Year Two Report: 2007–2008

Evaluation of the Expanded Learning Time Initiative

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Prepared for
The Massachusetts Department of Elementary and Secondary Education

Prepared by
Beth Peabody
Megan Horst
Rachel Luck
Fran O'Reilly
Lindsay Fox

With assistance from Fatih Unlu and Beth Boulay

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The Massachusetts Expanded Learning Time (ELT) Initiative was established in 2005 through the funding of planning grants, which allowed schools to explore a redesign of their schedule and add time to their day or year. The first cohort of ELT schools (Cohort 1) received implementation grants to begin operating their expanded programs in the 2006–07 school year. In fall 2007, a second cohort of 9 schools (Cohort 2) implemented ELT, growing the total number of ELT schools in the Commonwealth to 18.

The Evaluation of Expanded Learning Time

The evaluation of ELT is a multi-year study that is being conducted as two interrelated parts: a planning and implementation component that explores the early decision-making phases and subsequent execution of ELT programs in the funded districts and schools, and an outcomes component that examines the outcomes of ELT for districts, schools, teachers, and students. The implementation and outcomes components will be linked to determine if the approaches to implementation are related to the outcomes achieved.

Major Findings

In the second year of ELT implementation there was continued support for the goals of the initiative among district and school personnel, parents, and community partners. With the inaugural year behind them, schools—especially the first cohort—were able to progress beyond the logistical challenges that took center stage in year one. Of particular significance was the schools' ability to incorporate additional common planning time for teachers into their schedules, an element of ELT that had received insufficient attention in 2006–07.

Our analysis of the implementation and outcomes data for year two of the initiative rendered the following notable findings:

- In 2006–07, a number of schools had implemented what we named a "divided schedule," in which the expanded programming was tacked onto the end of a traditional school day. In 2007–08, the divided schedule was much less prevalent and many schools made great strides towards creating a seamless expanded day.
- Our interview and focus group findings indicate that another of schools' early successes was the pace of instruction and learning that became possible with a longer day. Across cohorts, respondents reported that the pace of instruction was vastly improved with the additional time afforded by ELT, and that teachers were able to go more in depth with their lessons and provide more individualized learning opportunities to students. While it may be too early to determine if the pace of the day has an observable effect on student achievement, obtaining more detail about how teachers use the additional instructional time will be a focus of future data collection activities.

- Several schools have yet to identify effective strategies for enrichment and working with external partners that would enhance their expanded programs. While this aspect of ELT (i.e., enrichment) is functioning very well in some schools, others are struggling to acclimate partners to the school environment.
- The level of funding for the initiative and its sustainability were prevalent topics in 2007–08. Interview and focus group respondents in all stakeholder groups raised these issues, and many noted that without the state's funding, schools would be unable to continue their expanded programs. While the Massachusetts Department of Elementary and Secondary Education (ESE) has no expectation that schools would continue to offer expanded programs without the grant, many district and school leaders noted that it would be difficult to revert to a standard schedule after having ELT. Further, most district and school leaders reported that per pupil funding was not keeping up with increased costs associated with teacher salary adjustments. That is, while the overall funding for the initiative has grown from year to year, the per pupil grant to schools has remained level.
- According to survey findings, teachers in ELT schools, as compared with teachers in comparison schools, were significantly more positive about the teaching environment within their schools in terms of being involved in school decision making, collaborating with fellow teachers, feeling supported in teaching special needs students, and spending more time on instruction.
- As is common in the early stages of new school-level initiatives, analyses revealed few effects of ELT on student outcomes for the first cohort of ELT schools. For six of the eight Massachusetts Comprehensive Assessment System (MCAS) outcomes, there was no statistically significant effect of ELT on student MCAS performance in the first or second year of ELT implementation, controlling for student demographics, prior performance, and matched comparison schools' performance. The effects that were detected were inconsistent across grade levels. More specifically, there was a statistically significant positive effect on grade 6 MCAS math performance and a statistically significant negative effect on grade 8 MCAS math performance. Additional years of post-ELT data will help to articulate performance trends.

Future Analyses

An important next step is to develop an implementation index in order to explore the links between program elements and outcomes. This index and associated analyses will be included in the year three report, which will also present outcomes data for the second cohort of ELT schools. Implementation data are being collected for all three cohorts of ELT schools during the 2008–09 school year, and new instruments are being piloted to gather additional information about the specific ways time is being used in ELT and matched comparison schools. An MCAS growth model being piloted by ESE this spring will also be examined for its analytic applicability to the evaluation.

Introduction

The Massachusetts Expanded Learning Time (ELT) Initiative was established in 2005 through the funding of planning grants, which allowed schools to explore a redesign of their schedule and add time to their day or year. The first cohort of ELT schools (Cohort 1) received implementation grants to begin operating their expanded programs in the 2006–07 school year. In fall 2007, a second cohort of 9 schools (Cohort 2) implemented ELT, growing the total number of ELT schools in the Commonwealth to 18.[1] The characteristics of the ELT schools are presented in Exhibit 1. Four of the Cohort 2 schools were in three districts that were new to ELT, and five were located in districts that had Cohort 1 schools also; only one district with Cohort 1 schools did not have any new schools implementing ELT in 2007–08.

In the second year of the initiative, like the first, the ELT implementation grant provided $1,300 per pupil to implement or continue schools' redesigned schedules. The critical requirements of the redesign were to add at least 25 percent more time to the school year,[2] and to use the additional time to provide opportunities for enhanced academics, enrichment, and teacher planning and collaboration.

The ESE and Massachusetts 2020 (Mass 2020) continued to work together in a partnership to support the development and implementation of ELT schools. In addition to their role in advocating for the expansion of the initiative, Mass 2020 supplements the ESE's capacity to provide technical assistance to the increasing numbers of districts and schools participating in the initiative.

Additional detail about the Massachusetts Expanded Learning Time Initiative is provided in Appendix A.

[1] Ten schools implemented ELT in 2006–07, but one school closed at the end of the year for reasons unrelated to ELT. Most students from that school were reassigned to another ELT school in the district.

[2] In 2006–07 the requirement was to add at least 30 percent more time.

Exhibit 1: Characteristics of ELT Schools, Overall and by Cohort

	Number of ELT Schools		
	Overall (n=18)	Cohort 1 (n=9)	Cohort 2 (n=9)
Grade Span			
Elementary school	7	2	5
K–8 school	4	3	1
Middle school	6	4	2
High school	1	0	1
School Location			
City	13	8	5
Suburb	3	1	2
Town	2	0	2
School Size			
600 students or more	4	3	1
400-599 students	7	2	5
200-399 students	6	4	2
Fewer than 200 students	1	0	1
Low Income Student Population			
75 percent or more	10	5	5
50-74 percent	8	4	4
Less than 50 percent	0	0	0
Minority Student Population			
75 percent or more	7	5	2
50-74 percent	6	2	4
25-49 percent	4	2	2
Less than 25 percent	1	0	1
SPED Student Population			
20 percent or more	10	6	4
10-19 percent	7	2	5
Less than 10 percent	1	1	0
LEP Student Population			
20 percent or more	5	3	2
10-19 percent	6	2	4
Less than 10 percent	7	4	3
Met Aggregate Adequate Yearly Progress (AYP) in 2008			
English language arts	1	0	1
Math	9	3	6
ELA Accountability Status in 2008			
No status (AYP met for previous two years)	4	3	1
Identified for improvement, corrective action, or restructuring	14	6	8
Math Accountability Status in 2008			
No status (AYP met for previous two years)	5	2	3
Identified for improvement, corrective action, or restructuring	13	7	6

Sources: All data presented in this table were downloaded from the Massachusetts Department ESE website (http://profiles.doe.mass.edu/), except school location data which were compiled from the NCES Common Core of Data (http://nces.ed.gov/ccd/districtsearch/).

Evaluation Design

The evaluation of the Expanded Learning Time (ELT) initiative is a multi-year study that is being conducted as two interrelated parts: a planning and implementation component that explores the early decision-making phases and subsequent execution of ELT programs in the funded districts and schools, and an outcomes component that examines the outcomes of ELT for districts, schools, teachers, and students. The implementation and outcomes components will be linked to determine if the approaches to implementation are related to the outcomes achieved.

The evaluation is guided by three overarching research questions:

1) How has expanded learning time been implemented in schools that have received ELT grants?
2) What are the outcomes of expanded learning time for students, teachers, and schools?
3) What is the relationship between implementation and outcomes?

Although it was not feasible to conduct a random assignment evaluation of the ELT initiative to examine the causal relationship between ELT and outcomes, the outcomes component of the ELT evaluation utilizes a rigorous quasi-experimental matched comparison design. Using a matched comparison design, as well as baseline data in our analyses, facilitates our ability to *attribute* observed differences to ELT and discount alternative hypotheses. More specifically, matched comparison schools that are similar to the ELT schools on a number of observable characteristics help rule out factors that would be expected to affect all schools (e.g., demographic changes, legislation, etc.),[3] and baseline data help rule out within-school, time-invariant factors. Together, these design features within a quasi-experimental framework allow us to suggest that differences between the two groups are a result of the ELT program.

Additional information about the evaluation design and the conceptual model of the program upon which it is based is provided in Appendix B.

Data Collection Methods and Sources

The planning and implementation component of the study relied on interviews and focus groups with various constituencies involved with ELT, including Cohorts 1 and 2 school and district administrators, parents, teachers, and community partners, as well as on document review. Survey data were also used to identify implementation strategies and to learn about various program elements, as well as to gauge early effects of ELT on teachers' and students' attitudes about school. Additional outcomes data were obtained from publicly available school-level extant data files from the ESE's website, and the study team received individual student-level data from the ESE, including Massachusetts Comprehensive Assessment System

[3] However, there may be important unobservable characteristics that cannot be a part of the matching process but ultimately may be responsible for any observed difference between groups (e.g., changes in curriculum). Only a random assignment study, which was not feasible given the program design, can provide causal explanations for effects.

(MCAS) performance for the first cohort of ELT schools. Additional detail about data collection activities is provided in Appendix C.

Analysis

Qualitative Data

After each data collection activity, data collectors synthesized their notes from interviews and focus groups and typed them into the protocols for consistency, and audiotape recordings were referenced for fact-checking purposes. The study team used a software program to organize the qualitative data in order to identify themes and make comparisons across schools and districts.

Surveys

Teacher and student surveys included questions with continuous response formats (e.g., numbers of years of teaching experience) and categorical response formats (e.g., four-point rating scales from strongly agree to strongly disagree). All data were analyzed in the aggregate (i.e., across all ELT schools or for groups of ELT schools) for teachers or students. Fall survey findings are not included in this report due to low response rates;[4] the fall data are susceptible to non-response bias and prohibit drawing valid comparisons and conclusions as the respondents were likely not a representative sample.[5] Chi-square tests were conducted to compare (a) the distributions of spring 2008 survey responses from ELT respondents and matched comparison school respondent and (b) the distributions of responses by cohort status (e.g., Cohort 1 ELT schools as compared with Cohort 2 ELT schools); t-tests were conducted to compare means.

Extant Data

Extant data were used to investigate outcomes of ELT for students, teachers, and schools. More specifically, student- and school-level extant data from the ESE and ELT districts were used to examine school enrollment patterns, student behavior indicators, and student academic achievement, as well as to determine the comparability of ELT schools and their matched comparison schools. For all analyses, statistical significance was defined as $p<.05$.

See Appendix C for additional information about data analysis strategies.

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[4] ELT or matched comparison schools with a response rate of less than 50 percent, along with their match, were omitted from analyses in both fall and spring. For the spring 2008 data, 6 ELT-matched comparison schools were omitted from teacher analyses and 12 pairs were omitted from student analyses. It is important to note that low student response rates were concentrated among middle school students; student survey analyses therefore are not reflective of middle schools. For the fall 2007 survey data, which were collected from ELT schools only, 9 of 18 schools would have been omitted from both the teacher and student analyses, therefore these data are not included.

[5] Beginning in 2008–09, fall surveys will be administered only to teachers in the newest cohort of ELT schools as a baseline measure for implementation.

ELT Schools and their Matched Comparisons

This section presents quantitative and qualitative findings about the comparability of the ELT schools and their matched comparisons (see Appendix E for a discussion of the process used to select matched comparison schools and statistical tests of the similarity of the ELT schools and comparison schools), including an examination of changes in enrollment patterns in both sets of schools. Drawing from interviews with principals of both ELT and matched comparison schools, this section concludes with comparisons between the ELT schools and the matched comparison schools along key components of the ELT program—academic instruction, enrichment opportunities, and teacher collaboration and professional development.

Changes in Student and Teacher Characteristics Before and After ELT Implementation

For a number of reasons, one of which could be the implementation of ELT, it is possible that there have been noteworthy changes in the student and teacher populations at ELT schools over the course of ELT implementation. For example, parents may have elected to withdraw their child from a school implementing ELT or, on the other hand, parents may have chosen to send their child to a school offering an expanded day. Similarly, there may have been shifts in the teaching staff at ELT schools. Such changes might affect observed outcomes, confounding the effects on ELT. To address this concern, this next set of analyses investigates the stability of student and teacher characteristics before and after the implementation of ELT.

A difference-in-difference analysis of *school-level* student and teacher characteristic data was conducted to examine how the composition of ELT schools has changed post ELT implementation *relative to the matched comparison schools*. In this analysis, each school has a pre-ELT mean (of as many as five years of pre-ELT data from 2001–02 through the year prior to implementation)[6] and a post-ELT value (school year 2007–08),[7] and the schools are clustered by their matched pairs. Therefore, a two-level model (pre- or post-ELT data within schools) with fixed effects for matched pairs was employed.[8] This analysis examines the change in a specific characteristic (e.g., percent special education) in the first year (Cohort 2) or second year (Cohort 1) of ELT implementation as compared to the average for the years prior to ELT, for ELT schools relative to the matched comparison schools. The results of this analysis are presented in Exhibit 2 by cohort.

Note in Exhibit 2, the difference-in-difference scores are not statistically significant (i.e., $p>.05$) for all but two of the student and teacher characteristics: the percent of minority students in Cohort 1 schools and the student-teacher ratio in Cohort 2 schools. The statistically significant finding for the percent of minority students in Cohort 1 points out that there has been a larger change in the percent of minority

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6 For Cohort 1 schools, year prior to implementation is 2005–06; for Cohort 2 schools, year prior to implementation is 2006–07.

7 For Cohort 1, annual post-ELT changes in school and teacher characteristics were examined, rather than calculating an average across years, in order to investigate potential year to year changes that could be diluted by an average.

8 The model specifications are included in Appendix F.

Exhibit 2: Changes in the Student and Teacher Characteristics Before and After ELT Implementation: ELT Schools Relative To Matched Comparison (MC) Schools

	ELT Schools			MC Schools			Difference-in-Difference[b] (ELT diff. – MC diff.)	p-value
	Baseline mean[a]	2007–08	Diff.	Baseline mean	2007–08	Diff.		
Cohort 1 Schools[c]								
Student Population								
Student enrollment	544.6	496.7	-47.97	470.4	418.1	-52.25	4.28	.8843
Percent low income	72.1	74.9	2.74	62.4	66.8	4.47	-1.73	.5933
Percent minority	64.3	71.1	6.81	60.5	63.2	2.68	4.13	.0183
Percent male	51.2	53.1	1.86	52.7	52.2	-0.52	2.39	.1653
Percent special education	13.6	20.1	6.48	13.8	20.9	7.10	-0.62	.4389
Percent limited Eng. proficiency	11.0	13.9	2.88	9.2	11.5	2.37	0.51	.7993
Percent first language not Eng.	35.8	37.3	1.52	33.1	30.0	-3.16	4.68	.0861
Teacher Population								
Number of FTE teachers	45.9	40.9	-4.96	40.0	34.7	-5.30	0.33	.8977
Percent of teachers licensed in their teaching assignment	92.2	95.5	3.24	88.5	94.8	6.33	-3.09	.1561
Percent of "highly qualified" core academic teachers	89.9	93.4	3.49	89.7	93.2	3.56	-0.07	.9883
Student teacher ratio	11.6	12.2	0.61	12.3	12.5	0.19	0.43	.1760
Cohort 2 Schools[c]								
Student Population								
Student enrollment	474.0	477.2	3.21	486.5	467.1	-19.36	22.56	.3027
Percent low income	68.3	72.3	3.98	61.9	68.2	6.35	-2.37	.3108
Percent minority	49.8	57.5	7.66	47.2	53.0	5.76	1.91	.2407
Percent male	51.1	50.6	-0.47	50.3	51.5	1.20	-1.68	.2636
Percent special education	13.5	18.4	4.93	11.4	17.3	5.87	-0.95	.5768
Percent limited Eng. proficiency	13.8	15.0	1.23	12.9	14.0	1.06	0.17	.9162
Percent first language not Eng.	28.8	30.6	1.76	28.8	28.5	-0.33	2.08	.1360
Teacher Population								
Number of FTE teachers	39.1	35.6	-3.55	35.6	33.8	-1.81	-1.74	.3550
Percent of teachers licensed in their teaching assignment	95.5	98.5	3.02	4.9	98.7	3.78	-0.76	.6492
Percent of "highly qualified" core academic teachers	95.1	96.6	1.48	96.2	98.0	1.75	-0.28	.9073
Student teacher ratio	11.9	13.4	1.46	13.6	13.8	0.19	1.27	.0200

Source: Extant data downloaded from the Massachusetts Department of ESE website (http://profiles.doe.mass.edu/).

[a] The baseline mean includes data, to the extent available, from the 2001–02 school year through the 2005–06 school year for Cohort 1 schools, and data from the 2001–02 school year through the 2006–07 school year for Cohort 2 schools.

[b] A two-level model with time (pre- or post-ELT) nested in schools and fixed effects for matched comparison schools was fit for difference-in-difference analyses.

[c] Each cohort includes 9 ELT schools and 9 matched comparison schools.

Exhibit reads: During the 2007–08 school year, the student enrollment in Cohort 1 ELT schools declined 48 students in comparison to the average student enrollment from 2001–02 through 2005–06. The matched comparison schools declined 52 students during this same time period. In the second year of implementation in Cohort 1 ELT schools, the loss in student enrollment was about 4 students greater in ELT schools than in the matched comparison schools. This difference-in-difference was not statistically significant ($p \geq .05$).

students in the ELT schools than in the matched comparison schools from pre-ELT to the second year of ELT implementation (2007–08). Both ELT schools and matched comparison schools in Cohort 1 have experienced increases in their minority student enrollment (6.81 percentage points and 2.68 percentage points, respectively). In future years of the evaluation, this finding will continue to be monitored and explored. It is also interesting to note that in year one of the evaluation, a significant change in the special education population at the Cohort 1 ELT schools relative to their matched comparison schools was found. After two years of ELT implementation, this difference was no longer apparent in the Cohort 1 schools.

The statistically significant finding for the student-teacher ratio in Cohort 2 indicates that there has been a larger change in the ratio of students to teachers in the ELT schools than in the matched comparison schools from pre-ELT to the first year of ELT implementation (2007–08). The ratio increased by nearly 1.5 students for Cohort 2 ELT schools, while the ratio increased by 0.2 in the matched comparison schools. It is possible that this unexpected difference is due to inconsistent reporting of full-time equivalent teaching staff across schools.[9] The study team will continue to monitor teacher and student populations in the ELT and matched comparison schools to see if these changes persist or if they are simply short-term chance findings due to the small sample size.

Overall, these analyses suggest that there have been no large changes in the student and teacher populations (on specific measureable characteristics) at the ELT schools during the time of ELT implementation that differ from changes occurring in the matched comparison schools.

These findings are also important for moving forward with the interrupted time series analysis of MCAS student achievement data. Because the t-test analyses show little significant change in the student and teacher populations on specific characteristics in the ELT schools in the first years of ELT implementation, it is unlikely that any observed changes in MCAS scores post-ELT implementation are due to changes in these populations. Further, as evidenced by the difference-in-difference analyses, what changes there have been in the student and teacher populations in ELT schools since 2001–02 are similar to those that have occurred in the matched comparison schools. Therefore, it is not expected that these characteristics will have differential effects on student achievement outcomes; analyses of MCAS student achievement take into account student demographics.

Student Stability in ELT and Matched Comparison Schools

Student-level data were also utilized to examine student stability in ELT schools and the matched comparison schools during the first year of ELT implementation (2006–07 for Cohort 1 schools, 2007–08 for Cohort 2 schools). The analysis looked only at non-entry grades; pre-kindergarten or kindergarten students in elementary or K–8 schools, fifth or sixth (as applicable) grade students in middle schools, or ninth grade students in high schools were not considered, as these students would be new to these schools because of the grade span offered. Using paired t-tests, the percentage of students in the first year of ELT implementation who attended the same school in the year prior to ELT implementation were compared.

[9] It is unclear if ELT schools are using a consistent approach in reporting the number of full-time equivalent (FTE) teachers. The question is how to count teachers who work a traditional day versus those who work the traditional day plus the expanded day (e.g., are both teachers counted as 1.0 FTE?). This question is particularly pertinent to those schools that do not require all teachers to work the expanded day.

There were comparable rates of student stability in ELT and matched comparison schools by grade span and cohort (see Exhibit 3), with the exception of Cohort 1 elementary/K–8 schools. In the first year of ELT implementation, Cohort 1 ELT schools experienced significantly less student stability than their matched comparison schools (77.5 percent vs. 87.1 percent, respectively).

Exhibit 3: Percent of Students in their First Year of ELT Implementation who Attended the Same School in Year Prior to ELT Implementation[a]

Grade Span[b]	ELT	Matched Comparison	p-value
Cohort 1 Schools[c]			
Elementary, K–8 schools	77.5	87.1	.0336
Middle schools	84.8	85.7	.8153
Cohort 2 Schools[c]			
Elementary, K–8 schools	77.6	77.9	.8970
Middle, high schools	81.5	92.8	.3680

Source: Individual-level data files obtained from the Massachusetts Department of ESE.

[a] The first year of ELT implementation for Cohort 1 schools is 2006–07; the year prior to ELT is 2005–06. The first year of ELT implementation for Cohort 2 schools is 2007–08; the year prior to ELT is 2006–07.

[b] This analysis only includes non-entry grades; in other words, this analysis does not include those students who in the first year of ELT implementation were pre-kindergarten or kindergarten students in elementary/K–8 schools, 5th or 6th grade students (as applicable) in middle schools, or 9th grade students in high schools, as all of these students would be new to these schools given the grade span offered.

[c] Each Cohort includes 9 ELT schools and 9 matched comparison schools.

