value	Pr	Effect Size
Math Standard Scores	1	5290220.82	5290220.82	32108.30	<.0001	7.64
Race	4	295055.45	73763.86	447.70	<.0001	1.80
Gender	1	14123.70	14123.70	85.72	<.0001	0.39
Grade level	5	841374.40	168274.88	1021.32	<.0001	3.05
Disability	1	271919.58	271919.58	1650.38	<.0001	1.73
ITBSMath * Grade level	5	661292.00	132258.40	802.73	<.0001	2.70
SES group	2	5820.43	2910.22	17.66	<.0001	0.25
SES group*ITBS Math	2	8482.82	4241.41	25.74	<.0001	0.31
SES group*Grade level	10	24672.03	2467.20	14.97	<.0001	0.52

Total R-Square = .735

**Appendix D**

**Results of GLM comparing SES providers reading ISAT scores**

Source	DF	Sum of Squares	Mean Square	F Value	Pr
Model	40	8890379	224759	896	<.0001
Error	17916	4495986	251		
Corrected Total	17956	13486365			

Source	Estimate	Standard Error	T Value	Pr
A.I.M. High - CPS	0	-	-	-
A+ Tutoring Service, LTD*	-4.15	1.85	-2.25	0.02
Brain Hurricane, LLC	-0.74	2.46	-0.30	0.76
Brainfuse (One-to-One)	-3.61	1.98	-1.83	0.07
Brainfuse Home Tutoring (online)	1.13	1.83	0.62	0.54
Brilliance Academy of Math and English	-1.34	1.86	-0.72	0.47
Cambridge Educational Services	0.34	0.96	0.35	0.73
Catapult (online)	0.93	1.82	0.51	0.61
Club Z! In-Home Tutoring Services	-1.45	1.03	-1.41	0.16
CS&C, Inc.-Julex Learning*	-3.82	1.53	-2.50	0.01
EdSolutions, Inc.**	3.36	1.14	2.95	<.01
Education Station, A Sylvan Partnership*	-1.10	0.48	-2.29	0.02
Educational Specialties, Inc.	3.20	1.87	1.71	0.09
Failure Free Reading*	-4.55	1.63	-2.80	0.01
NCLB Tutors	-0.97	2.35	-0.41	0.68
Newton Learning	-0.52	0.32	-1.60	0.11
One-to-One Learning Center	-0.03	1.78	-0.02	0.99
Platform Learning, Inc.	-0.31	1.03	-0.30	0.77
PLATO Learning	-0.88	1.75	-0.50	0.62
Progressive Learning	-0.43	0.65	-0.67	0.50
School Service Systems	1.52	0.80	1.90	0.06
SCORE! Educational Centers, Inc.	1.02	1.42	0.72	0.47
The Princeton Review, Inc.	0.40	0.54	0.75	0.46
Unparalleled Solutions, Inc.	1.28	0.79	1.61	0.11

- \* Provider performed worse than A.I.M. High CPS
- \*\* Provider performed better than A.I.M. High CPS

**Appendix E**

**Results of GLM comparing SES providers math ISAT scores**

Source	DF	Sum of Squares	Mean Square	F Value	Pr
Model	39	9968892	255613	1356	<.0001
Error	17303	3260778	188		
Corrected Total	17342	13229670			

Source	Estimate	Standard Error	T Value	Pr
A.I.M. High - CPS	0	-	-	-
A+ Tutoring Service, LTD	0.34	1.62	0.21	0.83
Brain Hurricane, LLC	0.25	2.16	0.12	0.91
Brainfuse (One-to-One)	-1.42	1.73	-.82	0.41
Brainfuse Home Tutoring (online)	-0.38	1.60	-0.24	0.81
Brilliance Academy of Math and English	-2.77	1.64	-1.69	0.09
Cambridge Educational Services	0.80	0.85	0.94	0.35
Catapult (online)	0.11	1.62	0.07	0.95
Club Z! In-Home Tutoring Services	-1.45	0.90	-1.61	0.11
EdSolutions, Inc.	1.33	1.00	1.33	0.18
Education Station, A Sylvan Partnership*	-1.93	0.42	-4.54	<.01
Educational Specialties, Inc.	-1.04	1.64	-.63	0.53
NCLB Tutors*	-6.05	2.08	-2.91	<.01
Newton Learning*	-0.61	0.29	-2.13	0.03
One-to-One Learning Center	-2.52	1.59	-1.59	0.11
Platform Learning, Inc.*	-3.59	0.90	-4.00	<.01
PLATO Learning	-1.11	1.54	-0.72	0.47
Progressive Learning*	-1.77	0.57	-3.13	<.01
School Service Systems	0.34	0.70	0.48	0.63
SCORE! Educational Centers, Inc.	1.56	1.24	1.26	0.21
The Princeton Review, Inc.*	-1.07	0.47	-2.27	0.02
Unparalleled Solutions, Inc.**	1.84	0.69	2.65	<.01

\* Provider performed worse than A.I.M. High CPS

\*\* Provider performed better than A.I.M. High CPS

**Appendix F**

**Results of GLM predicting reading ISAT scores with all students eligible to receive SES tutoring**

Source	DF	Sum of Squares	Mean Square	F Value	Pr	
Model	17	58042632	3414272	14370.8	<.0001	
Error	98639	23435093	237.58			
Corrected Total	98656	81477725				

Source	DF	Type III SS	Mean Square	F Value	Pr	Effect Size
Reading Standard Scores	1	19278210	19278210	81142.6	<.0001	13.98
Race	4	311585.8	77896.44	327.87	<.0001	1.78
Gender	1	143395.9	143395.9	603.56	<.0001	1.21
Grade level	5	2291037	458207.3	1928.61	<.0001	4.82
Disability	1	1363933	1363933	5740.83	<.0001	3.72
Reading * Grade level	5	1885473	377094.5	1587.2	<.0001	4.37

Total R-Square = .712

**Results of GLM predicting ISAT math scores with all students eligible to receive SES tutoring**

Source	DF	Sum of Squares	Mean Square	F Value	Pr	
Model	17	67959035	3997590	21840.7	<.0001	
Error	98463	18022103	183.03			
Corrected Total	98480	85981138				

Source	DF	Type III SS	Mean Square	F Value	Pr	Effect Size
Math Standard Scores	1	22002100	22002100	120208	<.0001	14.95
Race	4	471460	117865	643.95	<.0001	2.19
Gender	1	14418.84	14418.84	78.78	<.0001	0.38
Grade level	5	1606903	321380.6	1755.85	<.0001	4.04
Disability	1	115672.8	115672.8	631.97	<.0001	1.08
Math * Grade level	5	1471937	294387.3	1608.37	<.0001	3.87

Total R-Square = .790