Exhibit reads: In Cohort 1 elementary and K–8 ELT schools, 77.5 percent of students who attended the school in the first year of ELT implementation (spring 2006–07) also attended the same school in the year prior to ELT implementation (spring 2005–06), as compared with 87.1 percent of students in elementary and K–8 matched comparison schools. This difference was statistically significant ($p<.05$).

Building on this analysis, data on students who were new to ELT schools and matched comparison schools in non-entry grades in the first year of ELT implementation (2006–07 for Cohort 1 schools, 2007–08 for Cohort 2 schools) were examined. Again, these were students who were new to these schools in grades other than pre-kindergarten or kindergarten (for elementary schools or K–8 schools), fifth or sixth grade (for middle schools), or ninth grade (for high schools) when all students are new to a school. The ESE asked Abt to examine if students who require special education or have limited English proficiency, and thereby may require extra financial resources, were disproportionately selecting into ELT schools. This is of particular interest from a policy perspective given that ELT funding is $1,300 per student, regardless of special education status or limited English proficiency status.

Chi-square tests to analyze these dichotomous student-level variables revealed that among the new students in non-entry grades in ELT schools and matched comparison schools, there was only one significant difference in the percentage of students receiving additional services (see Exhibit 4). This difference, however, was in the opposite direction than hypothesized. In Cohort 1, the number of new students in non-entry grades receiving English Language Learners' Program services was significantly greater in matched comparison schools than ELT schools (26.6 vs. 20.1 percent, respectively). At this time, therefore, it does not appear that students who require extra services disproportionately entered ELT schools in the first year of implementation.

Exhibit 4: Selected Characteristics of New Students In ELT and Matched Comparison Schools In Non-Entry Grades During the First Year of ELT Implementation[a]

	Percent of New Students in Non-entry Grades[b]		
	ELT	Matched Comparison	P-value
Cohort 1 Schools[c]			
Number of new students in non-entry grades	628	372	
Special education	18.6	21.0	.3673
Limited English proficiency	20.1	24.5	.1029
English language learners' program	20.1	26.6	.0165
Cohort 2 Schools[c]			
Number of new students in non-entry grades	704	592	
Special education	20.3	22.6	.3096
Limited English proficiency	20.2	22.1	.3892
English language learners' program	19.9	22.1	.3228

Source: Individual-level data files obtained from the Massachusetts Department of ESE.

[a] The first year of ELT implementation for Cohort 1 schools is 2006–07; the year prior to ELT is 2005–06. The first year of ELT implementation for Cohort 2 schools is 2007–08; the year prior to ELT is 2006–07.

[b] This analysis only includes non-entry grades; this analysis does not include those students who in the first year of ELT implementation were pre-kindergarten or kindergarten students in elementary/K–8 schools, 5th or 6th grade students (as applicable) in middle schools, or 9th grade students in high schools as all of these students would be new to these schools given the grade span offered.

[c] Each cohort includes 9 ELT schools and 9 matched comparison schools.

Exhibit reads: In the first year of ELT implementation among Cohort 1 schools, 18.6 percent of new students in non-entry grades in ELT schools received special education services as compared with 21.0 percent of new students in matched comparison schools. This difference was not statistically significant ($p \geq .05$).

Student-level data were also used to examine student mobility *out of* Cohort 1 ELT schools and the matched comparison schools after the first year of ELT implementation (Cohort 2 schools have only had one year of implementation). For this analysis, only non-exit grades were considered; that is, fifth or sixth grade students in elementary schools and eighth grade students in middle or K–8 schools were excluded, as these students would be expected to graduate from these schools given the grade span offered. Paired t-tests indicated that there were comparable rates of student mobility out of ELT and matched comparison schools in non-exit grades by grade span (see Exhibit 5).

Descriptions of Matched Comparison Schools

As was demonstrated with quantitative analyses, the matched comparison schools are sound matches on observable characteristics, including student and teacher demographics and student performance. In order to deepen our understanding of how these schools differ from and/or are similar to the ELT schools in terms of their programs and activities, the study team conducted interviews with 16 matched comparison

Exhibit 5: Students who Left ELT and Matched Comparison Schools In Non-Exit Grades After the First Year of ELT Implementation [a]

	Percent of Students Leaving in Non-exit Grades in 2007–08[b]		
	ELT (n=9)	Matched comparison (n=9)	p-value
Cohort 1 Schools			
Elementary, K–8 schools	18.4	15.2	.5851
Middle schools	19.1	19.2	.5375

Source: Individual-level data files obtained from the Massachusetts Department of ESE.

[a] For Cohort 1 schools, the first year of ELT implementation is 2006–07; the second year of ELT implementation is 2007–08. Cohort 2 schools are not included in this analysis because they have had only one year of ELT implementation (2007–08) and data for the second year of implementation (2008–09) is not yet available.

[b] This analysis only includes non-exit grades; in other words, this analysis does not include those students who in the first year of ELT implementation were 5th or 6th grade students (as applicable) in elementary school, or 8th grade students in middle or K–8 school as they students would be expected to graduate from these schools given the grade span offered.

Exhibit reads: After the first year of ELT implementation among Cohort 1 schools, 18.4 percent of students in non-exit grades left ELT schools as compared with 15.2 percent of students in non-exit grades in matched comparison schools. This difference was not statistically significant ($p \geq .05$).

school principals.[10] In particular, the interviews were designed to obtain information about how the matched comparison schools use their time during the school day, and the extent to which they are able to offer enrichment activities for students and common planning and professional development for teachers. According to the principals who participated in interviews, the matched comparison schools were undertaking many initiatives to improve student performance and the school experience for both students and teachers. There were many similarities to ELT schools in terms of principals' commitment to school improvement, and these principals shared their thoughtful reasons for not yet pursuing ELT.

The most pronounced difference between the ELT and matched comparison schools was the availability of enrichment activities/classes. As one might expect, the matched comparison schools were more limited in their ability to offer enrichment classes beyond the physical education and art and/or music that were part of the standard curriculum. While two principals reported that their schools were unable to offer any other enrichment courses, most mentioned classes such as health and/or technology in addition to the standard electives or "specials," and some of the middle and K–8 schools also provided foreign language instruction. Some schools used enrichment time to pull students out for additional academics. Additional enrichment was available to some students after school. Approximately one quarter to two

[10] The study team was unable to recruit two potential matched comparison schools for participation in the qualitative and survey data collection activities. These schools are similar to their ELT counterparts on relevant quantitative indicators, and there has been no evidence to suggest that there are substantial qualitative differences between the schools that refused to participate and those that agreed; however, there may be differences in the district contexts that could explain some schools' disinclination to participate as matched comparison schools. Extant data for these schools will be analyzed in the outcomes component.

thirds of students in matched comparisons schools attended onsite after-school programs that offered academic and enrichment activities; there was a mix of free and fee-based programs.[11]

All of the matched comparison elementary schools (and elementary grades in K–8 schools) devoted at least 90 minutes per day to English language arts (ELA), and most schedules for these grades included at least 45 minutes per day of math instruction. Several elementary school principals noted that their schools received Reading First grants or were following the "Reading First model," which calls for uninterrupted reading blocks of at least 90 minutes. Middle schools (and grades 6–8 in K–8 schools) had periods or blocks that ranged from 48 to 80 minutes, but shorter blocks were often combined to allow for more instructional time in ELA and math. Further, principals at some schools—elementary, middle, and K–8—noted that there were opportunities for additional academic help for struggling students during non-academic periods such as physical education. Overall, the matched comparison schools spent a similar amount of time on traditional ELA and math instruction as the ELT schools, though academic enrichment and/or additional remediation during the school day was less common in matched comparison schools. Matched comparison school principals reported spending less time on science and social studies than ELA and math; science and social studies periods were typically shorter or taught for only half of the school year. This finding is consistent with reports from ELT schools that the additional time enabled them to increase science and social studies instruction.

All but one of the matched comparison schools had at least some common meeting time for teachers, and while several principals did not consider this to be common planning time—perhaps because teachers did not use the time to collaboratively plan lessons—meetings were often spent discussing particular students, data, and instructional strategies. Though the union contracts in some districts prohibited mandatory collaborative planning, eight schools had common prep time built into teachers' schedules. In these schools, principals commented that some grade-level teams work together nearly all the time while others rarely do. In addition, several principals reported that teachers often work together during lunch and/or outside of school hours. Teacher collaboration was named as a district priority by multiple matched comparison school principals, and one principal noted that teachers had received training on how to use common meeting time.

Four of the matched comparison schools were either going through the process of planning for ELT or had gone through the process in previous years but did not progress to the implementation phase. When asked if they had considered ELT, principals at the remaining schools gave responses that provide some insight regarding the decision-making process. Two principals indicated that they saw the merits of ELT for some schools, but their own schools were committed to other approaches to school improvement. Principals who were relatively new to their schools stated that they may pursue ELT in the future, but did not feel that they were ready to undertake the redesign. Others mentioned that ELT is a topic of conversation within the school community, but they have not been able to overcome hurdles such as teacher buy-in that would allow them to successfully plan. One of these principals noted that his/her school's after-school programming was "essentially like ELT," though only approximately a third of

[11] Under No Child Left Behind, Title I schools that do not make adequate yearly progress (AYP) for three consecutive years are required to offer free supplemental education services (SES), including tutoring, outside of regular school hours. Ten of the 16 matched comparison schools that participated in the qualitative data collection activities were required to provide SES, and all of those provided additional after-school activities that were not mandated.

students participated. Finally, one principal mentioned that s/he would like more time, but not as much as is required for ELT. This principal said that s/he did not think his/her school could make productive use of so much additional time.

In summary, the matched comparison schools are similar to the ELT schools in that they too are focused on improving student performance. Some are also similar in terms of their desire to implement ELT, which is one of the primary unobservable characteristics that might influence outcomes. With these similarities, it may be more plausible that differences in outcomes are attributable to ELT.

Planning and Implementation Findings

This section presents planning and implementation findings based on data obtained through interviews, focus groups, and surveys. Unless otherwise stated, reported findings represent the opinions of multiple respondents and were drawn from 2007–08 data collection activities. Sometimes, the opinion of a single person is reported when the perspective was unique or seemingly important; these singular perspectives are always noted as such because they are not necessarily representative of the respondent group, although they could be. The section begins with a description of Cohort 2's planning process, followed by a discussion of the changes Cohort 1 schools made to their programs in their second year. Next, year two findings that are applicable across both cohorts of ELT schools are presented. This section describes the schools' approaches to implementing the three primary components of ELT. In some instances observed differences in implementation strategies between cohorts, as well as between schools with various grade spans, are described. Next, the technical assistance offered to ELT schools by Mass 2020 and the ESE are outlined. The section continues with a discussion of funding, a topic that is of interest to the ESE and which was raised repeatedly by interview and focus group respondents, often independent of our questions on the issue. Finally, the perspectives of parents are presented.

Planning Phase: Cohort 2

As was the case for Cohort 1, the decision to pursue ELT implementation grants for the second cohort of schools was largely driven by school leadership. Though some districts encouraged certain schools to plan for ELT, the choice ultimately rested with the schools. Indeed, district administrators again cited school and community buy-in as critical factors in successful planning and implementation.

District and school administrators stressed the importance of reaching consensus and garnering support for the initiative; these were also among the biggest challenges. Several principals noted that educating their staff and communities—including parents—about ELT and what the program would and would not look like was a major early piece of the puzzle. Some also mentioned that keeping various stakeholders involved in the process was difficult, but imperative for continuing to move forward. District administrators echoed previous findings that getting union leadership involved from the initial stages was crucial. According to one superintendent, inviting the union president to the first planning meeting "paid huge dividends." Further, this superintendent commented that the district was very transparent about what the school would need to spend on partners and other costs, and was able to present a clear picture of what they could afford in terms of teachers' contracts, which facilitated the negotiation process.

Several Cohort 2 principals reported that the decision to pursue ELT was based on the appeal of having an opportunity to "make systemic changes" or create a "brand new school." Further, ELT was perceived by most as a way to improve teaching and learning that aligned with their existing school improvement initiatives. It was also reported that ELT would allow schools to provide more individualized services to students and increase time and resources for subjects and activities that had fallen by the wayside in recent years.

The most distinct element of Cohort 2's planning process was the districts' and schools' ability to confer with existing ELT schools. All of the districts/schools spoke with and/or visited Cohort 1 schools to learn

about potential challenges and successful planning and implementation strategies. One superintendent noted that meetings with other districts and schools "took the pressure off" in that they showed the planning school in his/her district that they "didn't have to be perfect right out of the gate," and that flexibility and modifications to programs were par for the course.

Another difference between cohorts in the planning process was that Cohort 2 districts and schools had the option of deferring implementation until 2008–09, which would have given them two school years to plan rather than only one. The nine schools that implemented in fall 2007 opted to take the "fast-track" and plan for only one year; one principal reported that his/her school made the decision to implement ELT in fall 2007 despite the planning being "somewhat rushed," because the competition for funds would be significantly greater the following year. Therefore, while the planning period was only marginally longer for Cohort 2 than for Cohort 1, there was less discussion about the rapid pace of planning from Cohort 2 respondents than from Cohort 1 respondents in the 2006–07 interviews and focus groups. However, Cohort 1 schools had to contend with a greater level of uncertainty regarding the likelihood of receiving implementation funding during their planning process than Cohort 2 schools, which may help to explain why Cohort 1 respondents were more likely to emphasize the brevity of their planning phase.

Changes from Year One to Year Two: Cohort 1

The nine Cohort 1 schools learned lessons in their inaugural year and worked on improving their programs for the second year. Modifications to schedules and staffing models were common, and though ELT is still a "work in progress," many of the changes resulted in more positive experiences for students and teachers.

One of the key findings from the first year of implementation was that while most respondents were optimistic about the potential benefits of ELT, there were many logistical and programmatic challenges to contend with. Teachers at four Cohort 1 schools reported that they felt the overall implementation of ELT was more successful during the second year. They were more prepared and felt that the schedule had been improved. Teachers also commented that there was more collaboration between teachers and students, and the school culture had become more nurturing. Teachers at two schools mentioned improvements to specific aspects of ELT. For example, at one school, teachers emphasized that ELT had fostered a greater sense of community. At one of the elementary schools, teachers who participated in focus groups felt that their students were now better prepared to enter middle school as compared to before ELT. They attributed this to the richer math and literacy lessons they could provide with the additional time.

However, there was evidence that some Cohort 1 teachers were less positive about the initiative. The principal of one school reported that more teachers left the school due to ELT prior to the second year; while three teachers chose to leave before the first year, six left before year two. At another school, fewer staff chose to stay for voluntary additional hours in the second year of implementation because the longer day was too "draining."

During the first year of implementation (2006–07), three types of schedules had emerged among the 10 ELT schools. These were the integrated schedule, in which the added time was incorporated throughout the traditional school day and academic blocks were lengthened; a divided schedule in which there was the traditional school day plus a distinct expanded day program; and a mixed schedule that included

elements of both the integrated and divided schedules. These patterns were far less prevalent in 2007–08; in fact, across the two cohorts, only two schools exhibited what could be described as a divided schedule. These schools were both Cohort 1 and were in the same district, and it should be noted that their school schedules were largely driven by transportation schedules, as well as staffing constraints imposed by the district's union agreement.

The year one analysis had revealed that the grouping of schools into schedule types nearly mirrored the grade span groupings: the three elementary schools had integrated schedules; the four middle schools had divided schedules; and two of the K–8 schools had mixed schedules while the third had an integrated schedule. This finding indicated that grade span might be predictive of the type of schedule that is implemented. Or to look at it another way, the grade span may have had implications for redesign options. For example, elementary schools generally do not have well defined "periods" other than specials (i.e. art, gym, etc.) because students stay with their classroom teacher for most of the day, which provides greater scheduling flexibility to elongate academic blocks.

Personnel at two of the four schools that were categorized previously as having "divided schedules" talked specifically about ELT feeling more integrated during the second year of implementation. At both schools, the prevalent student perception of ELT during the first year was of a mandatory after-school program, but this view was addressed through scheduling and staffing modifications in 2007–08. Staff at one school reported that with ELT courses staggered throughout the day it felt more integrated, and student energy levels had increased. At the second school, year one was marred by massive staff turnover for the expanded portion of the day: outside providers would come to teach enrichment at the end of the day, and many of the teachers would leave. This staffing model created a big divide between the "ELT staff" and the rest of the staff, because only 60 percent of teachers stayed for the extra time. During year two, the principal persuaded all of the teachers to elect to stay, resulting in far less separation between enrichment and the regular day.

Struggles with enrichment activities, particularly those taught by outside instructors rather than teachers, were common in 2006–07 because many students did not take them as seriously as their academic courses. One factor that fueled this perception was ambiguity about grading for enrichment classes; at some schools, enrichment classes were not graded or the grades did not count for promotion. Revised grading policies that made students accountable for enrichment classes helped to elevate the importance of these courses in schools that encountered these issues in year one.

At one school, it was reported that outside enrichment providers gained legitimacy during the second year of implementation; previously, they had not been viewed as "real teachers" or authority figures. This was a common finding across schools that relied heavily on partners to provide enrichment in year one, and in year two some schools employed strategies to incorporate outside partners into the school culture. For example, one school required external providers to attend an initial training session and weekly staff meetings throughout the year; another had literacy and math coaches train outside partners on teaching ELA and math so that enrichment activities would reinforce academic content. Another major change that took place at several schools was the decision that teachers must be present when outside providers were leading enrichment activities. Schools came to realize that this worked better for them, as providers were more supported by teachers and could receive assistance with classroom management.

During the 2006–07 school year, schools had the most difficulty implementing additional time for collaboration, planning, and professional development. In 2007–08, helping schools to make time for common planning was a priority for the ESE, and interview and focus group findings indicate that the schools were in fact more successful in implementing time for teachers to work together. Several schools modified their schedules to create or increase common meeting time. In addition, some schools also increased the number of early release days for professional development and faculty meetings. Increases in individual planning time were less common than increases in other types of planning and/or professional development during the second year of ELT.

Year Two Findings

In general, the two cohorts of ELT schools exhibited many similarities, particularly in terms of their rationale for applying for ELT grants. Further, the Cohort 2 schools resemble Cohort 1 in their willingness to implement an initiative that is extremely complex and still in its infancy.

Cohort 2 did have the opportunity to learn from Cohort 1 schools, which enabled them to anticipate some challenges that caught Cohort 1 schools by surprise and/or simply to expect the unexpected. Cohort 2 schools in districts with Cohort 1 schools were less likely than Cohort 2 schools in new ELT districts to report unanticipated logistical challenges. A technical assistance provider from Mass 2020 told us that in the first year of ELT, s/he "couldn't get past the logistics," but that subsequently, TA providers have been able to help schools navigate the logistical pitfalls during the planning process or very early in the implementation stage. For the most part, Cohort 1 schools had overcome the bulk of their logistical problems—with the exception of issues such as transportation and staffing that were largely out of their control due to district-level contracts and union agreements—and were able to more fully concentrate on refining their programs and focus on the three major elements of ELT: academic instruction, enrichment, and teacher planning and collaboration.

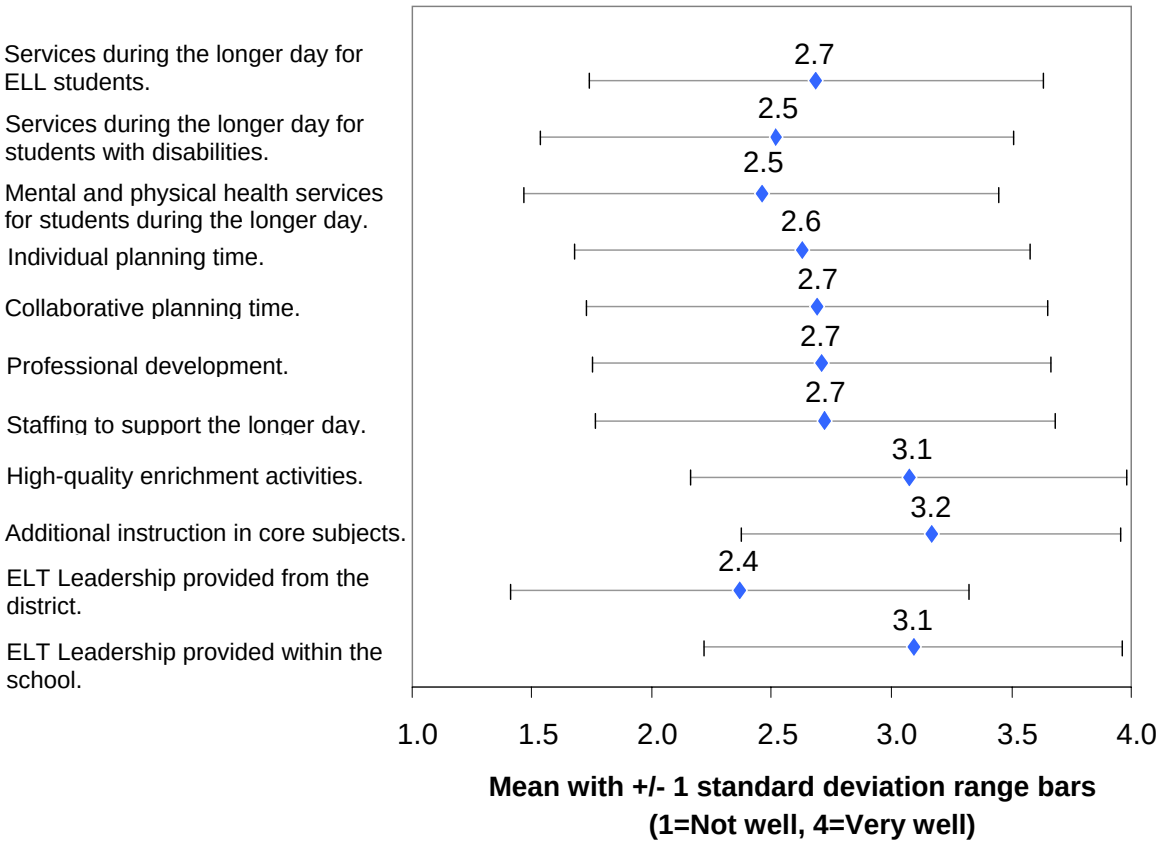
Exhibit 6 shows teachers' perceptions of the initiative towards the end of the school year.[12] The mean scores representing teachers' perceptions of how well ELT was going in 2007–08 indicate that respondents were generally satisfied with implementation to date, but that there may still be areas for improvement. Survey respondents were most positive about their schools' implementation of high-quality enrichment activities and additional instruction in core subjects, as well as the leadership provided within the school for implementing ELT.

Academic Learning Time

With a longer school day, all ELT schools across cohorts increased academic learning time for all students. Exactly how schools chose to devote this extra learning time varied, but in general, ELT schools focused primarily on improving ELA and math performance.

[12] The analysis for Exhibit 6—and all subsequent exhibits that present findings for ELT teachers only—includes the 15 of 18 ELT schools that had at least a 50 percent response rate.

Exhibit 6: ELT Teachers' Perceptions of How Well the Expanded Day is Working at their School, Spring 2008



Source: MA ELT Teacher Surveys, spring 2008.

Sample: 581 teachers from 15 ELT schools.

Interviews with principals and teachers, as well as obtained copies of school schedules, revealed that ELT schedules included 90 to 180 minutes of ELA per day at most schools; nine schools reported having more than 90 minutes of ELA each day. Elementary schools increased time for ELA instruction to a greater degree than middle schools. At the five middle schools, 60 to 90 minutes each day was devoted to ELA. Three schools also mentioned adding a "drop everything and read" or independent reading time each day for 20 to 30 minutes. Teachers at one school felt that there was too much ELA in the new schedule, stating that they had their "regular program" plus "ELT English."

In addition, multiple schools across cohorts emphasized the importance of writing, creating longer writing periods or separating writing from the rest of ELA for the first time. Staff at one school said that writing was previously inconsistent, but with ELT they could take the time to improve writing and provide teachers with specific professional development opportunities in this area. At another school, an entire 60-minute block each day was devoted to writing.

Schools reported devoting 60 to 120 minutes per day to math instruction. Ninety-minute math blocks were most popular and represented an increase of 30 to 60 minutes for some schools. One principal stated expanded learning time allowed for a more comprehensive approach to math—focusing more on problem solving, collaboration, informed discussions, and scope and sequence—which was an important goal for them. Another school increased their focus on math by creating a number of single-gender math classes and instituting "Math Fridays," for which teachers teamed up to teach both the language around math (including word problems) and specific math skills.

While ELT schools predominantly focused on additional learning time for ELA and math, time for other academic subjects was often expanded as well. Some schools reported that they did not have enough time for science and social studies prior to ELT and now had time for these subjects, which were sometimes completely omitted in previous years. One school reported that in 2007–08 they had an additional two hours per week of science and two additional hours for social studies. However, teachers at another school expressed a desire for more time for social studies, and one principal stated that the expanded science and social studies programs were not as strong as literacy and math; this principal attributed the limited the time available for science and social studies to the inclusion of enrichment activities in the schedule.

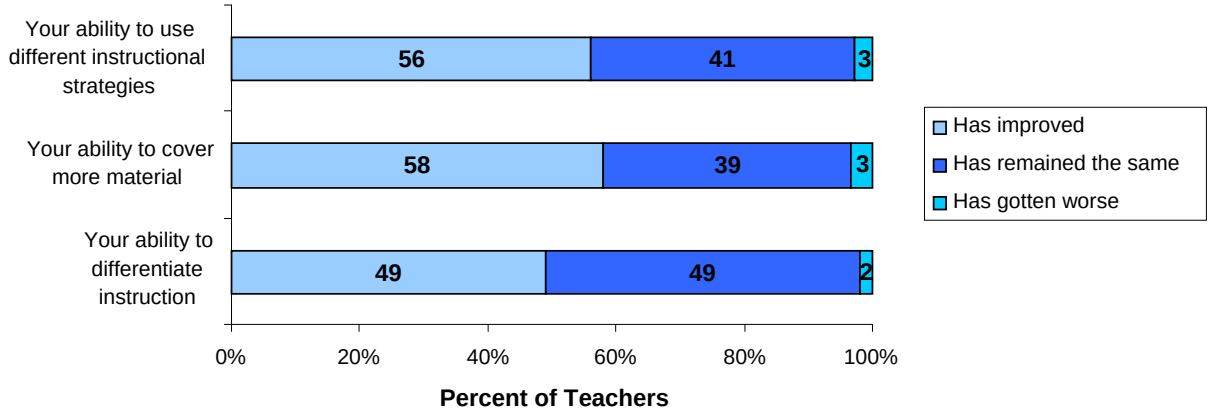
Additional academic time allowed for new and increased learning experiences for students. Many schools reported that with ELT they could do more project-based learning and hands-on lessons. Teachers were pleased to have more time for science labs and experiments. Math curricula were enhanced with the addition of "math centers," "math games," and the use of manipulatives. Smaller groups or class sizes were reported at two schools. Teachers at one school reported that with a longer day, they have time for independent work and in-class practice, along with a traditional full-class lesson. At another school, teachers emphasized that ELT created time for students to stop and share; sharing became an important part of the classroom culture. One teacher said, "Students are engaging with each other in an academic way more than ever before."

ELT also brought about the creation of new academic support programs in schools. These programs included "advisory groups," "academic leagues," and homework support programs. One school created a block for "directed study," during which teachers and students focus on test-taking skills, open response practice, and academic areas such as reading and math.

Teachers and principals also reported that the experience of teaching academic subjects had changed since the implementation of ELT. Across schools, most teachers appreciated having more time for academics and reported feeling less rushed and more relaxed; many teachers commented that the pace of the day had improved. Teachers at multiple schools stated that they were able to go more in depth with their lessons, initiate richer conversations with students, and collaborate more with each other, even across disciplines. Teachers also reported that the extra time allowed for differentiated instruction; one teacher noted that s/he was able to "teach a given lesson on three different levels" by preparing lessons that reach different types of learners, such as the "visual learner, kinesthetic learner, and auditory learner." Multiple teachers also reported doing more "on the spot" or informal assessments, because they were able to spend more time working individually with students to monitor their progress. These findings are consistent with reports we heard from schools in both years and cohorts, even when they were overwhelmed by logistical challenges, indicating that changes in the pace and depth of instruction are among the early positive effects of ELT.

Further information about teachers' perceptions of the effect of ELT on instruction was obtained through the teacher survey. Exhibit 7 indicates that over half of respondents perceived improvements in their abilities to use different instructional strategies and cover more material (56 percent and 58 percent, respectively), and nearly half of respondents perceived an improvement in their ability to differentiate instruction.

Exhibit 7: Teachers' Perceptions of the Effect of ELT on Instruction



Source: MA ELT Teacher Surveys, spring 2008.

Sample: 581 teachers from ELT schools.

Exhibit reads: In spring 2008, 56 percent of teachers in ELT schools reported that their ability to use different instructional strategies had improved because of the longer day, 41 percent reported that their ability stayed the same, and 3 percent reported that their ability to use different instructional strategies had gotten worse.

Enrichment

Enrichment is one of the distinguishing features of the ELT schedule that makes it differ from standard school schedules. Many school personnel stated that students look forward to enrichment classes and enjoy the new experiences offered by the school. The way enrichment was structured and the types of activities offered varied across schools, including an array of academic and non-academic options. Further, schools' approaches to staffing enrichment courses included using their own staff and/or bringing in external providers and partners.

ELT schools offered a long list of enrichment opportunities to students. Some offered music classes including percussion and folk music; two schools mentioned African drumming as a popular class. Many schools offered courses that promote physical activity as well as skill development such as ballet, hip hop, tennis, yoga, swimming, martial arts, ballroom dancing, gymnastics, and other exercise classes and sports. Arts and crafts classes were also offered, including glassmaking, ceramics, knitting, and sewing; drama was another popular offering. Further, principals and teachers at roughly one-third of the schools mentioned having more field trips with ELT. Field trips were important at a number of schools because they introduced students to activities and places they may not have experienced before, such as farms, college campuses, concerts, museums, movies, and the local YMCA.

The majority of ELT schools offered a mix of these more "traditional" types of enrichment activities and more academically focused courses. However, the elementary schools were more likely than middle schools to have more non-academic offerings than academic enrichment activities: four of the seven elementary schools had substantial non-academic offerings versus only one of six middle schools. The more academically oriented offerings included math games and investigations, science club, solar cars, robotics, foreign language, and a stock market game. Only a couple of schools mentioned having only academic enrichment at the school, but nearly half of the schools specifically mentioned wanting their enrichment programs and projects to tie in to the academic subjects. One school aimed to only have enrichment related to science and math while others included language arts and social studies as well.

Most schools offered students enrichment between one and four times per week; only one school mentioned that some of their students have enrichment classes every day. It was most common for students to have enrichment twice a week. The time of day when enrichment classes were held also varied. Most schools reported that enrichment was scheduled for the later part of the day or the last period, but some schools staggered enrichment classes throughout the day. Each strategy appears to have its benefits and challenges. Some principals and teachers reported that when enrichment falls at the end of the day, it risks becoming a more separate "ELT time" and can be seen as an add-on, free time, or a mandatory after-school program versus one integrated day. However, when enrichment occurs in the middle of the day, some teachers reported that the transition interrupts the flow of their academic lessons.

Enrichment courses typically lasted between six and ten weeks and were led by teachers, outside partners, or a combination of both. Students often were presented with a list of enrichment classes and asked to pick their top choices. Some teachers and principals reported that allowing students to choose helps to keep them invested in their enrichment courses. At roughly half of the schools, teachers came up with their own ideas for enrichment activities to lead, often submitting proposals to the principal or ELT coordinator. Teachers at one school commented that it is nice to be able to share something that is important to them with their students. Based on explicit and implicit reports, at least some of the improved connections between teachers and students are likely attributable to the time spent in enrichment activities.

Several themes emerged when principals, teachers, and ELT coordinators spoke about enrichment. One theme we heard primarily in Cohort 1 schools, but also in one Cohort 2 school, was the importance of teachers being present when outside partners are providing enrichment. For a number of schools, early experiences taught them that the teachers' presence was necessary in order for enrichment to run smoothly. Multiple schools mentioned that partners lack classroom management skills and that student behavior problems increased during partner-run enrichment. At one school, teachers also mentioned being able to provide follow-up lessons later if they were present during this time.

Teachers who participated in focus groups had mixed opinions on the value of enrichment activities. On one hand, many noted that enrichment presents students with many opportunities that they would not normally have outside of school. District administrators and principals often echoed this idea, believing that students enjoy enrichment time and are doing healthier and more productive things with their time than they would be on their own after school. Some see in-school enrichment opportunities as opening the children's worlds and allowing them to "gain cultural capital." ELT not only helps to "close the achievement gap for disadvantaged students," but it also narrows the "access gap," said one principal who praised ELT for helping to increase student exposure to cultural experiences like museums and the

symphony. In addition, some spoke of the evolving relationships between teachers and students that enrichment often facilitated.

On the other hand, some teachers commented that with immense pressure to improve MCAS scores, they wondered if more academic work would be a better use of their time. One principal strongly agreed with this idea and believed that more instructional time was critical if they want to raise test scores. Some parents also expressed worry about the quality of enrichment activities as far as the credentials of those who lead them and whether they are a worthwhile use of the children's time. This finding indicates that some schools might benefit from additional clarification and guidance from the ESE about how to incorporate enrichment offerings into their programs, including how schools are using enrichment to reinforce academic content and concepts. Notably, the schools that reported having difficulty implementing successful enrichment programs were those that reported receiving minimal technical assistance, a topic which is addressed more fully in a subsequent section.

Ten of the 18 ELT schools have designated ELT coordinators or managers, and the study team conducted interviews with them to determine how this role is typically utilized. The majority of ELT coordinators reported that one of their primary responsibilities was to form and manage community partnerships. This sometimes included reviewing proposals and setting up contracts with partners to work at the school. Creating the school's enrichment schedule was also a common duty. Some ELT coordinators oversaw enrichment time, determined which enrichment courses would be taught by whom, and obtained needed materials. Two coordinators mentioned filling in as substitute teachers if necessary, and two were in charge of organizing professional development for partners or teachers. Another two coordinators said that they reviewed lesson plans or worked with partners to create the curriculum. Coordinating community meetings or organizing events for students and their families was also a reported responsibility.

Community Partners

Many schools partnered with outside organizations for their enrichment activities. The study team interviewed 13 community partners who worked with 15 ELT schools.[13] Six Cohort 1 and one Cohort 2 schools had existing relationships with partners prior to implementing ELT, and three of the partners that were interviewed were working with Cohort 1 schools for the second year. The remaining partnerships were new during the 2007–08 school year. Four Cohort 2 schools formed partnerships with organizations that already had successful relationships with Cohort 1 schools in their district.

Most community partners felt that ELT had a positive effect on their organizations. Partners mentioned gaining exposure in the community and forming relationships with schools that were not possible before. One partner felt that his/her program was more successful when incorporated into the longer day versus when it is run as an after-school program. Community partners sometimes brought in additional staff or changed their schedules to accommodate ELT. Two partners mentioned that one negative effect of ELT in general is that due to the longer school day, fewer students can come to their facilities to participate in regular after-school activities. One partner stated that they "may be reaching some of the same kids through ELT programming," but they "are not making up the lost revenue." Most of the partners

[13] Partners for the remaining three schools declined to be interviewed because they did not plan to continue to work with those schools beyond the 2007–08 year.

interviewed stated that they would like to continue working with ELT schools, especially if the schools were geographically close to the organizations' locations.

Roughly half of the community partners interviewed provide their services at no cost to the ELT schools. These organizations seek private funding, pursue other grant opportunities, and fundraise to support their programs. Partners who do charge schools for services mentioned that the school fees do not fully pay for the services and are supplemented with funds from the organization. One partner mentioned working within the school's yearly budget to determine what the school could pay for the services; when the school's budget decreased, the partner reduced their price. As such, this partner stated that some of his/her staff's time was given on a volunteer basis, and the organization donated much of the necessary supplies. Another partner stated that his/her organization was losing money on the program, and one organization said they would not be able to work with the school in the future because the ELT funds were insufficient to sustain the program. Two others were unsure about continued participation in ELT programs due to insufficient funding.

Most partners provided some type of internal training for their staff but did not receive professional development (PD) at the school or specific training for ELT. Two partners admitted that their staff could use additional training, and one mentioned that they do not have enough funding to do this. Only one partner mentioned attending the school's in-service training sessions with teachers at the school; while the information given was sometimes more applicable to the teachers than the partner representatives, they still found it to be a useful opportunity. Many school principals confirmed that PD was not provided for partner organizations. One principal mentioned that it would be helpful to have a process for acclimating partners in the future. This idea was also expressed in year one of the evaluation, and it suggests that finding ways to better integrate partners—especially those who spend a substantial amount of time in the schools and/or provide direct instruction—might lead to more successful partnerships, and ultimately more successful enrichment activities. Only one principal stated that all school partners attend weekly staff meetings and attended training at the beginning of the year. At another school, the ELT coordinator said they run a workshop for partners to familiarize them with classroom management and the school environment, and partners regularly attend meetings.

When asked about the challenges of working with the ELT schools, the community partners often had unique issues to overcome. However, three partners mentioned the difficulty of working with students who have behavioral problems or other special needs. Teachers and principals interviewed also mentioned that classroom management had become an issue when partners worked with students; students may not treat the outsiders with the same respect as they do teachers, and partner representatives may lack the classroom management skills that teachers have acquired. Other challenges were sometimes present during the first year of the partnership but were resolved by the second year of the program, as we learned from several Cohort 1 schools. Most partners were able to successfully address the challenges they faced, but one mentioned ending their relationship with the school due to scheduling and communication difficulties. When district administrators were asked about the challenges of ELT as a whole, administrators often mentioned it had been a challenge to find high-quality partners, develop relationships, and solve scheduling issues.

Partners interviewed were asked to provide advice for others who are planning to work with ELT schools. Most agreed that communication and forming supportive relationships with school personnel were extremely important. They advised meeting with administrators and teachers regularly and having plans

laid out at the beginning of the year. One partner discussed the importance of finding out what the unique needs and goals of the school are and tailoring the program accordingly, instead of implementing a standard program for all schools. One principal interviewed echoed this idea, stating that some partners have "cookie cutter ideas" of what they should do in a school, but he would like a more customized program.

Collaboration, Planning, and Professional Development

Common Planning Time

Unlike in the first year of ELT, all of the schools, across cohorts, reported having common planning time incorporated into teachers' schedules, though the amount and frequency of that time varied among the schools. The amount of common planning time scheduled ranged from 48 minutes per week to 45 minutes per day. All but two of the Cohort 1 schools reported having the same amount or more time for common planning in their second year of ELT.

Teachers commonly met in grade-level teams, though a few also had department meetings grouped by content; this was particularly common for middle grade teachers. Common planning time was attended by math and ELA coaches at some schools, and principals sometimes participated in team meetings. The meetings were used as opportunities to review student work and assessment data, discuss behavior issues, and share instructional strategies.

Common planning time typically was scheduled during elective or "specials" periods, but several principals noted that scheduling the time was difficult and coverage could be an issue. As noted previously, many schools discovered that having a teacher in the classroom during enrichment classes with outside partners was necessary to make productive use of the time; therefore, additional enrichment periods typically did not translate into additional planning time for teachers. Schools also used early release days for common planning and professional development.

Teachers and principals alike spoke of the merits of common planning time, in terms of both addressing student issues and sharing instructional practices, and teachers in some schools would like to see more of it. According to one principal, "Teachers are talking where they didn't before…. Now we have common planning time to look at student work. They want to go into each other's classrooms to learn new techniques." Teachers at several schools mentioned meeting informally with their colleagues to supplement the scheduled time. Teachers from one school reported that the informal time is crucial because their scheduled common planning time is frequently supplanted by other activities.

Individual Planning Time

Teachers from 5 of the 18 ELT schools reported an increase in individual planning time in 2007–08; 3 of those schools were Cohort 1. Teachers from the remaining schools indicated that they did not receive additional planning time, even when teaching additional courses or longer class periods. This finding echoes what was heard from Cohort 1 teachers during the 2006–07 school year, and in 2007–08 teachers in both cohorts reported that they would like an increase in planning time commensurate with their increased teaching load.

Professional Development

Principals and teachers at all ELT schools reported the availability of professional development (PD) for teachers. Due to the difficulty of attending external PD opportunities with an expanded schedule, most schools increased their internal offerings. The schedules for three of the schools included weekly early release days for students which allowed for PD, and one school offered PD during bi-weekly early release days. Four additional schools had monthly early release days that are used for teacher PD. One school added five early release days per year for PD.

While teachers at most of the schools expressed satisfaction with the internal PD offerings, teachers at 6 of the 18 schools noted that they are no longer able to attend PD outside their schools. According to survey findings, approximately 41 percent of respondents indicated that they were unable to attend all of the PD opportunities they wanted; a quarter of those respondents indicated that the PD offering conflicted with their school's schedule as at least one of the reasons they could not attend. Other prevalent reasons selected included that PD was held off site, no release time was provided, and teachers were too exhausted to attend; these too are likely associated in some part with the expanded schedule.

In addition to asking school personnel about collaboration, planning, and PD in interviews and focus groups, the teacher surveys included items designed to quantify the amount of time spent on these activities in ELT and matched comparison schools; Exhibit 8 presents the survey findings. Teachers in ELT schools spend significantly more time per week in collaborative planning time than do teachers in matched comparison school (2.3 hours vs. 1.6 hours, respectively). There was no significant difference in how often teachers were asked to do things in place of their collaborative planning time (e.g., participating in a focus group about school initiative). Teachers in both ELT and matched comparison schools reported that a variety of school personnel regularly attend collaborative planning time—particularly classroom teachers and special education teachers, and to a lesser degree principals and coaches and specialists. These collaborative planning meetings, in both ELT and matched comparison schools, typically addressed behavior management strategies, interpreting assessment results, and planning lessons.

It can also be seen in Exhibit 8 that there were no statistically significant differences between teachers in ELT schools and matched comparison schools in the amount of time they reported was dedicated to individual planning time while at school (4.2 hours per week for both ELT and matched comparison school teachers) or the frequency with which teachers were asked to do things in place of their individual planning time (e.g., serving as a substitute).

A significantly greater percentage of teachers in matched comparison schools than ELT schools reported receiving any PD in the 2007–08 school year (97 percent vs. 90 percent, respectively) (see Exhibit 8). Of those teachers who attended at least one PD event, there was significant variation in the total number of hours of PD received in 2007–08. A greater percentage of teachers in ELT schools received more than 75 hours of PD, whereas a greater percentage of teachers in comparison schools reported 26-75 hours of PD.

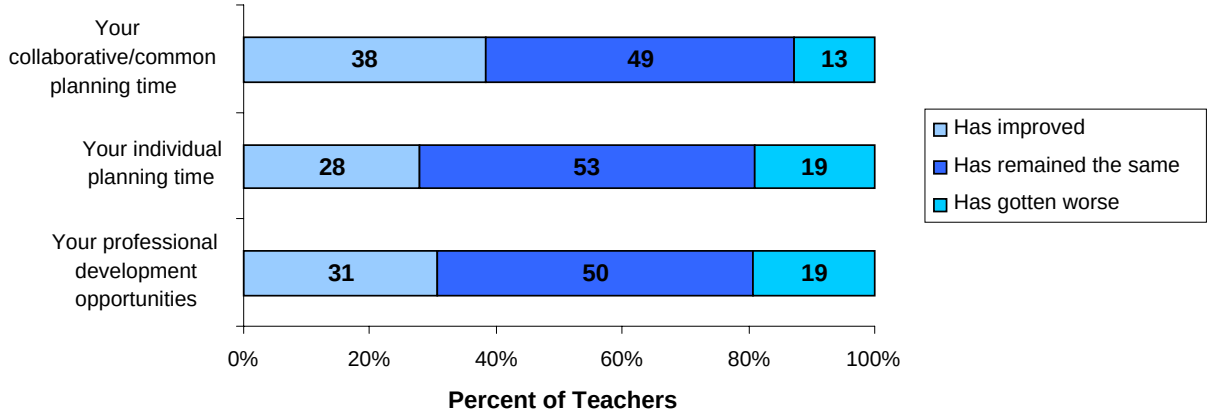
Exhibit 8: Teachers' Collaborative Planning Time, Individual Planning Time, and Professional Development, ELT and Matched Comparison Schools, Spring 2008

	Teachers in ELT Schools	Teachers in MC Schools	p-value
Number of teachers who completed surveys	470	332	
Collaborative Planning Time			
Mean number of hours per week spent in collaborative planning time (std. dev.)	2.3 hours (2.35)	1.6 hours (1.86)	.0002
Mean frequency of how often scheduled collaborative planning time is replaced with unrelated activity or responsibility (on scale of 1-almost never to 5-almost always) (std. dev.)	2.2 hours (1.20)	2.0 hours (1.11)	.0918
Individual Planning Time			
Mean number of hours per week spent on individual planning time (std. dev.)	4.2 hours (2.97)	4.2 hours (2.69)	.9592
Mean frequency of how often scheduled individual planning time is replaced with unrelated activity or responsibility (on scale of 1=almost never to 5=almost always) (std. dev.)	2.2 hours (1.19)	2.2 hours (1.12)	.9611
Professional Development			
Percent of teachers who participated in any professional development activities in 2007–08	90	97	.0003
Total number of hours spent on professional development activities in 2007–08:	Percent of teachers		
Fewer than 10 hours	15	11	
10-25 hours	36	32	
26-50 hours	21	37	<.0001
51-75 hours	8	12	
76-100 hours	9	5	
More than 100 hours	12	4	

Source: MA ELT and Matched Comparison School Teacher Surveys, spring 2008.

The surveys of teachers in ELT schools asked respondents to indicate whether collaboration and common planning time, individual planning time, and professional development opportunities improved, remained the same, or got worse in 2007–08 as a result of ELT. The findings are presented in Exhibit 9. Approximately half of respondents indicated that collaboration, planning, and professional development remained the same. It is important to note that 2007–08 was the second year of ELT for Cohort 1 schools, so their perceptions may not reflect changes from years prior to ELT.

Exhibit 9: Teachers' Perceptions of the Effect of ELT on Collaboration, Planning, and Professional Development



Source: MA ELT Teacher Surveys, spring 2008.
Sample: 581 teachers from ELT schools.

Technical Assistance

The level of support from the ESE, as well as the extensive technical assistance (TA) offered by Mass 2020, are important aspects of the Expanded Learning Time initiative. Therefore, ELT school principals and district administrators were asked about the types and amount of TA their schools have received as they implement ELT. Mass 2020's TA offerings are available to schools at no cost, and participation is voluntary. The majority of schools (nearly three-quarters) reported receiving at least some technical assistance from Mass 2020. While the ESE did not provide formal technical assistance to districts or schools, roughly one-third of principals mentioned receiving support from the ESE. A few schools mentioned receiving TA from within their district, and some felt that assistance from staff at other ELT schools in the district was highly valuable. Two principals mentioned that their schools are a source of support for other schools looking to implement ELT. Only four schools reported that they did not receive much or any technical assistance. The reasons for this varied; most seemed to feel that they did not require such help and preferred to figure things out on their own as a school. Two of these schools mentioned that they were aware that TA was available from Mass 2020 and that ESE staff offered guidance to implementing schools but chose not to seek out these forms of assistance.

Principals and district administrators mentioned many ways that Mass 2020 provided TA. According to these respondents, Mass 2020 conducted training sessions for teachers, assisted with scheduling, and funded school trips to places such as the YMCA. Schools also stated that Mass 2020 assisted with community partnerships, provided general guidance, and helped to identify additional sources of funding. Administrators at multiple schools mentioned in-person meetings or conference calls with Mass 2020 to discuss grant money, student success, and issues that have arisen in other districts and how they have been resolved. Principals also mentioned that Mass 2020 helped organize inter-school visits to observe how other schools are implementing ELT and will also help schools prepare for ESE visits; one interview respondent from Mass 2020 noted that networking with other ELT schools was "one of the keys to success" in planning for and implementing ELT.

Interviews revealed that the ESE assisted with budgets, grants, and timelines, and one principal reported that the ESE was very open to receiving questions via telephone or email. Some principals did not differentiate between the ESE and Mass 2020, but stated that these organizations provided tools for surveys, assisted with the grant writing process, and answered questions as needed. One principal reported that the ESE and Mass 2020 helped the school figure out what professional development was needed and how to use the longer teaching blocks effectively.

Approximately half of ELT principals expressed feeling satisfied with the amount of TA received or available. One stated that there was no doubt that they would receive the necessary support if needed and felt that the ESE truly cares about the success of the ELT program. One principal, who reported receiving some TA, mentioned that it is sometimes difficult to know the right questions to ask when the initiative is still so new; this suggests that for some schools, TA that is more proactive instead of reactive would be beneficial. Findings from interviews with Mass 2020 staff indicate that they learned lessons in the first two years of ELT that will allow them to be more deliberate and systematic in future years in targeting technical assistance activities.

There were no systematic differences between Cohort 1 and Cohort 2 with regard to the amount of TA reported or the schools' level of satisfaction with it. Both cohorts had multiple schools that felt very positively about the TA they received, and both had some schools that reported they only received "some" support. One school in each cohort stated that they received no TA, and one school in each cohort reported that they did not need the technical assistance. Only one Cohort 1 school mentioned that they received some TA (for scheduling) for the first year of implementation but only minimal assistance during the second year. A Mass 2020 TA provider commented that after year one, they had to "completely restructure their approach" in order to meet the needs of a growing number of schools, including bringing on additional TA providers and coaches.

All district administrators interviewed who spoke about TA had positive things to say about the ESE and Mass 2020. One said, "ELT has been very well supported, not only financially, but also with extra support when needed." This administrator went on to praise the ESE and Mass 2020 for being so helpful and responsive, stating that ELT has been one of the most supported initiatives that has been implemented. Other administrators echoed this sentiment as well, expressing that the ESE and Mass 2020 are supportive and helpful partners. One commented that the ESE has granted all of their requests for resources, especially in regard to staff support, and said that they have "no complaints;" the ESE has "been very proactive and very supportive."

Funding

Issues with ELT funding, and how funding might affect the initiative's sustainability, were raised by district and school administrators, teachers, and parents. Many wondered if ELT will continue to be funded or if funding will be discontinued, like many educational initiatives before it. According to district administrators, districts could not afford to continue ELT without state funding. School administrators would like more of a financial commitment from the state so they can develop long-term plans with confidence. After implementing ELT for a year or two, many schools feel it would be difficult for the students, teachers, and families to adjust back to the shorter day.

According to interview respondents, the majority of ELT funding (80-90 percent) at all of the schools was dedicated to paying teacher salaries.[14] Many respondents pointed out that the salary increase for teachers was not equal to the increase in time spent in school; for example, some teachers received an 18 percent raise to work 25 percent longer. Only one district increased pay commensurate with the amount of increased time. However, one principal stated that given the current level of ELT funding, if the increase in teachers' salaries were any higher, they would not have enough money left for anything else that they had planned. There was also the concern that if the $1,300 per pupil award does not increase over time, schools will not be able to keep up with annual salary adjustments.

In a school where ELT is optional for staff, some teachers stated that they would like to work the additional hours, but their school could not afford to pay all of the teachers who were interested in participating in ELT. Principals also mentioned wishing they could hire additional staff including paraprofessionals, counselors, and specialty teachers. Multiple schools reported that sustaining special education classrooms was a challenge and felt that there was not enough money to fully support the specific needs of these students during the expanded day. One school applied for and received an additional grant to help fund the improved integration of students who have disabilities or are English Language Learners (ELLs). Other compensation issues involved paying substitute teachers, who may or may not be paid for the extra time, and figuring out sick leave for teachers.

At 7 of the 10 ELT schools with designated ELT coordinators or managers, that position was full-time; at 3 schools, it was a part-time position. One ELT coordinator, whose primary role was a classroom teacher, found the part-time nature of the job a challenge and wished there was more time to devote to the coordinator position.

With the majority of ELT grant money channeled towards teacher salaries, schools reported there was little left to pay for enrichment/electives, transportation, snacks, and custodial needs. School administrators tried to be both careful and creative when determining the allocation of funds. One school succeeded in obtaining a grant through Food Services that helped pay for daily snacks.

The cost of transportation was an issue on the minds of many respondents. One school was fortunate enough to have a cooperative transportation company that was willing to change their bus schedule free of charge; if the school had been forced to pay for the change, they would not have been able to successfully fund the rest of the initiative. In another district, school administrators knew in advance that they could not afford a substantial increase in transportation costs and limited their selection of ELT schools accordingly. Transportation agreements in one district forced schools to expand their learning time by nearly 40 percent; well above the ESE's requirement.

School personnel and parents mentioned their desire to have more money to invest in community partnerships and improve enrichment. While some schools did successfully use a small portion of funds for cultural enrichment, field trips, and electives such as ceramics, yoga, tennis, and glassmaking, other schools felt they did not have the means to do this. For example, teachers at one school wished students could have the opportunity to try things like cooking and woodworking, which would help support the retention of academic skills they learn in other classes like science and math.

[14] Future analysis of financial data will provide additional specificity about how schools use their ELT funds.

The current award of $1,300 per student represents an increase of between 5 and 12 percent of the districts' regular per pupil expenditures, while time in school increased by 25 percent. One principal commented that the quality of education should remain consistent with the rest of the day during the additional time, but found it difficult with the current level of funding to have enough highly qualified teachers (especially for special education) and keep class size down; if quality drops during "ELT time," students may not take it seriously, and it risks becoming more of an after-school program than the educational experience it was designed to be. Another principal echoed this frustration, saying that the biggest challenge of ELT is the insufficient funds per student. The principal also commented that they have a greater number of students with academic, social, and emotional problems as compared to other districts, and that additional funds are needed to provide adequate support for these students. Other principals noted that the funding was adequate, but that it limited their programs.

Parent Perceptions

Twenty-one focus groups were conducted with a total of 138 parents at 18 schools. Separate groups were conducted in English and Spanish when appropriate. As noted previously, recruiting parent participants for focus groups was difficult, and it is likely that participants were not representative of the majority of parents.

When asked if they were initially in favor of ELT, parents expressed mixed emotions. Parents were often excited about the additional enrichment and time to focus on subjects other than ELA and math, but were also worried that the day would be too long, especially for the youngest students. Some parents were against ELT at first, due to a lack of information, but later became in favor of the initiative after watching it unfold.

A number of parents were strongly in favor of ELT from the start and welcomed the change. Working parents acknowledged that the new school schedule was easier to coordinate with their work schedules and were happy to have their children in school with supervision. Many of these parents appreciated that the extended day helped to keep their children off the streets and provided them with more constructive activities than watching television at home.

On the other hand, there were parents who opposed ELT, stating that they did not want the school day to be extended and had many concerns. These parents were upset that the new schedule interfered with previously scheduled after-school activities. Parents who were opposed also disliked what they perceived as an increased focus on MCAS scores and the reduction in family time. One parent who was especially disgruntled said, "They're trying to replace the family unit. I understand that most kids here don't have a two-parent home, but that's not my case."

Approximately half of the focus group participants reported that they were not at all involved with the planning of ELT at their schools. Further, some parents commented that they do not receive enough information from the school in general and wished for more communication. Some suggested that parent meetings be more inclusive by taking place both in the mornings and evenings and that Spanish meetings also be held. These parents felt that more periodic surveys should be conducted with both parents and students. In six groups, all or most parents reported being active on the school council, and in five groups, some parents did report being involved with the planning committee for ELT.

Parents reported a number of changes to family routines as a result of the extended day. Most commonly, parents mentioned a change in after-school services and activities. With the later dismissal time, it was difficult for children to have outside classes or lessons, and some families switched after-school activities to the weekend. However, it was also mentioned that ELT provides many children with activities that they could not afford on their own outside of school, and some parents benefited from no longer needing to pay for childcare after school.

However, many parents reported that ELT did not require many changes in their families at all or reported positive changes. Parents mentioned that school pickup was now easier, and that the school schedule was more convenient for working parents. One parent reported being able to go back to work, and another appreciated having the time to both work and attend school.

In half of the focus groups, most or all parents felt their children's education had improved due to ELT. They were impressed with the new opportunities and felt their children were learning more. Parents mentioned a positive change in the quality of children's schoolwork and felt that the longer academic blocks were especially beneficial for struggling students. Both parents and their children seemed to love the enrichment activities and field trips, and parents spoke of children who look forward to going to school. At some schools, the opinions were more mixed; these parents often were unsure if education had improved and sometimes were not aware of what changes had taken place at the school due to ELT.

Parents of children with special needs had mixed opinions on ELT. Some were pleased that ELT allowed children extra time to develop and the chance to do extracurricular activities in school with experienced staff. Others reported that their children were having behavior problems due to the longer day and that medications can wear off by the day's end.

Homework was an important issue for parents, and we heard conflicting opinions. Many parents appreciated that their children had less homework with ELT and reported that children now have the opportunity to work on their homework at school. Some parents stated that they had complained to teachers about too much homework in order to get it reduced; parents were annoyed if their children had significant homework after such a long school day. At some schools, half of the parents claimed there was little or no homework, while the other half reported too much homework. Some parents spoke of their belief that homework is necessary, even wishing it would be increased so they could more easily monitor their children's progress.

Summary

Overall, schools continued to make progress in ironing out their redesigned schedules. Most of the logistical issues have been addressed, especially for Cohort 1 schools, allowing schools to focus more prominently on teaching and learning. Teachers and principals lauded the new pace of instruction that ELT allows, and some mentioned an increased sense of community and improved school culture. Parents had mixed feelings about ELT, especially prior to implementation, but were generally positive about the initiative's potential.

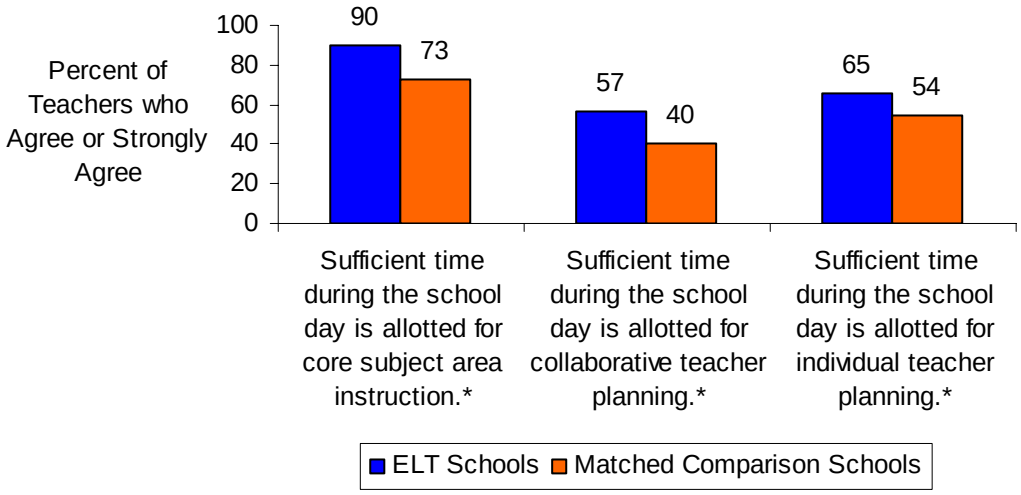
While some schools have established meaningful partnerships with external organizations, this is an area that could likely use additional attention. Schools that are struggling to make effective use of partners,

and/or enrichment more generally, have many examples of successful partnerships and enrichment offerings to draw from and should take advantage of their network of ELT peers.

Funding was an issue that spanned stakeholder groups, and many interview and focus group respondents voiced concern about the sustainability of their programs if state funding were no longer available. Several administrators commented that it was necessary to plan as though the funding were a given, while others lamented the uncertainty and its limitations for long term planning.

Survey results confirmed that ELT has introduced meaningful changes in schools. Exhibit 10 shows that 90 percent of the teachers surveyed in ELT schools agreed that sufficient time was provided during the school day for student instruction, and more than half felt there was sufficient time for collaborative teacher planning and individual teacher planning. These findings mark a contrast with the perceptions of teacher respondents in matched comparison schools; all ELT-matched comparison school differences for these items are statistically significant (see Exhibit 10).

Exhibit 10: Teachers' Perceptions of Sufficient Allocation of Time during the School Day, ELT and Matched Comparison Schools, Spring 2008



Source: MA ELT and Matched Comparison School Teacher Surveys, spring 2008.

Sample: 470 teachers from ELT schools; 332 teachers from matched comparison schools.

Note: A statistically significant difference ($p<.05$) between ELT teachers and matched comparison teachers is denoted by an asterisk (*) next to the item label.

Outcomes

In addition to investigating the process by which expanded time has been implemented in the first two cohorts of ELT schools, a variety of student and teacher outcomes in both ELT schools and the matched comparison schools were examined, drawing on multiple sources of data. These outcomes are discussed below, with one section focused on teacher outcomes and one on student outcomes.

Data were used from teacher surveys administered to all teachers in both ELT and matched comparison schools in spring 2008 to address questions relating to the effect of ELT on teachers' attitudes toward teaching and their perceptions of instructional practices and student attitudes.

Next, original and extant data sources were used to assess the effect of ELT on student outcomes, including participation in activities outside of school; perception of relationships with teachers and of school in general; school engagement; behavior; and academic achievement as measured by MCAS and district benchmark assessments. A $p<.05$ level of statistical significance was used for all analyses.

Teacher Outcomes

All teachers in ELT and matched comparison schools were asked to complete a survey in spring 2008; ELT and matched comparison school surveys included questions pertaining to attitudes about teaching; how time is spent during the school day; and perceptions of students, schools, and districts, and were identical with the exception of questions about ELT implementation that were included on the ELT teacher surveys only. Descriptive information about teachers who completed surveys in ELT and matched comparison schools, by cohort, is presented in Exhibit 11.

Statistical analyses of teacher survey data used chi-square tests to compare the distributions of responses of categorical variables between teachers in ELT schools and teachers in comparison schools, as well as t-tests to compare means. A p-value less than .05 indicated significant differences between respondents in ELT schools and matched comparison schools.

Mean teacher survey response rates ranged from 64 percent among the first cohort of matched comparison schools to 71 percent among the second cohort of ELT schools. However, because three ELT schools had a response rate less than 50 percent and four matched comparison schools did not return surveys, these schools and their pairs were dropped from analysis to address non-response bias and to ensure valid comparisons between ELT and matched comparison schools.[15]

[15] A sensitivity analysis was conducted to examine whether teacher survey results varied depending on which schools were dropped from analysis due to low response rate. In the first approach, only those schools with response rates less than 50 percent were excluded from teacher survey analyses. In the second approach, those schools with response rates less than 50 percent rate *plus* their matches (even if the response rates were greater than 50 percent) were excluded from teacher survey analyses. The study team found that the results were comparable.

Exhibit 11: Characteristics of Teacher Survey Samples, ELT and Matched Comparison Schools, by Cohort, Spring 2008

	ELT Schools		Matched Comparison Schools	
	Cohort 1 (n=9)	Cohort 2 (n=9)	Cohort 1 (n=9)	Cohort 2 (n=9)
Number of teachers who completed surveys	273	197	168	164
Number of schools represented	6	6	6	6
Mean number of years teaching experience (standard deviation)	12.5 years (±10.8)	16.3 years (±10.5)	14.7 years (±10.6)	16.8 years (±10.2)
Mean number of years teaching at this school (standard deviation)	6.9 years (±6.7)	5.7 years (±5.0)	8.3 years (±8.0)	7.6 years (±6.0)
Percent of teachers in first year of teaching at this school	19	19	14	12
Percent of teachers by school configuration				
Elementary school	12	63	11	65
Middle school	77	20	66	23
K–8 school	11	0	23	0
High school	0	17	0	12
Percent of teachers by primary role at the school				
Classroom teacher	54	55	72	70
Literacy/math specialist	2	5	1	5
Instructional coach	3	2	2	2
Special education teacher	15	8	20	15
Substitute teacher	3	1	0	0
Tutor	2	3	2	0
Instructor from partner organization	8	1	0	0
Other	21	24	10	14
Percent of teachers by subject they teach[a]				
All or most subjects (e.g., 2nd grade classroom teacher)	15	33	13	49
Only specific subjects	37	22	33	20
Enrichment activities	22	31	8	10
Other	5	5	6	5
Percent of teachers who serve on school's current instructional leadership team or similar committee	26	32	27	18

Source: MA ELT and Matched Comparison School Teacher Surveys, spring 2008.

[a] The total percentage may exceed 100 percent because teachers could provide more than one response.

As reported in Exhibit 11, teachers in the matched comparison schools tended to have slightly more years of teaching experience, on average, than their ELT counterparts, and ELT schools included a greater percentage of first year teachers than matched comparison schools. In the Cohort 1 sample of teachers, the majority of survey respondents from both ELT and matched comparison schools are middle school teachers (77 percent and 66 percent, respectively); in the Cohort 2 sample, elementary school teachers are the majority respondents for both ELT and matched comparison schools (63 percent and 65 percent, respectively). This pattern is consistent with the grade span representation in each cohort. The majority of respondents from both ELT and matched comparison schools primarily serve as classroom teachers and special education teachers. Just over 20 percent of teachers from ELT schools responded that their *primary* role was something "other" than teaching, such as administrative roles, guidance counselors, or coaches.

In this section, aggregate results from the teacher surveys comparing ELT and matched comparison schools are presented. These data are purposefully not reported by cohort for two reasons: (1) the teacher samples are demographically similar within treatment status (ELT/matched comparison) (see Appendix E on comparability of ELT and matched comparison schools), and (2) analyses by cohort were conducted and results were similar across cohorts, so overall survey numbers are provided for ease of interpretation (survey data by cohort are presented in Appendix G). Statistical analyses of teacher survey data used chi-square tests to compare the distributions of responses of categorical variables between teachers in ELT schools and teachers in comparison schools; t-tests were also used to test for differences on continuous variables. A p-value equal to or less than .05 was used to indicate significant differences between respondents in ELT schools and matched comparison schools.

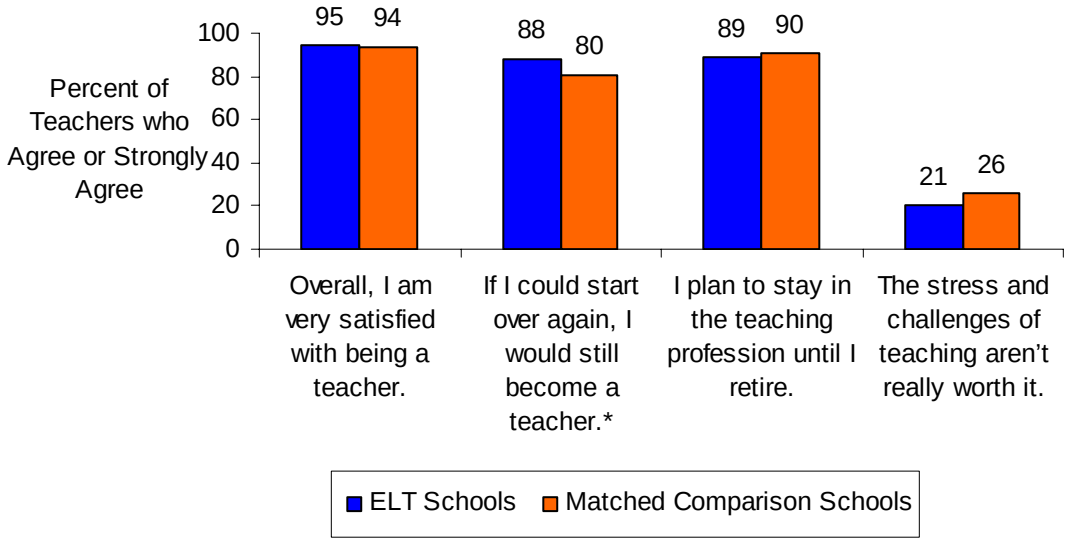
This section begins by addressing teachers' attitudes towards teaching, and then proceeds with an examination of teachers' perceptions of their schools and districts.

Teachers' Attitudes towards Teaching

Teachers were asked to respond to a variety of statements about their attitudes towards teaching as a profession (see Exhibit 12) as well as their satisfaction teaching within their current school (see Exhibit 13). Teachers responded to each statement on a four-point scale from strongly disagree to strongly agree; in this section, the percentage of teachers who reported they strongly agreed or agreed are described. For the most part, teachers in ELT and matched comparison schools both held very positive attitudes about teaching as a profession; the only significant difference was in the percentage of teachers reporting that if they started their career over, they would still become a teacher, with 88 percent of teachers in ELT schools agreeing with this statement versus 80 percent of teachers in matched comparison schools.

In terms of teachers' satisfaction with their current teaching position (see Exhibit 13), the majority of teachers in both ELT schools and matched comparison schools agreed that they were very satisfied teaching at their school (86 percent and 87 percent, respectively). However, significantly more teachers in ELT schools than matched comparison schools indicated that they were considering transferring to a different school (34 percent vs. 24 percent, respectively); this significant differential did not extend to considering transferring out of district. While anecdotal reports from principals and teachers in interviews and focus groups suggest a limited relationship between ELT and teacher mobility, these survey findings indicate that movement out of ELT schools may be more attributable to the initiative than

Exhibit 12: Teachers' Satisfaction with Teaching as a Profession, ELT and Matched Comparison Schools, Spring 2008

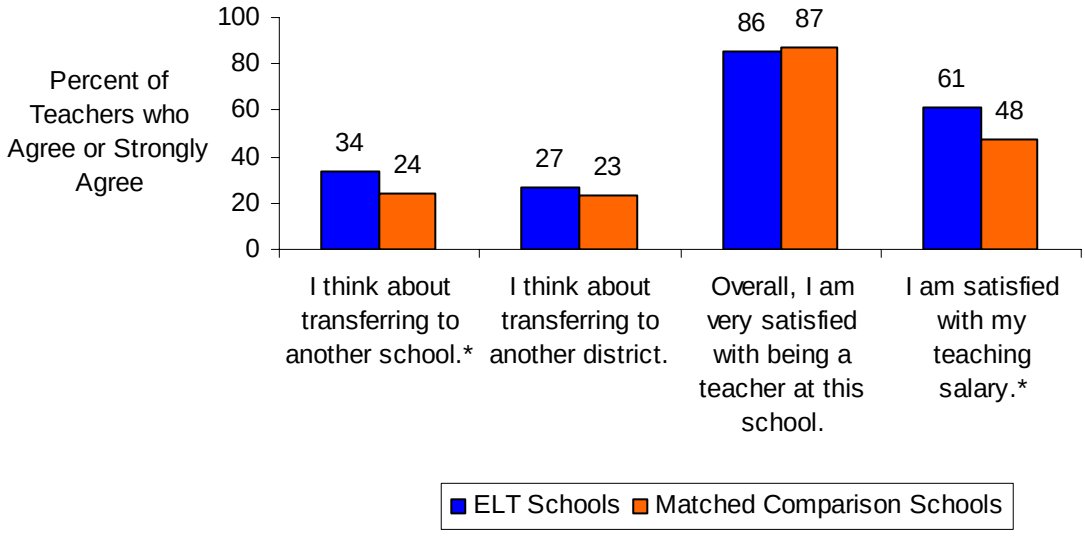


Source: MA ELT and Matched Comparison School Teacher Surveys, spring 2008.

Sample: 470 teachers from ELT schools; 332 teachers from matched comparison schools.

Note: A statistically significant difference ($p<.05$) between ELT teachers and matched comparison teachers is denoted by an asterisk (*) next to the item label.

Exhibit 13: Teacher Satisfaction with Teaching in their Current Position, ELT and Matched Comparison Schools, Spring 2008



Source: MA ELT and Matched Comparison School Teacher Surveys, spring 2008.

Sample: 470 teachers from ELT schools; 332 teachers from matched comparison schools.

Note: A statistically significant difference ($p<.05$) between ELT teachers and matched comparison teachers is denoted by an asterisk (*) next to the item label.

the qualitative findings revealed. The study team will follow up on this issue in future years of the evaluation. More teachers in ELT schools than matched comparison schools were satisfied with their teaching salary (61 percent vs. 48 percent, respectively), which may or may not be surprising given that ELT teachers received additional pay for working additional hours.

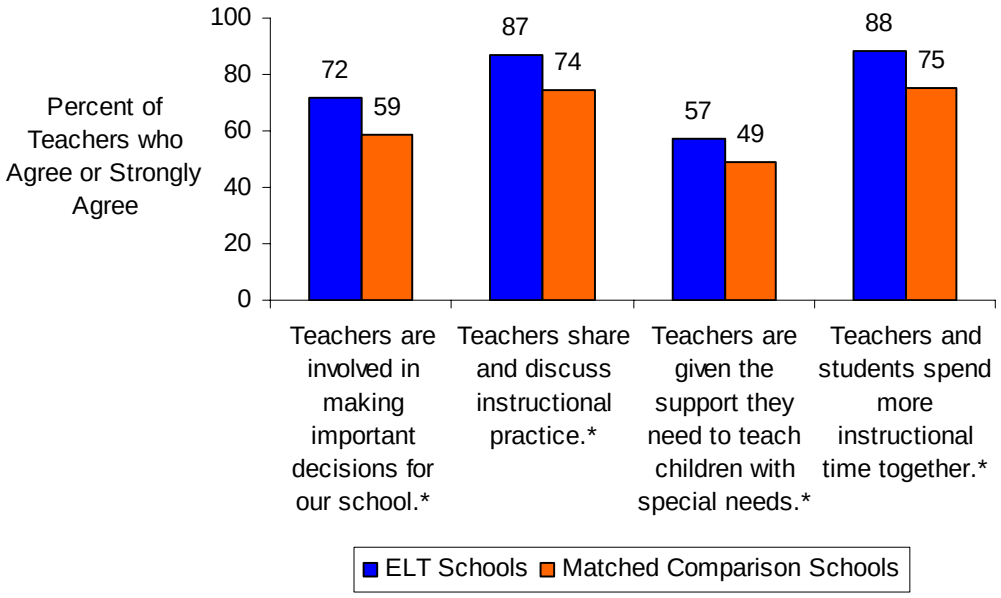
Teachers' Perceptions of Students' Attitudes and School and District Leadership

Teachers were asked to respond to a variety of statements about their school and district. Teachers responded to each statement on a four-point scale from strongly disagree to strongly agree; in this section, findings are reported for the percentage of teachers who reported they strongly agreed or agreed.

Teachers in ELT schools, as compared with teachers in comparison schools, were significantly more positive about the teaching environment within their schools in terms of being involved in school decision making, collaborating with fellow teachers, feeling supported in teaching special needs students, and spending more time with students on instruction (see Exhibit 14).

At least 70 percent of teachers in both ELT and comparison schools rated their principals as strong instructional and administrative leaders; there were no significant differences (see Exhibit 15).

Exhibit 14: Teachers' Perceptions of the Teaching Environment within their Schools, ELT and Matched Comparison Schools, Spring 2008

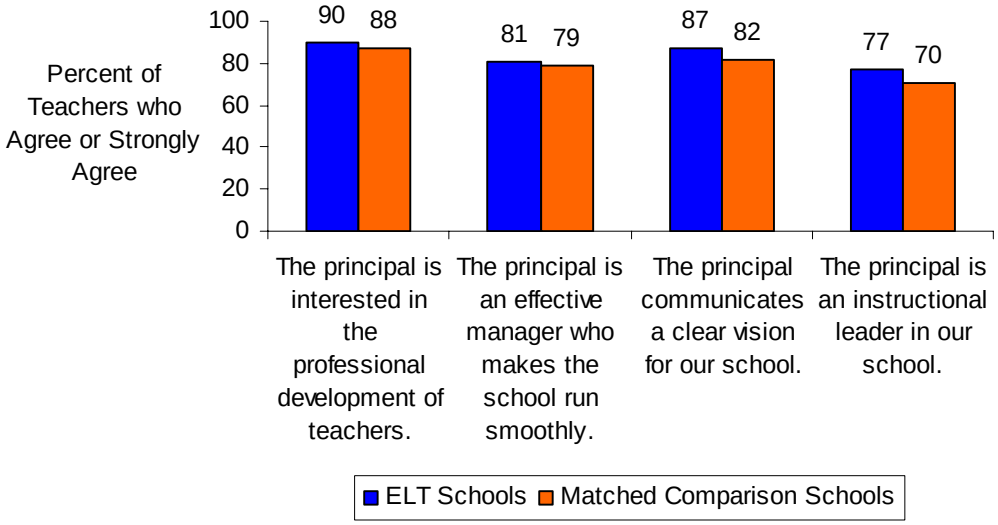


Source: MA ELT and Matched Comparison School Teacher Surveys, spring 2008.

Sample: 470 teachers from ELT schools; 332 teachers from matched comparison schools.

Note: A statistically significant difference ($p<.05$) between ELT teachers and matched comparison teachers is denoted by an asterisk (*) next to the item label.

Exhibit 15: Teachers' Perceptions of Principal Leadership, ELT and Matched Comparison Schools, Spring 2008



Source: MA ELT and Matched Comparison School Teacher Surveys, spring 2008.

Sample: 470 teachers from ELT schools; 332 teachers from matched comparison schools.

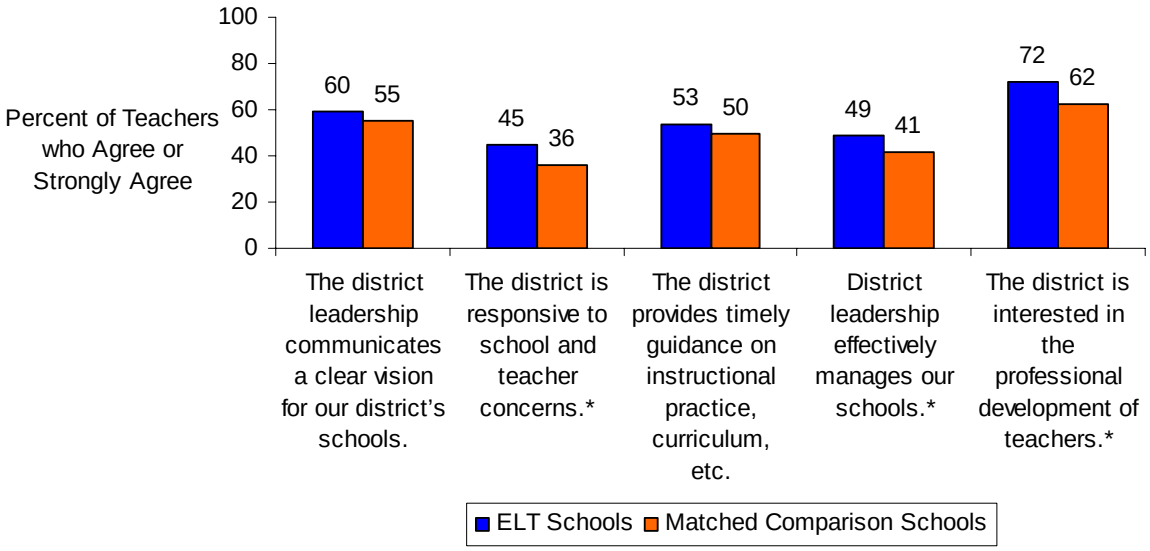
Note: A statistically significant difference ($p<.05$) between ELT teachers and matched comparison teachers is denoted by an asterisk (*) next to the item label.

On the other hand, teachers in both ELT and matched comparison schools were less positive about leadership provided by the district (see Exhibit 16).[16] Significantly more teachers in ELT schools than matched comparison schools agreed that the district is responsive to school and teacher concerns and effectively manages their schools. Seventy-two percent of teachers in ELT schools agreed that the district is interested in the professional development of teachers as compared with 62 percent of teachers in matched comparison schools. In addition, this was the one area in which a solid majority of teachers in both ELT and comparison schools gave the district high marks.

Across ELT and comparison schools, teachers' perceptions of students' attitude were less favorable (see Exhibit 17). Roughly half of teacher respondents reported that students treat each other and their teachers with respect; this finding counters the reports of improved school culture and climate heard in interviews and focus groups with ELT school personnel. There were two significant differences among these items: significantly more teachers in ELT schools than matched comparison schools reported that parents play an active role in their school's functioning (43 percent vs. 28 percent, respectively), and 56 percent of teachers in ELT schools agreed that students take their school work seriously as compared to 42 percent of teachers in comparison schools.

[16] It should be noted that three of the eight districts have experienced superintendent turnover since ELT was implemented.

Exhibit 16: Teachers' Perceptions of District Leadership, ELT and Matched Comparison Schools, Spring 2008

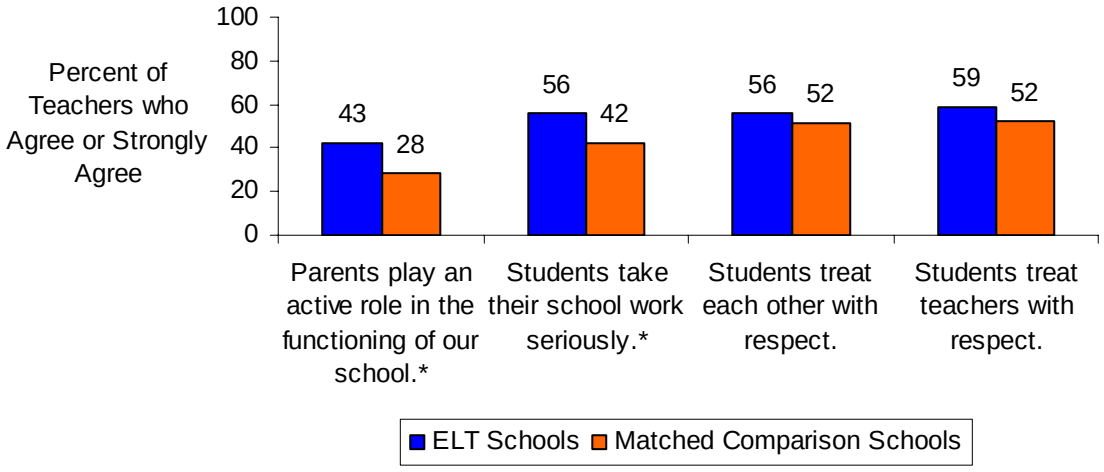


Source: MA ELT and Matched Comparison School Teacher Surveys, spring 2008.

Sample: 470 teachers from ELT schools; 332 teachers from matched comparison schools.

Note: A statistically significant difference ($p<.05$) between ELT teachers and matched comparison teachers is denoted by an asterisk (*) next to the item label.

Exhibit 17: Teachers' Perceptions of Parent Involvement and Student Attitudes, ELT and Matched Comparison Schools, Spring 2008



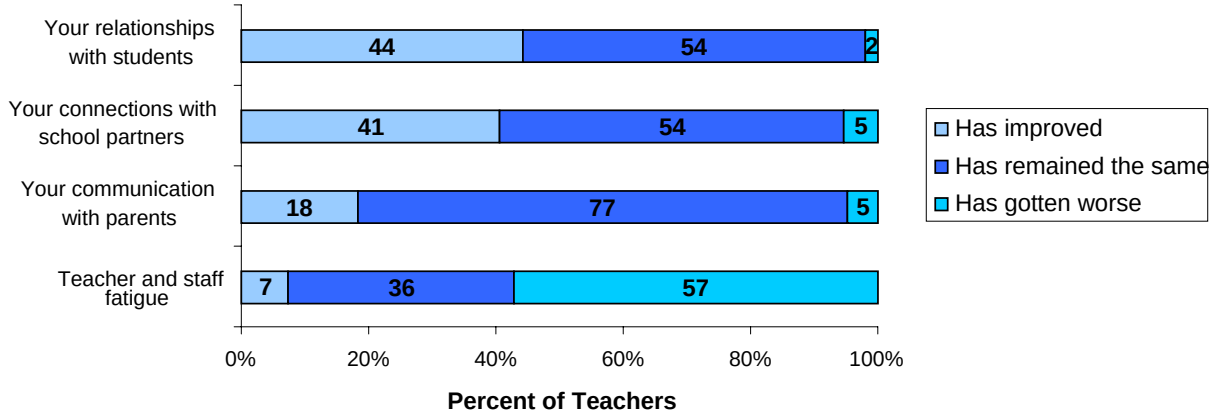
Source: MA ELT and Matched Comparison School Teacher Surveys, spring 2008.

Sample: 470 teachers from ELT schools; 332 teachers from matched comparison schools.

Note: A statistically significant difference ($p<.05$) between ELT teachers and matched comparison teachers is denoted by an asterisk (*) next to the item label.

In addition, surveys asked teachers in ELT schools to report their perceptions of ELT's effects on several school culture indicators, as present in Exhibit 18. While very few respondents indicated that relationships with students, connections with school partners, or communication with parents had gotten worse with ELT (2 percent, 5 percent, and 5 percent, respectively), the majority of respondents reported that teacher and staff fatigue had gotten worse as a result of ELT (57 percent). This finding is consistent with reports from principals and teachers in interviews and focus groups.

Exhibit 18: Teachers' Perceptions of the Effects of ELT on School Culture

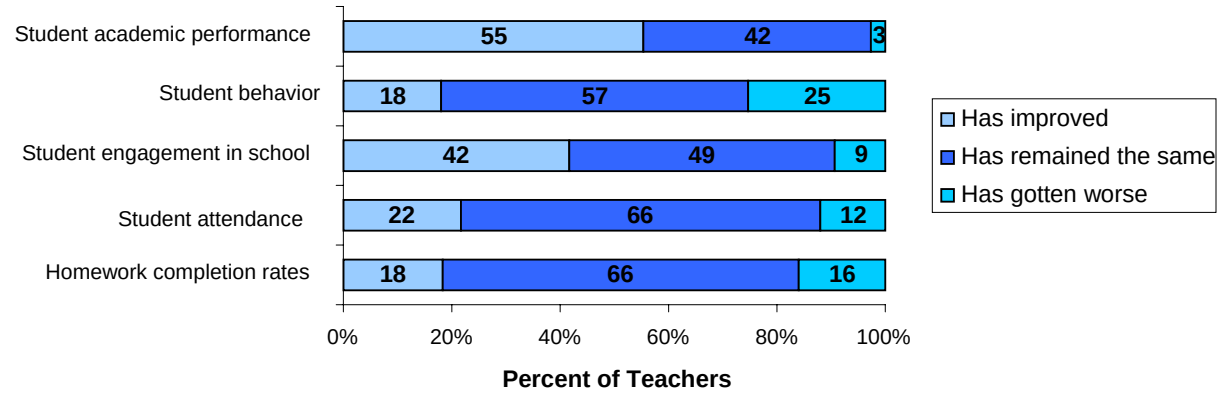


Source: MA ELT Teacher Surveys, spring 2008.

Sample: 581 teachers from ELT schools

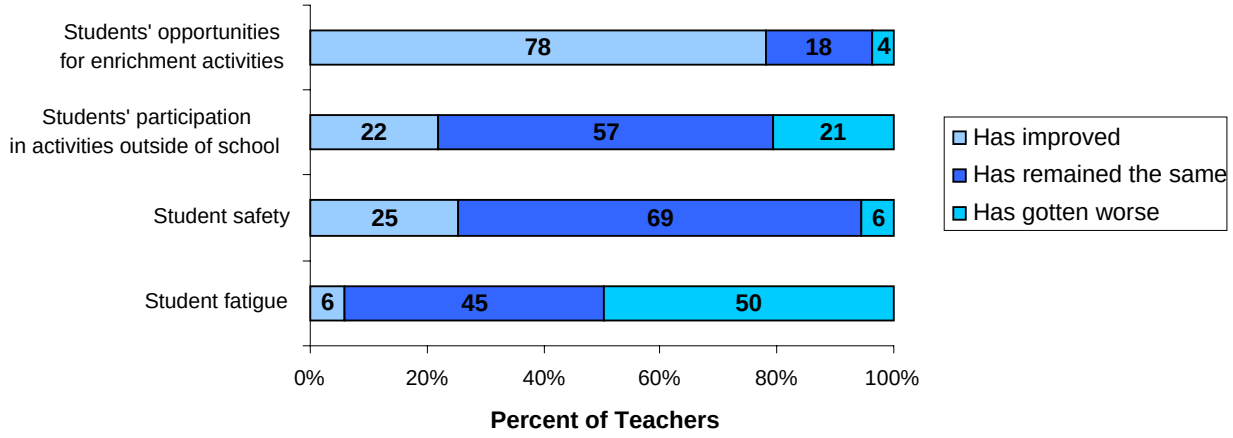
Finally, the teacher survey asked teachers in ELT schools to respond to questions about their perceptions of the impact of ELT on student outcomes as well as students' opportunities for enrichment and extracurricular activities, safety, and fatigue (Exhibits 19 and 20). Over half of the respondents reported that student academic performance improved because of ELT (55 percent), and 42 percent indicated that student engagement had improved (see Exhibit 19). Over three quarters of respondents indicated that students' opportunities for enrichment activities had improved (78 percent), and one quarter of respondents perceived an improvement in students' safety (see Exhibit 20). Exhibit 20 shows that fatigue was not exclusive to teachers and staff; half of respondents indicated that student fatigue had gotten worse with ELT.

Exhibit 19: Teachers' Perceptions of the Effect of ELT on Student Outcomes



Source: MA ELT Teacher Surveys, spring 2008.
Sample: 581 teachers from ELT schools.

Exhibit 20: Teachers' Perceptions of the Effect of ELT on Students' Opportunities for Enrichment and Extra-Curricular Activities, Safety, and Fatigue



Source: MA ELT Teacher Surveys, spring 2008.
Sample: 581 teachers from ELT schools.

Student Outcomes

To assess the effect of ELT on student outcomes, multiple sources of original and extant data were examined. This section utilizes data from the ELT evaluation student survey, extant school-based student behavior records, the MCAS 8th grade student questionnaire, and MCAS and other benchmark assessments. Results from the ELT and matched comparison school student survey are presented first, focusing on student participation in activities outside of school, relationships with teachers, perceptions of the school learning environment, and school engagement. Findings from the 8th grade MCAS student questionnaire and the extant data of students' school behavior are also displayed. The interrupted time series analysis, a rigorous quasi-experimental analytic technique, of student performance on MCAS follows. The section concludes with a case-study analysis of the relationship between ELT and student academic performance in one ELT district.

Evaluation Survey Data

Students in grades 5 (or grade 4 if an elementary school did not have grade 5), 8, and 10 with parent permission were asked to complete a student survey in spring 2008. ELT and matched comparison school surveys included questions pertaining to attitudes toward school as well as in-school and extra-curricular activities, and were identical with the exception of questions about ELT implementation included on the ELT student surveys only. Descriptive information about students who completed surveys in ELT and matched comparison schools, by cohort, is presented in Exhibit 21. Aggregate student outcomes are then presented, comparing ELT and matched comparison schools.

Statistical analyses of student survey data used chi-square tests to compare the distributions of responses of categorical variables between students in ELT schools and teachers in comparison schools. A p-value less than .05 indicated significant differences between respondents in ELT schools and matched comparison schools.

Response rates for student surveys ranged from 33 percent among the first cohort of matched comparison schools to 61 percent among the second cohort of ELT schools. However, because seven ELT schools had a response rate less than 50 percent and nine matched comparison schools had a response rate less than 50 percent or did not return surveys, these schools and their pairs (a total of 12 pairs) were dropped from analysis to address non-response bias and to ensure valid comparisons between ELT and matched comparison schools (see Exhibit 21).[17] Low response rates were concentrated in the 8th grade. Therefore, while survey results may be considered reflective of the effects of ELT at the elementary school level (i.e., grade 5), survey results are not representative of the experiences of middle school students (i.e., grade 8) or the ELT initiative as a whole.[18]

[17] A sensitivity analysis was conducted to examine student survey results when only schools with less than a 50 percent rate were excluded from analyses, but keeping in their match; results were comparable.

[18] As an aside, the study team has already put in place additional techniques to try to increase student response rates in year three of the evaluation.

Exhibit 21: Characteristics of Student Survey Samples, ELT and Matched Comparison Schools, Spring 2008

	ELT Schools		Matched Comparison Schools	
	Cohort 1 (n=9)	Cohort 2 (n=9)	Cohort 1 (n=9)	Cohort 2 (n=9)
Number of students who completed surveys	82	264	85	239
Number of schools represented	2	5	2	5
Percent of students who attended the same school last year	91	64	84	56
Percent of students by grade level [a]				
4th grade	0	13	0	18
5th grade	80	87	56	82
8th grade	20	0	44	0
10th grade	0	0	0	0
Percent male	44	44	46	48
Percent of students by race/ethnicity [b]				
White	52	85	54	80
African-American or Black	37	9	28	10
Hispanic	26	30	31	32
Asian	6	3	11	7
American Indian or Alaskan Native	6	4	5	0
Native Hawaiian or Pacific Islander	1	0	1	0
Other	9	2	9	5
Percent of students by language spoken at home				
English only	57	67	45	56
Other language only	12	13	22	23
English and other language(s)	29	19	33	21

Source: MA ELT and Matched Comparison School Student Surveys, spring 2008.

[a] Surveys were administered to students in grades 5, 8, and/or 10, as applicable. Surveys were administered to students in grade 4 at two schools where grade 5 is not offered.

[b] The percentages do not sum to 100 percent because more than one race/ethnicity could be selected.

Exhibit 21 presents descriptive information about the students in ELT and matched comparison schools, by cohort, who returned surveys. Of those students surveyed, Cohort 2 ELT and comparison schools had lower percentage of students who had attended the same school last year than did Cohort 1 schools (64 and 56 percent vs. 91 and 84 percent, respectively). As discussed above in regard to response rate, the majority of respondents across cohorts are 5th grade students; there is an underrepresentation of 8th grade students given the grade span configuration of ELT schools and their matches. The majority of respondents across treatment status (ELT/comparison school) and cohort are female; the majority of respondents are White, with sizeable Hispanic and African-American/Black representation as well (note that students were allowed to select more than on race/ethnicity). Slightly more than half of student respondents speak no other language but English at home.[19]

[19] A sensitivity analysis was conducted to examine the comparability of the restricted and full student survey samples in regard to student characteristics presented in Exhibit 21. As noted previously, the restricted student

Students' Participation in Extracurricular, Out-of-School and Recreational Activities

If students are staying at school longer, two questions naturally arise: What are they giving up? And what else are they getting at school? This section of the report addresses these questions.

Exhibit 22 shows students' participation in school-based activities, out-of-school programs, and informal recreational activities.[20] Not surprisingly perhaps, significantly more students in matched comparison schools than ELT schools attend an after-school program (54 percent vs. 31 percent, respectively). In addition, a significantly greater percentage of students in matched comparison schools than ELT schools reported participation in sports (75 percent vs. 63 percent, respectively) and academic clubs at school (18 percent vs. 11 percent, respectively). In contrast, significantly more students in ELT schools reported participation in a newspaper or magazine (24 percent vs. 14 percent, respectively). Although students in ELT and matched comparison schools did not differ in the amount of time they would spend today (as a snapshot of time) (a) playing sports or participating in an arts-based activity, or (b) watching television, playing video games, and surfing the Internet, students in matched comparison schools did estimate that they spend significantly more time than their ELT counterparts talking and being with friends.

survey sample over-represents grade 5 students and under-represents grade 8 students. Further, an examination of the restricted student survey sample in comparison with the full student survey sample indicates the following additional differences: (1) returning students in Cohort 1 ELT schools constitute a larger percentage in the restricted sample than the full sample (91 percent vs. 80 percent); (2) the racial/ethnic distribution shifts for some cohort and treatment groups. In Cohort 2 ELT schools, the percentage of students who self-reported as White is 85 percent in the restricted sample and 76 percent in the full sample, while the percentage of students who indicated a racial/ethnic minority option was 48 percent in the restricted sample and 57 percent in the full sample. The opposite trend was found in the Cohort 1 matched comparison schools, where the percentage of students who self-reported as White is 54 percent in the restricted sample and 67 percent in the full sample, while the percentage of students who indicated a racial/ethnic minority option is 85 percent in the restricted sample and 60 percent in the full sample. Student survey results are presented with these caveats and should not be interpreted as representative of all students in ELT schools or their matched comparisons.

[20] Previous versions of the survey asked students to differentiate between in-school and out-of-school activities, as well as between traditional electives and new courses due to ELT (in ELT schools only). The findings indicated that students could not easily make these distinctions.

Exhibit 22: Students' Participation in Out-of-School Activities, ELT and Matched Comparison Schools, Spring 2008

	Students in ELT Schools (n=346)	Students in MC Schools (n=324)	p-value
Percent of students who attend an after-school program	31	54	<.0001
Percent of students who participate in the following activities:			
Sports	63	75	.0020
Church youth group	20	22	.4552
Volunteer activity	24	31	.0753
Art, music, theater, dance	62	62	.9079
Newspaper, magazine	24	14	.0023
Student government	5	4	.5339
Honor Society	5	5	.8843
Academic club at school	11	18	.0344
Non-academic club at school	7	10	.2333
Number of hours spent *today* on the following activities:			
Playing on sports teams or participating in arts, dance, music lessons, etc.			
5 or more hours	4	4	
3-4 hours	9	14	.0867
1-2 hours	38	42	
Less than 1 hour	49	40	
Watching TV, playing video games, surfing the Internet			
5 or more hours	11	16	
3-4 hours	14	14	.2299
1-2 hours	38	35	
Less than 1 hour	37	35	
Talking with or spending time with friends			
5 or more hours	21	25	
3-4 hours	16	24	.0019
1-2 hours	30	30	
Less than 1 hour	33	21	

Source: MA ELT and Matched Comparison School Student Surveys, spring 2008.

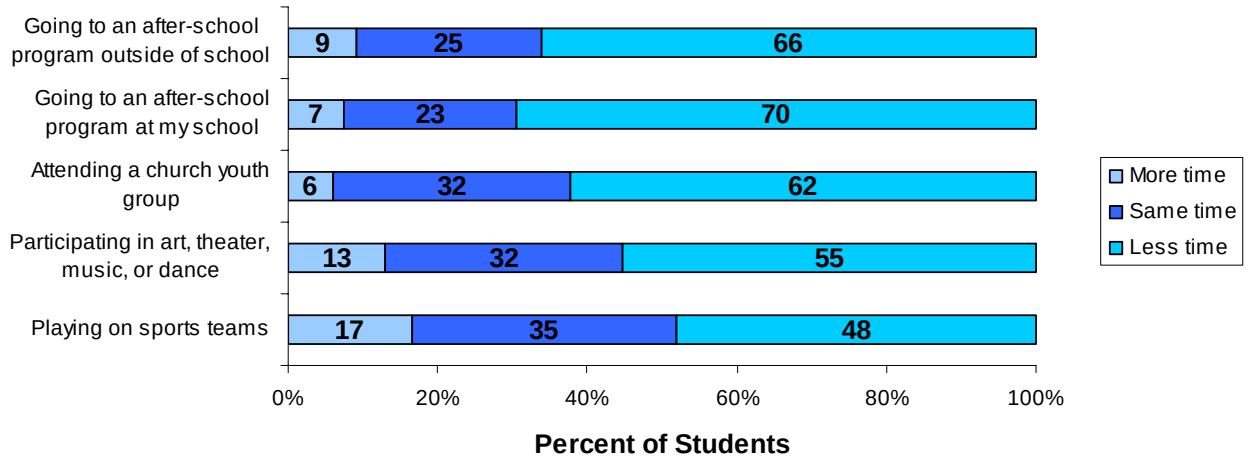
Exhibit reads: In spring 2008, 26 percent of students in ELT schools reported attending an after-school program as compared with 44 percent of students in matched comparison schools. The difference was statistically significant (p<.05).

Students in ELT schools were also asked how the longer school day had affected the amount of time they spent on a range of formal and informal activities outside of school. Students indicated if they now spend more, less, or the same amount of time on each activity because of the longer day.[21] Results are presented

[21] This survey question was asked of students in all ELT schools. The question stated: "Because of the longer school day, do you spend more, less, or the same amount of time doing the following activities?" Note there is no time reference (e.g., compared to last year) so students in Cohort 1 ELT schools and Cohort 2 ELT schools could answer this question, regardless if 2007–08 was their school's first or second year of ELT

in a series of three exhibits:[22] formal out-of-school activities such as after-school programs and sports teams (Exhibit 23), casual recreational activities such as spending time with family and watching television (Exhibit 24), and academic and work-related activities including time on homework and watching siblings (Exhibit 25). By and large, a majority of students in ELT schools reported that they spent less time engaged in each of these types of activities. Over two-thirds of students reported that they spent less time attending after-school programs and working at a job. Nearly a quarter of respondents (23 percent) indicated that they spent more time on homework.

Exhibit 23: Students' Reports of How the Longer Day Has Affected Time Spent on Formal Out-of-School Activities, ELT Schools Only, Spring 2008



Source: MA ELT Student Surveys, spring 2008.

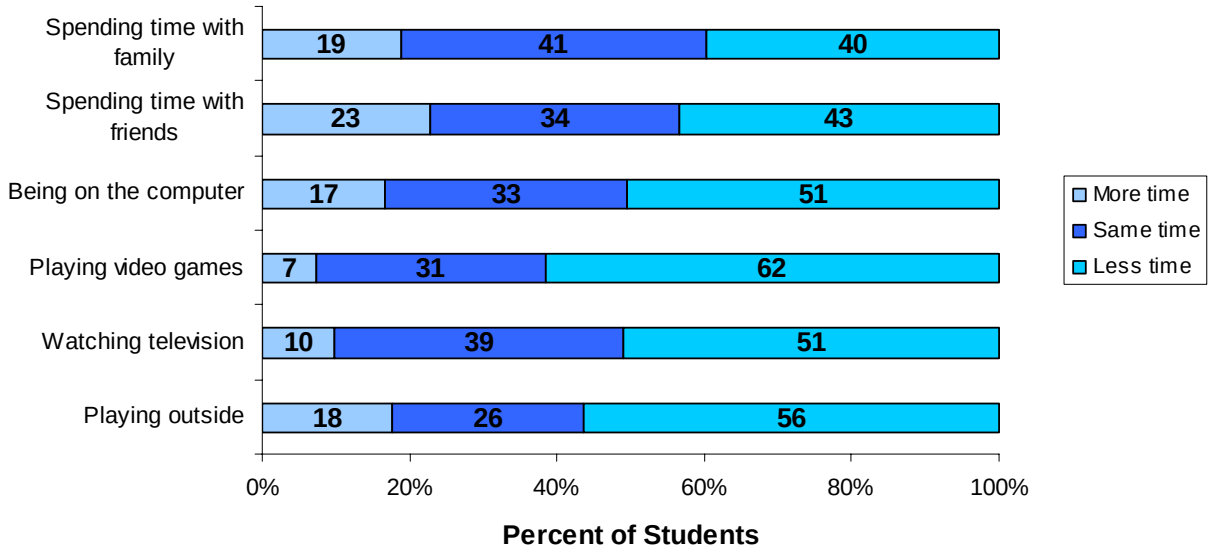
Sample: 480 students from ELT schools.

Exhibit reads: In spring 2008, 9 percent of students in ELT schools reported spending more time going to an after-school program outside of school because of the longer day, 25 percent reported spending the same amount of time, and 66 percent reported spending less time.

implementation. Nonetheless, as a check, responses to this question were examined by ELT cohort (see Appendix G) using chi-square tests. For 14 of the 17 activities in this question (e.g., playing outside, going to the library), the pattern of responses was statistically similar across cohorts (i.e., $p \geq .05$). For three items (i.e., watching television, playing on the computer, and volunteering), there were statistically significant differences ($p < .05$) in the distributions of responses by ELT cohort. For example, for watching television: students in Cohort 1 ELT schools, 58 percent less time, 28 percent same amount of time, 14 percent more time; students in Cohort 2 ELT schools, 56 percent less time, 34 percent same amount of time, 10 percent more time. The chi-square value of 6.22 is statistically significant ($p < .05$). These differences, in practical terms, are small.

[22] The analyses for these three exhibits include the 9 nine of 18 ELT schools that had at least a 50 percent response rate; additional schools did not have to be omitted from analyses due to the response rate of their matched pairs as these exhibits present results from questions presented only to ELT students.

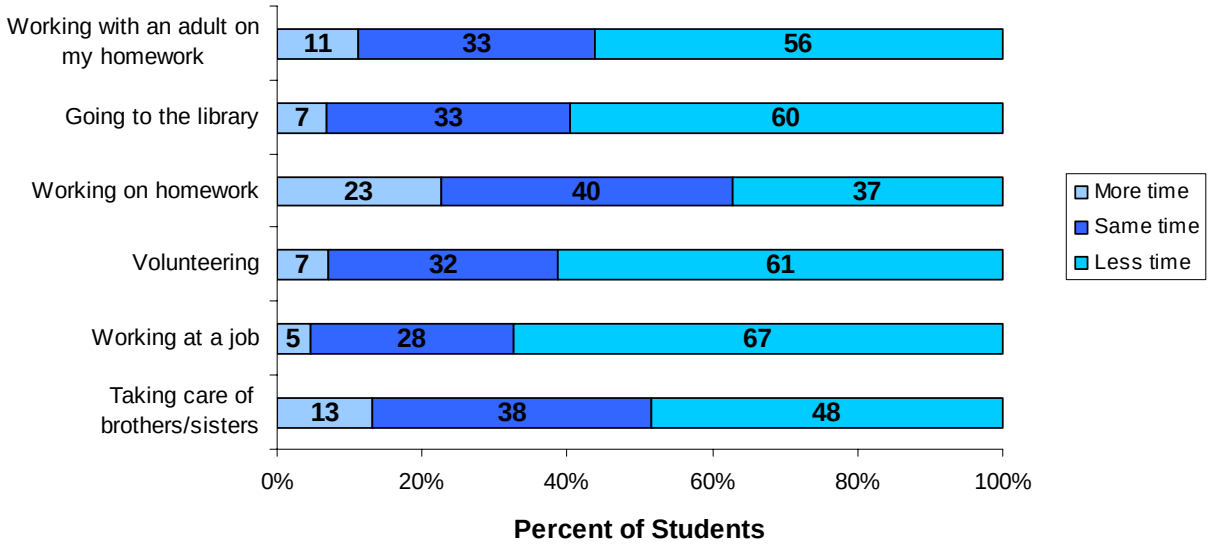
Exhibit 24: Students' Reports of How the Longer Day Has Affected Time Spent on Recreational Activities, ELT Schools Only, Spring 2008



Source: MA ELT Student Surveys, spring 2008.

Sample: 480 students from ELT schools.

Exhibit 25: Students' Reports of How the Longer Day Has Affected Time Spent on Academic and Work-Related Activities, ELT Schools Only, Spring 2008



Source: MA ELT Student Surveys, spring 2008.

Sample: 480 students from ELT schools.

Relationships with Teachers

An additional intended outcome of Expanded Learning Time is increased opportunities for teachers and students to develop positive relationships. In Exhibit 26, results show significant differences on some student-teacher relationship indicators. Students were asked to respond "true" or "false" to a series of statements about the quantity and quality of time with teachers. It may not be surprising given the longer school day that greater percentages of students in ELT schools than comparison schools agreed that they spend more time with their teachers this year; only more time with teachers in non-academic classes was significantly different.[23]

Although students in ELT schools tended to report that they were spending more time with teachers this year, the quality of those relationships is not necessarily better. As reported in Exhibit 26, students in matched comparison schools were significantly more likely than students in ELT schools to report that they get along better with their teachers this year (83 vs. 74 percent, respectively) and that they know their teachers better this year (82 percent vs. 75 percent, respectively). This is a surprising finding given the qualitative reports of improved connections between students and teachers in ELT schools, and it is possible that it reflects non-response bias in the student samples. Overall, it should be noted that the majority of student respondents in both ELT and matched comparison schools had positive perceptions of their relationships with teachers and spent more time with their teachers in academic classes in 2007–08.

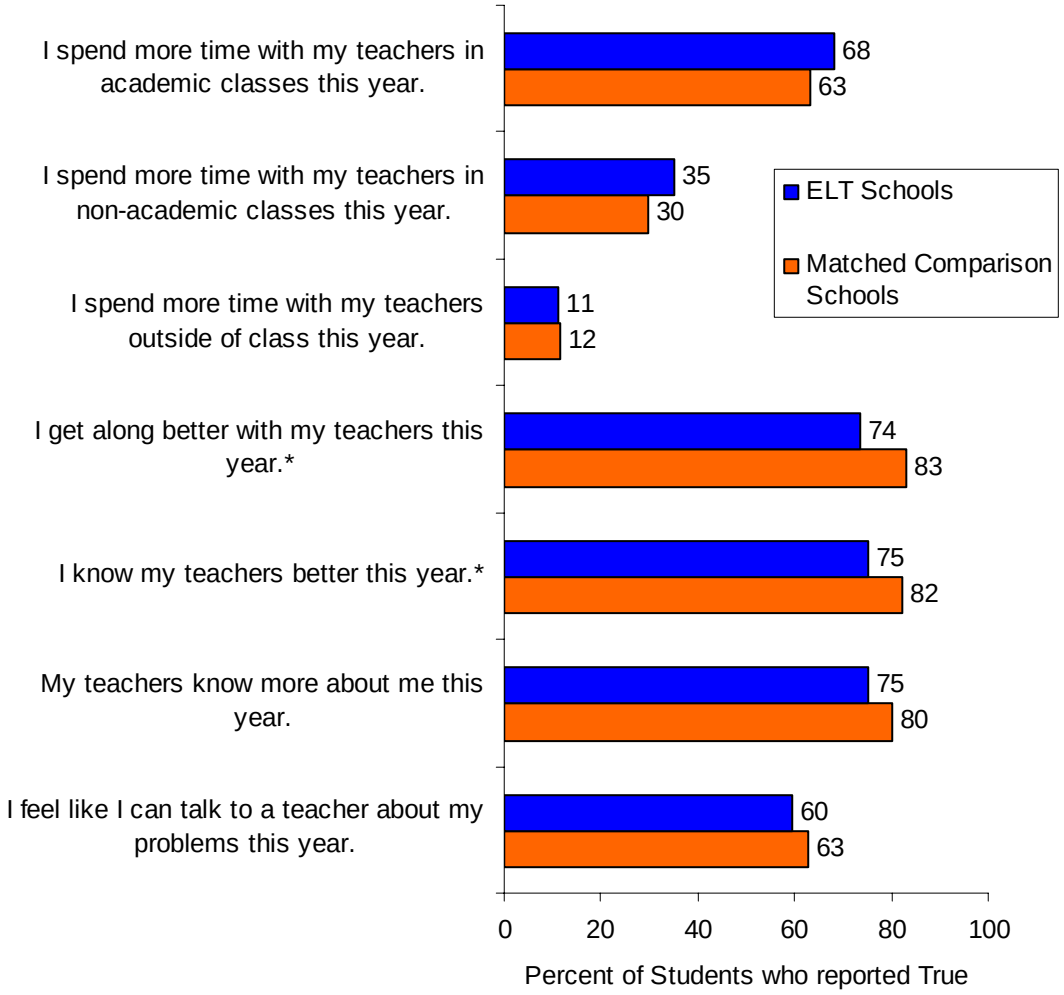
Students' General Perceptions of School, School Engagement, and School Disengagement

In addition to responding to questions about their relationships with teachers, students were also asked about the learning environment offered at their school and answered a series of questions about their engagement and disengagement in school. Students responded true or false to each statement.

Overall, the vast majority of students in both ELT and matched comparison schools indicated positive perceptions of their school and the learning opportunities provided. Nonetheless, students in ELT schools were significantly less likely than students in comparison schools to report that they enjoy being at school (61 vs. 75 percent) and look forward to going to school (55 vs. 67 percent) (see Exhibit 27).

[23] Even though the length of ELT implementation differs by cohort, results were similar by cohort.

Exhibit 26: Students' Perceptions about Relationships with Teachers, ELT vs. Matched Comparison Schools, Spring 2008

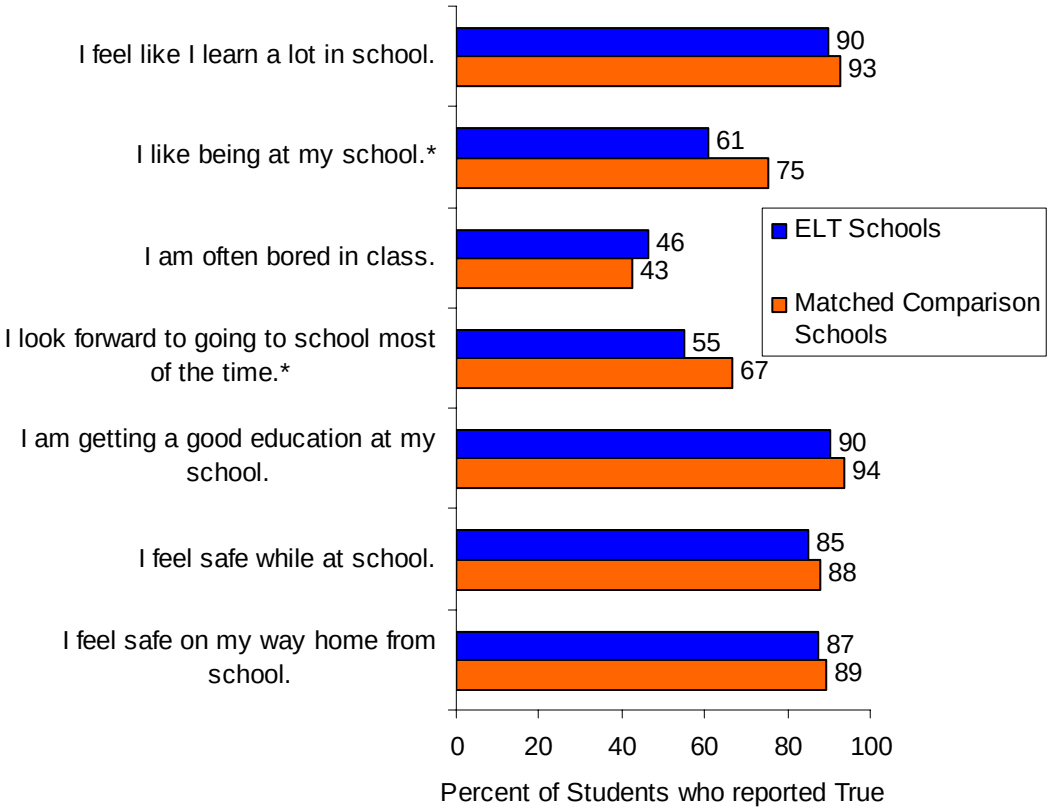


Source: MA ELT and Matched Comparison School Student Surveys, spring 2008.

Sample: 346 students from ELT schools; 324 students from matched comparison schools.

Exhibit reads: In spring 2008, 60 percent of students in ELT schools reported that they spend more time with their teachers in academic classes this year as compared with 67 percent of students in matched comparison schools. This difference was statistically significant ($p<.05$).

Exhibit 27: Students' Perceptions of Their School, ELT and Matched Comparison Schools, Spring 2008

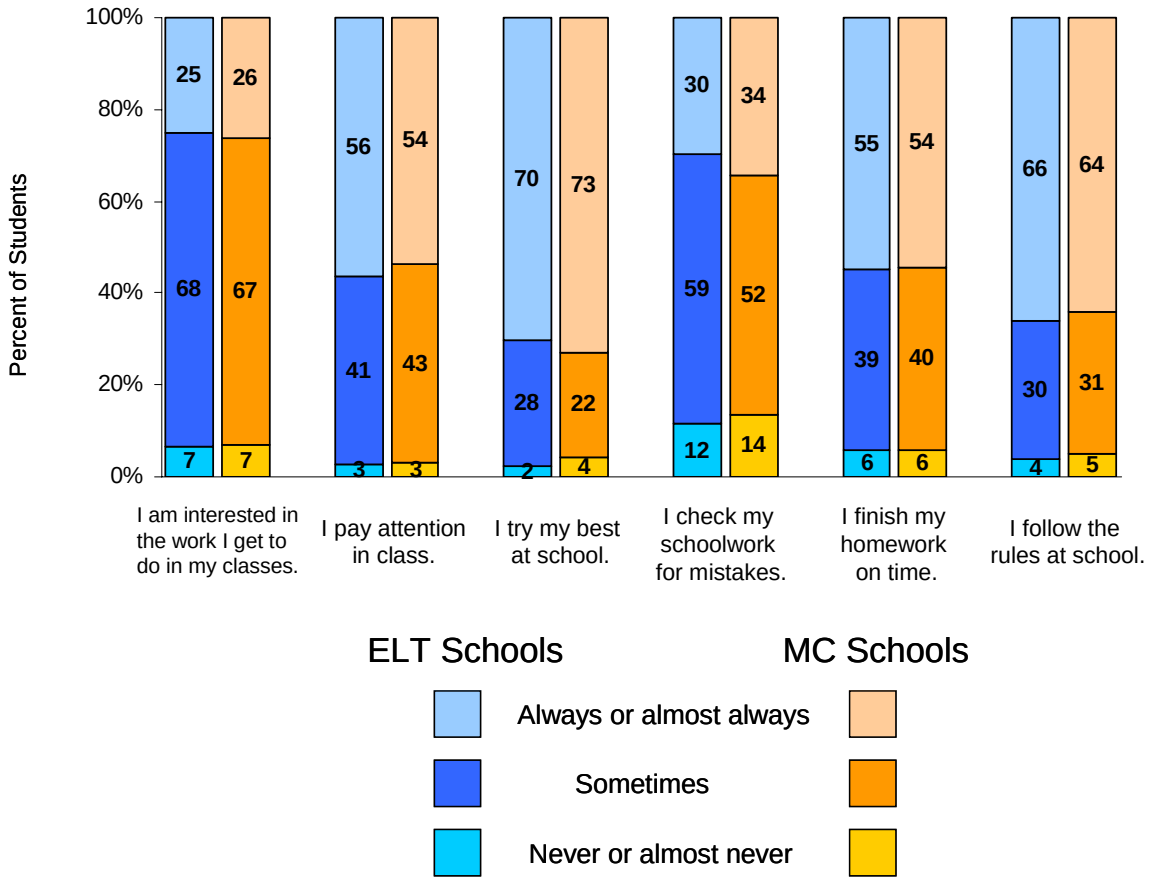


Source: MA ELT and Matched Comparison School Student Surveys, spring 2008.

Sample: 346 students from ELT schools; 324 students from matched comparison schools.

Exhibits 28 and 29 display a series of school engagement and school disengagement indicators. Beginning with school engagement (Exhibit 28), students' responses did not differ significantly on any of the six indicators of school engagement. However, the distributions of students' responses to two of six indicators of school disengagement were significantly different: wanting class to end and skipping school. Respondents in ELT schools were more likely than respondents in matched comparison schools to report that during class they were waiting for it to end, but less likely to report skipping entire days of school (Exhibit 29).

Exhibit 28: Student Engagement in School, ELT and Matched Comparison Schools, Spring 2008

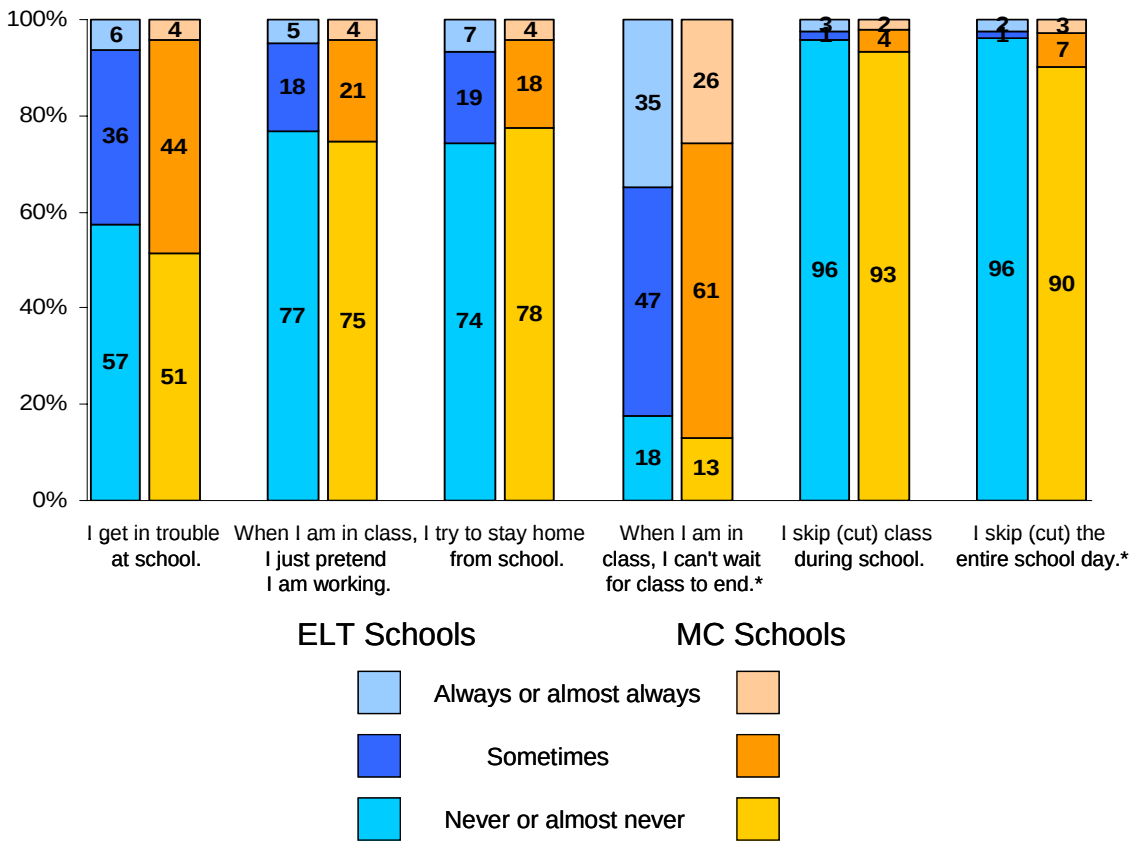


Source: MA ELT and Matched Comparison School Student Surveys, spring 2008.

Sample: 346 students from ELT schools; 324 students from matched comparison schools.

Exhibit reads: In ELT schools in spring 2008, 23 percent of students reported that they were always/almost always interested in the work they get to do in their classes, 68 percent said they were sometimes interested, and 9 percent said they were never/almost never interested. Among students in matched comparison schools, 18 percent were always/almost always interested, 74 percent were sometimes interested and 8 percent were never/almost never interested. These distributions of responses were not statistically different ($p \geq .05$).

Exhibit 29: Student Disengagement in School, ELT and Matched Comparison Schools, Spring 2008



Source: MA ELT and Matched Comparison School Student Surveys, spring 2008.

Sample: 346 students from ELT schools; 324 students from matched comparison schools.

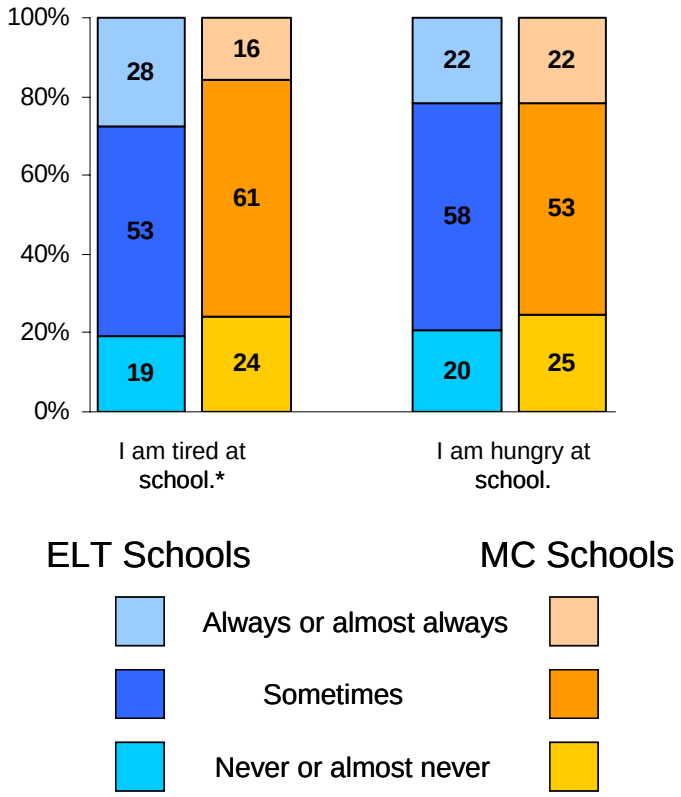
Two potential physical outcomes of students attending a longer school day are being tired or hungry. Students' reports of the frequencies of being tired and hungry are summarized in Exhibit 30. Students in ELT schools were significantly more likely than students in comparison schools to express that they were tired at school; there were no significant differences in students' reports of being hungry at school.

Extant Student Outcomes Data

In addition to analyzing original data sources, a variety of student outcomes from extant data sources were also analyzed. These analyses were more rigorous than those conducted for the survey data as it was possible to include both a comparison group and baseline data. For this set of analyses, a two-level model of student-level data nested in schools with fixed effects was fit, representing the pairs of matched comparison schools to obtain estimates of the differences in outcomes between ELT and matched comparison schools by cohort.[24] In the analyses, a student-level or school-level outcome baseline

[24] The model specifications are included in Appendix F.

Exhibit 30: Students' Report of Being Tired and Hungry at School, ELT and Matched Comparison Schools, Spring 2008



Source: MA ELT and Matched Comparison School Student Surveys, spring 2008.
Sample: 346 students from ELT schools; 324 students from matched comparison schools.

measure and student-level demographics were included as controls.[25] Results are presented by cohort and by school year to disentangle any differences by length of ELT implementation

Effect of ELT on Student Behavior Indicators

The effect of ELT on several student-level behavior indicators was examined, including rates of attendance, in-school suspension, out-of-school suspension, and truancy. Eighth grade student-level responses on the MCAS questionnaire, a self-report survey about topics such as time spent on homework, computer usage, post-high school plans, and other topics were examined.

Student-level attendance and disciplinary data were examined first, controlling for students' prior behavior and demographics (i.e. gender, race, free/reduced price lunch, special education, and limited English proficiency). For these student behavior indicators, no differences were found between the ELT schools and the matched comparison schools in either year, suggesting that ELT has not significantly affected ($p<.05$) these particular indicators (see Exhibit 31).

[25] For Cohort 1 schools, years prior to ELT extended through 2005–06; for Cohort 2 schools, years prior to ELT extended through 2006–07.

Exhibit 31: Effect of ELT on Student Behavior Indicators, by School Year

	2007–08 School Year				2006–07 School Year			
	Means[a]				Means			
	ELT schools	MC schools	Diff.[b]	p-value	ELT schools	MC schools	Diff.	p-value
Attendance rate								
Cohort 1[c]	93.62	93.32	0.298	.5474	93.32	92.78	0.533	.3900
Cohort 2	94.22	95.13	-0.910	.0608				
In-school suspension rate								
Cohort 1	0.05	0.03	0.021	.5100	0.05	0.08	-0.032	.4979
Cohort 2	0.02	0.01	0.015	.5215				
Out-of-school suspension rate								
Cohort 1	0.11	0.16	-0.044	.2053	0.12	0.14	-0.023	.3067
Cohort 2	0.08	0.04	0.037	.4924				
Truancy rate								
Cohort 1	0.53	0.60	-0.074	.2510	0.55	0.70	-0.150	.2978
Cohort 2	1.26	1.20	0.061	.3297				

Source: Student-level files obtained from Massachusetts Department of ESE.

[a] All numbers reported in this exhibit are based on estimates generated by a multi-level model; they are not raw numbers.

[b] Because student data are nested in schools, which are nested in pairs of ELT and matched comparison schools, a two-level model of student-level data within schools with fixed effects for school matches were fit. This model also includes a baseline covariate of the outcome variable and student demographics at the student level, and the treatment variable at the school level.

[c] For Cohort 1 ELT schools, 2006–07 is the first year of ELT implementation and 2007–08 is the second year of ELT implementation. For Cohort 2 ELT schools, 2006–07 is the first year of ELT implementation. There are 36 schools in the ELT evaluation; 18 in Cohort 1 (9 ELT, 9 MC) and 18 in Cohort 2 (9 ELT, 9 MC). The analysis of 2006–07 Cohort 1 data includes 7787 students; the analysis of 2007–08 data includes 8266 students for Cohort 1 and 8306 students for Cohort 2.

Exhibit reads: Controlling for students' prior years' attendance rates, the estimated average student attendance rate during the 2007–08 school year in Cohort 1 ELT schools was 93.62 percent and 93.32 percent at matched comparison schools. The estimated effect of ELT on student attendance rates in Cohort 1 schools in 2007–08 was 0.298 percentage points. This effect was not statistically significant ($p \geq .05$).

Next, students' responses to the select items on the 8th grade MCAS questionnaire (a survey administered in conjunction with 8th grade MCAS subject tests) were investigated. This inquiry was restricted to those Cohort 1 schools with 8th grade students (7 ELT schools and their 7 matched comparison schools). A similar analysis was not conducted for Cohort 2 schools because there was an insufficient number of schools with grade eight (three ELT schools and their three matched comparison schools) to conduct the minimum analysis with the three school-level covariates (baseline measure of outcome variable for prior cohort of students, treatment variable, and match variable). The final analysis model for Cohort 1 schools also controlled for student demographics including gender, race, free/reduced price lunch, special education, and limited English proficiency. Results are presented in Exhibit 32. No differences were found between the Cohort 1 ELT schools and the matched comparison schools in 2006–07 or 2007–08,

suggesting that ELT has not significantly affected ($p \geq .05$) these self-reported behavior indicators among 8th grade students.

Exhibit 32: Effect of ELT on 8th Grade MCAS Questionnaire, by School Year for Cohort 1a

	2007–08 School Year				2006–07 School Year			
	Means[b]				Means			
Percent of 8th grade students who reported:	**ELT schools**	**MC schools**	**Diff.[c]**	**p-value**	**ELT schools**	**MC schools**	**Diff.**	**p-value**
Using a school computer at least once a month for school work	65.25	57.28	7.969	.2672	84.04	92.52	-8.480	.2421
Using a home computer at least once a month for school work	76.04	78.79	-2.749	.7498	74.08	73.66	0.422	.9222
Using computers two or more hours per week	74.69	74.25	0.435	.9307	65.64	71.09	-5.449	.3668
Spending less than 3 hours per week on homework[d]	50.34	51.16	-0.819	.8765				
Spending at least 1 hour/ week on English/ language arts homework					58.25	54.50	3.802	.4181
Spending at least 1 hour/ week on math homework					63.26	63.19	0.071	.9858
Spending at least 1 hour/ week on science homework					22.27	26.71	-4.430	.7105
Planning to attend college	76.67	80.52	-3.849	.5639	73.52	75.31	-1.792	.7169

Source: Student-level files of 8th grade MCAS questionnaire obtained from Massachusetts Department of ESE.

[a] For Cohort 1 ELT schools, 2006–07 is the first year of ELT implementation and 2007–08 is the second year of ELT implementation. This set of analyses is restricted to schools with 8th grade classes: 14 in Cohort 1 (7 ELT, 7 MC). However, one of these 7 ELT schools and its MC were dropped from the analysis is 2006–07 because data were missing for the ELT school. The analysis of 2006–07 data includes 1134 students, and the analysis of 2007–08 data includes 1095 students.

[b] Difference based on estimates generated by a multi-level model; they are not raw numbers.

[c] Because student data are nested in schools, which are nested in pairs of ELT and matched comparison schools, two-level models of student-level data within schools with fixed effects for school matches were fit. This model also includes the treatment variable and a baseline covariate of the outcome variable, both at the school level, as well as student demographics at the student level.

[d] The format of this question changed from 2006–07 to 2007–08. Whereas in 2006–07, students were asked to indicate separately how much time they spent on homework for different subject areas, in 2007–08 students were asked to report in total how much time they spent on homework. For the analysis of the 2007–08 question, 2006–07 data from the three separate questions were entered into the model as baseline covariates because an exact baseline equivalent was not available.

Exhibit reads: In school year 2007–08, 65.25 percent of 8th grade students in Cohort 1 ELT schools reported using a school computer at least once a month for school assignments as compared with 57.28 percent of 8th grade students in Cohort 1 matched comparison schools. This difference of 7.969 percentage points was not statistically significant ($p \geq .05$).

Effect of ELT on Student Achievement

A comparative interrupted time series (ITS) analysis was conducted to examine the effects of ELT on student achievement as measured by the Massachusetts Comprehensive Assessment System (MCAS). The ITS analysis uses a comparison group, student demographic covariates, and pre-program achievement scores to control for alternative hypotheses that may account for any observed differences in MCAS test scores (see Appendix D for additional description of the ITS analysis).

The results of the comparative ITS analysis for the first cohort of ELT schools and their matched comparisons are presented in Exhibit 33 for each of the first two years of ELT implementation, as well as pooled across the two years. Results are presented in effect size metric, or standardized measures of effect, so that the effects of ELT on MCAS performance can be compared across subject, grade, and time.[26]

Exhibit 33 indicates the following:

- **ELA/Reading**. Controlling for student demographics, there was no statistically significant effect of ELT, relative to prior achievement and matched comparison schools, on MCAS Reading/ELA scores at grades 3, 4, and 7 in ELT year one (2006–07), ELT year two (2007–08), or pooled across the first two years of ELT.
- **Math**. Controlling for student demographics, there was a statistically significant and *positive* effect of ELT, relative to prior achievement and matched comparison schools, on MCAS Grade 6 Math scores in each of the first two years of ELT. The effect size was 0.14 in year one (2006–07), and 0.21 in year two (2007–08), with a pooled effect size of 0.17. In contrast, there was a statistically significant and *negative* effect of ELT, relative to prior achievement and matched comparison schools, on MCAS Grade 8 Math scores in each of the first two years of ELT, as well as pooled across years. The effect size was -0.24 in year one (2006–07), -0.17 in year two (2007–08), and -0.21 pooled across the two follow-up years.[27] There was no significant effect on MCAS Grade 4 Math scores in either year or pooled across years.
- **Science**. Controlling for student demographics, there was no statistically significant effect of ELT, relative to prior achievement and matched comparison schools, on MCAS Science scores in grades 5 or 8 in ELT year one (2006–07), ELT year two (2007–08), or pooled across the first two years of ELT.

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[26] For students performing in the two middle proficiency categories on the MCAS (i.e., needs improvement or proficient), an effect size of 1.0 standard deviations is equivalent to 20 scaled score points. In Exhibit 33, for example, an effect size of .19 for Grade 3 Reading is equivalent to approximately four scaled score points for those students performing within the needs improvement or proficient categories.

[27] The number of schools represented in the Grade 6 Math analysis and Grade 8 Math analysis differed slightly (16 vs. 14, respectively). To examine the effects of ELT on the same sample of ELT and MC schools on these two math outcomes because they showed significant effects in opposite directions, the Grade 6 Math analysis was re-fit with the same 14 schools represented in the Grade 8 Math analysis (i.e., dropping one matched pair). The Grade 6 Math results with this subset of schools was highly similar to the Grade 6 Math results reported in Exhibit 33, and there were still significant positive effects of ELT in each follow-up year (Year 1: effect estimate = .15, standard error = .062, p-value = .0154. Year 2: effect estimate = .20, standard error = .071, p-value = .0047).

The absence of statistically significant impacts on student performance on six of the eight MCAS subject/grade tests after two years of implementation is not altogether surprising. First, schools encountered myriad logistical challenges at the outset. Second, an initiative that requires a vastly restructured approach to instruction is complex and takes time to mature.

Exhibit 33: Estimates of the Effect of ELT on MCAS Subject/Grade Tests in Cohort 1 ELT Schools, by Year of ELT Implementation and Pooled Across Follow-Up Years

Subject Grade	Number of ELT and MC Schools in Total [a]	ELT Year One (2006–07)			ELT Year Two (2007–08)			ELT: Pooled Across Two Follow-Up Years		
		Effect Est. (Effect Size)	Std. Error	p-value	Effect Est. (Effect Size)	Std. Error	p-value	Effect Est. (Effect Size)	Std. Error	p-value
Reading/ ELA										
Grade 3 [b]	10	0.19	0.130	0.1533	-0.29	0.151	0.0569	0.03	0.123	0.8246
Grade 4 [b]	10	0.07	0.124	0.5589	0.11	0.144	0.4276	0.09	0.117	0.4408
Grade 7 [c]	14	0.06	0.047	0.1692	0.02	0.046	0.6327	0.04	0.035	0.2094
Math										
Grade 4 [b]	10	-0.12	0.131	0.3592	0.05	0.151	0.7277	-0.06	0.123	0.6274
Grade 6 [b]	16	0.14	0.060	0.0160	0.21	0.069	0.0024	0.17	0.056	0.0028
Grade 8 [c]	14	-0.24	0.050	<.0001	-0.17	0.051	0.0006	-0.21	0.038	<.0001
Science										
Grade 5 [c]	10	0.06	0.097	0.5189	-0.04	0.094	0.6381	0.01	0.074	0.9110
Grade 8 [b]	14	0.08	0.065	0.2061	0.07	0.079	0.3497	0.08	0.063	0.2056

Source: Individual student-level data provided by the Massachusetts Department of ESE for school years 2001–02 through 2007–08.

[a] Due to the grade span configuration of each ELT, the number of ELT and matched comparison (MC) schools represented with individual student-level data in each grade/subject analysis varies. With any grade/subject analysis, the number of ELT and MC is equivalent, as both the ELT and its matched comparison school are included. For example, for Grade 3 Reading, the number of schools represented with student-level data is 10—5 ELT and 5 MC.

[b] This interrupted times series analysis utilized a linear trend estimation model, controlling for matched pairs and student-level demographics (gender, race, free/reduced price lunch, special education, limited English proficiency).

[c] This interrupted times series analysis utilized a baseline means model, controlling for matched pairs and student-level demographics (gender, race, free/reduced price lunch, special education, limited English proficiency).

Exhibit reads: The effect of ELT (in effect size) on Grade 3 Reading in the first year of ELT implementation (2006–07) was .19, with a standard error of .130. This effect was not statistically significant ($p \geq .05$).

The statistically significant effects on grade 6 and 8 math are more difficult to explain, especially since the effects were in opposite directions. Additional data in subsequent years will help to clarify potential trends and anomalies.

Conclusion

The Expanded Learning Time initiative continued to evolve in its second year of implementation, as stakeholders at the state, district, school, and community levels incorporated their experience and ongoing learning into their programs and strategies. The optimism that was conveyed in year one carried over into year two, and many schools made great progress in tackling logistical problems in order to devote more attention to the substantive components of ELT.

Increased time on academic subjects is a key element of ELT, and schools have been able to add time for all core subjects, including science and social studies which are often sacrificed within the standard schedule in struggling schools to accommodate math and English language arts. According to interview and focus group respondents, the additional time for academics fostered an instructional pace that was more conducive to the learning needs of students. Over half of the teachers in ELT schools who completed surveys indicated that they perceived improvements in their abilities to use different instructional strategies and cover more material (56 percent and 58 percent, respectively), and nearly half of respondents perceived an improvement in their ability to differentiate instruction.

Changes to teaching and learning afforded by ELT are expected to improve student performance and other student outcomes. At such an early stage in a complex initiative it is unlikely that program effects would be substantial (Bloom, 2003); however, analyses revealed statistically significant effects of ELT on Cohort 1 student MCAS performance for 6th and 8th grade math. The effect on 6th grade math scores was positive while the effect on 8th grade math scores was negative. Improving math performance was a major objective for the Cohort 1 ELT middle schools, and the positive results on the 6th grade test may reflect that. It is more difficult to hypothesize about the negative effect for 8th grade math scores. It is possible that older students were more resistant to ELT than younger students and therefore did not fully engage in the expanded learning opportunities. The negative finding could also reflect larger gains in matched comparison schools relative to ELT schools' performance. Additional years of post-ELT data will help to clarify performance trends. There were no other statistically significant effects on MCAS performance for the first cohort of ELT schools. Likewise, there were no statistically significant effects of ELT on student behavior indicators such as attendance and discipline.

In order to glean a more nuanced picture of the effects of ELT, future analyses will consider the amount of time a student has spent in an ELT school. This "dosage" variable is important for taking into account student mobility as well as differential years of ELT implementation by cohort.

After only two years of ELT implementation, it would be unwise to draw definitive conclusions about the program's efficacy. Findings indicate that several ELT schools are beginning to recognize some of the expected intermediate outcomes of the initiative, including, for example, opportunities for more meaningful student-teacher interactions. As schools continue to apply their experience and learning to strengthen their expanded programs, it is likely that more will begin to see improvements that might ultimately lead to improved student achievement.

Areas for Further Examination

An important next step will be to link implementation to outcomes to discern the extent to which variation in program implementation is associated with school outcomes. While most of the ELT schools continually update their programs based on experience, studying the relationship between implementation and outcomes may suggest whether particular elements or strategies yield greater perceived or actual improvements than others.

While the current data collection activities garner meaningful information about ELT, the study team has found that categorizing the additional time is difficult. During the 2008–09 school year, the study team will pilot new data collection instruments to gather additional information about how time is being used in ELT and matched comparison schools. In particular, the instruments are designed to elicit a more nuanced picture of how teachers use time, as well as the types of strategies and activities that are used to engage students in academic and enrichment classes. In addition, we will explore the use of an MCAS growth model being piloted in the state this spring to determine its applicability for examining the efficacy of the ELT initiative.

Because enrichment appears to be the major component that differentiates ELT schools from their non-ELT counterparts, the study team will take a closer look at this aspect of the initiative through both new and existing data collection methods. To the extent possible, potential differences in outcomes associated with academic and non-academic enrichment will be explored, as will the effects of various staffing strategies (i.e. internal versus external instructors).

Finally, funding continues to pose challenges for many districts and schools, and the study team will work with the ESE to conduct analyses of financial data to gain a better understanding of the actual costs of expanding the school day in comparison to the grant amount and to explore variation in how ELT resources are utilized across schools.

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Appendix A: History of the Expanded Learning Time Initiative

In 2005, the Massachusetts state legislature authorized funding for the Expanded Learning Time (ELT) Planning and Early Implementation Grant program as a way to further its longstanding commitment to improving student outcomes and reducing the achievement gap.

Expanding learning time as a means to improve student outcomes in Massachusetts was recommended as a possible solution as far back as 1995, when the Massachusetts Commission on Time and Learning released *Unlocking the Power of Time*, a report that provided seven recommendations for extending learning time in schools and promoting the effective use of time during the school day and year. Those recommendations are evident among ELT's goals and objectives, and included: prioritizing academic learning; accommodating differences in rates of student learning; and enhancing opportunities for teachers to plan lessons, participate in professional development activities, and collaborate with colleagues. The Commission also recommended lengthening the school year and providing optional enrichment activities throughout the calendar year. Lastly, the Commission advocated building relationships between schools and communities, which could serve both parties in important and powerful ways with respect to learning and developing skills for today's labor market.

The driving force behind the ELT "movement" in Massachusetts is Massachusetts 2020 (Mass 2020), an organization that has been working to expand learning opportunities for urban pupils and to improve the lives of youth through education since its inception in 2000. After several years pursuing improvements through after-school programming, Mass 2020 determined that it had reached the limit of the out-of-school-time strategy due to episodic funding and waning philanthropic interest, and was encouraged by the potential benefits of expanding the school day as outlined in its 2005 report, *Time for a Change*. At present, Mass 2020 views ELT as the best strategy for meeting its mission. Mass 2020 continues to be a strong advocate, and to raise the profile of ELT in order to encourage the state legislature and organizations to support investments in this school reform initiative. The organization also provides extensive technical assistance to participating schools who have received planning and implementation grants.

According to the RFP, the Planning and Early Implementation Grants were created to "provide resources for districts to plan the innovative redesign of selected schools that will offer challenging, research-based, and varied learning experiences focused on raising student achievement."[1] The paramount requirement was that redesigned schools must expand their days and/or year to include 30 percent more time than their previous schedules; the following year the requirement was adjusted to 25 percent more time. Further, three specific objectives were set out for use of the additional time:

- provide more instructional opportunities in math, literacy, science, and other core subjects to support student achievement;
- integrate enrichment opportunities into student learning; and

[1] Massachusetts Department of Education.

- provide educators with increased opportunities to plan and to participate in professional development.[2]

The first cohort of 10 ELT schools in five districts implemented their expanded programs in fall 2006, and a second cohort of 9 schools (representing three new districts) implemented ELT in fall 2007.

[2] FY2006 Planning and Early Implementation Grant proposal, Massachusetts Department of Elementary and Secondary Education.

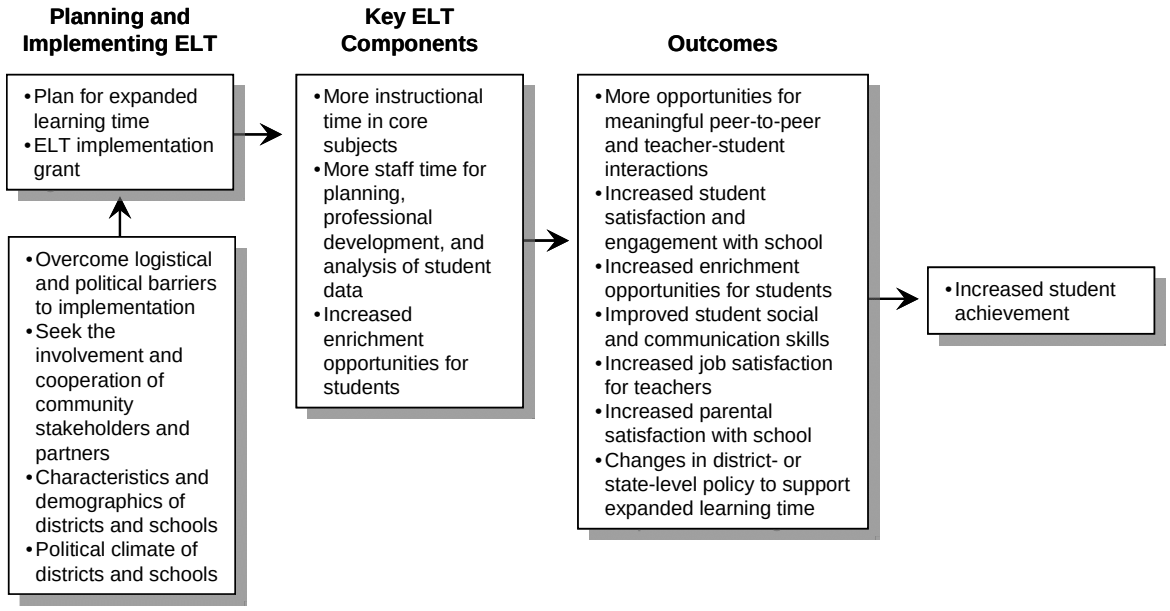
Appendix B: Evaluation Design and Conceptual Model

The design of the evaluation was initially derived from our conceptual understanding of the program operations and desired outcomes, as depicted in Exhibit B.1. The exhibit shows that the first step in successfully redesigning schools to provide expanded learning time involves extensive planning and the ability to overcome numerous logistical and political obstacles, such as balancing adequate time for additional instruction, additional enrichment opportunities, and teacher planning and coordination. Similarly, districts and schools need to involve and gain the cooperation of community stakeholders who may help facilitate (via resources or political connections) or impede the planning process. As shown in the second part of Exhibit B.1, under "Key ELT Components," schools that are successful in implementing ELT will meet three major program goals: (1) to provide students with more instructional opportunities in core subjects; (2) to increase enrichment opportunities that engage students in learning; and (3) to provide educators with increased opportunities to plan and collaborate and participate in professional development opportunities. These factors should lead to more meaningful peer-to-peer and teacher-student interactions, as all members of the community will have more time to get to know and to learn about one another. A major goal of this component of the evaluation is to document whether schools were able to achieve each of these objectives and the processes used to attain those objectives.

Finally, as shown in the third section of Exhibit B.1 under "Outcomes," if implemented successfully, expanded learning time should lead to a number of desirable outcomes. Research suggests that providing students with more instructional time in core subjects, and providing educators with increased opportunities to plan, analyze student data, and participate in professional development, will lead directly to increases in achievement for students (Carroll, 1989; Gettinger, 1984; Purvis & Levine, 1975; Schmidt et al., 1998; Stevenson & Stigler, 1992; Walberg, 1986). In addition, by providing enough time to develop meaningful relationships between students and teachers, other problems that can hinder achievement may be identified early and successful interventions put in place.

Exhibit B.1 shows that expanded learning time may also lead to other desirable outcomes for students and teachers. Theory suggests that as a result of ELT, students may become more engaged in school because there are additional enrichment opportunities, they may develop better communication and problem-solving skills because they have more time to interact with teachers and peers, and they may be less likely to engage in disruptive behavior because they have less idle time. Teachers may find their teaching experience more rewarding and satisfying because they have adequate time to plan, prepare, and instruct, as well as have additional opportunities to develop meaningful relationships with students. Similarly, parents may be more satisfied with their children's schooling experience because they do not have to be concerned about the safety of their children in the late afternoons, and because students are more engaged in school and show increased levels of achievement. All of these factors may ultimately persuade other schools in the district to adopt an expanded learning schedule and/or encourage state or district officials to make policy changes to help facilitate the implementation of expanded school days. This study will document whether any or all of these outcomes are observed in the Massachusetts schools that receive expanded learning time grants.

Exhibit B.1: Conceptual Model of Expanded Learning Time Initiative in Massachusetts



Appendix C: Data Collection and Analysis

Data Collection

Interviews and Focus Groups

Abt Associates project staff developed semi-structured focus group and interview guides to address the research questions pertaining to ELT planning and implementation. The study team conducted visits to school district offices to interview superintendents and district staff involved with the ELT initiative; seven interviews with a total of 11 respondents were conducted at the district level across seven districts. [3] Between February and April 2008, 25 interviews and 53 focus groups were conducted with school personnel and parents;[4] 14 telephone interviews with community partners were conducted in fall 2008. In total, 429 respondents participated in interviews or focus groups.

Each school was asked to identify a study liaison to help recruit respondents and coordinate the data collection activities; in most schools the principal or the ELT coordinator or manager served as study liaison. The study team provided introductory letters and consent forms, which contained information about the study and described the data collection activities, for the liaison to distribute to parents and teachers to solicit focus group participants.[5] These documents were available in languages other than English at the liaison's request.[6] The liaisons also received a focus group recruitment guide that outlined the procedure we requested they follow for recruiting focus group participants.

Abt Associates project staff conducted the interviews and focus groups after a one-day training. Staff were given a script to introduce the study and the purpose of the data collection activities, and read various documents to put the initiative into context and familiarize themselves with the ELT schools and their districts prior to conducting interviews and focus groups. Most focus groups and interviews were facilitated by two members of the Abt study team; generally, one person led the discussion while the other took notes.[7]

Teacher focus groups ranged from 2 to 13 participants, and lasted 30 minutes to one hour. Typically, we conducted one teacher focus group per school—or one group each for the elementary and middle grade teachers in K–8 schools—but in some cases conducted several smaller groups to accommodate schools' schedules.

Parents were the most difficult respondents to recruit, especially in non-neighborhood schools where many families do not live close to the schools their children attend. It would be very difficult—if not

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[3] Interviews were conducted in only those districts which had new schools implementing ELT in 2007–08.

[4] Two parent groups were conducted in Spanish.

[5] The consent forms included a form that asked parents and teachers to indicate whether they would be willing to participate in a focus group, as well as dates and/or times that would be most convenient for them, and return the form to the liaison.

[6] The study team received and accommodated requests for materials in Spanish and Portuguese.

[7] To ensure that the notes accurately captured the discussion, the discussions were also tape recorded. Although field notes were written up, tapes were not transcribed.

impossible—to recruit a representative sample of parents for a focus group, and it is worth noting that the opinions of parents represented in this report do not necessarily reflect the majority perceptions.

Document Review

In addition to conducting interviews and focus groups, the study team reviewed documents such as grant applications and reapplications, improvement plans, and schedules for each of the schools. The primary purpose of this activity was to gain a preliminary understanding of the planning and early implementation process. The study team reviewed the grant applications and implementation plans, and the information gleaned enabled us to address issues relevant to individual districts or schools when talking with various respondents. In addition, reviewing the documents enabled the team to triangulate various sources of data regarding such issues as the planning process, goals for ELT, and fidelity to plans and/or reasons for deviations.

Student and Teacher Surveys

In the second year of implementation, Abt Associates developed and administered teacher and student surveys in ELT and their matched comparison schools.[8] All staff members who provide instruction to students were asked to complete the teacher survey. Student surveys were administered in the 5th, 8th, and 10th grades.[9] ELT schools completed surveys in fall 2007 and spring 2008. It is important to note that the fall and spring samples, for both teachers and students, are distinct. Although there is certainly some overlap in the teacher and student samples in fall and spring, the surveys are not pre-post measures of the same individuals. Matched comparison schools completed surveys in spring 2008 only. ELT surveys contained additional questions about the implementation of ELT in their school; otherwise, surveys for ELT and matched comparison schools were identical.

Extant Data

The ESE provided longitudinal and cohort student-level data for both the ELT schools and the matched comparison schools that includes demographic variables and student behavior variables including attendance rate, truancy rate, in-school suspension rate, and out-of-school suspension rate. These datasets include data for all students attending ELT schools and the matched comparison schools in 2006–07 or 2007–08, and their prior year data as far back as 2001-02 to the extent each data element was collected by the ESE and the student attended a public school in Massachusetts. The ESE also provided longitudinal and cohort student-level MCAS data for both the ELT and the matched comparison schools. Included in these datasets are student-level performance data (proficiency levels, raw scores, and scaled scores) on the Reading/English Language Arts, Math, and Science MCAS exams from 2001-02 through 2007–08.

The ESE also provided student-level 8th grade MCAS student questionnaire data for both ELT and matched comparison schools for school year 2006–07 and 2007–08. Student level data from previous cohorts of 8th grade students within the same schools was also made available to serve as a baseline

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[8] In 2006–07 Mass 2020 developed and administered teacher and student surveys in ELT schools, and Abt Associates analyzed and reported the data.

[9] For one ELT school and its matched comparison, students were surveyed at grade 4 rather than grade 5 due to the K–4 grade span configuration of the school.

measure. The 8th grade MCAS student questionnaire is a self-report survey covering topics such as time spent on homework, computer usage, college plans, and course taking.

From the ESE website (http://profiles.doe.mass.edu/), we obtained publicly available school-level datasets for both ELT schools and matched comparison schools, for each school year available beginning as early as 2001–02 through 2007–08. Data include school-level student and teacher characteristics, such as percent of the student body receiving special education services, school enrollment, student-teacher ratio, and percent of core academic teachers identified as highly qualified.

Analysis: Extant Data

To assess the similarity between the ELT schools and the selected matched comparison schools, we conducted individual t-tests for each school-level characteristic measured on a continuous scale used in the matching process (e.g., student enrollment, percent low income). We also computed a composite F-test including the nine characteristics measured on a continuous scale used in the matching process. These analyses were repeated separately for Cohort 1 and Cohort 2 within school years 2006–07 and 2007–08, as applicable. Across all analyses, significance was defined as $p<.05$.

To examine how the composition of ELT schools has changed pre- and post-ELT implementation *relative to the matched comparison schools*, we conducted a difference-in-difference analysis of school-level student and teacher characteristic data, such as percent of students with limited English proficiency, percent of racial/ethnic minority students, and percent of teachers in core academic subjects who are highly qualified. In this analysis, each school has a pre-ELT mean (as many as six years of pre-ELT data from 2001–02 through 2005–06 [Cohort 1] or 2006–07 [Cohort 2])[10] and a post-ELT value (school year 2006–07 for Cohort 1 and 2007–08 for Cohort 2). These time-oriented data are nested within schools, which are then nested within matched pairs. Therefore, we fit a two-level model (time within schools) with fixed effects for matched pairs to obtain estimates of the differences in outcomes between ELT and matched comparison schools over time. This model included a treatment variable at the school level.

We also utilized the student-level dataset from the ESE to investigate the stability of the student population in the first year of the ELT initiative. This analysis used t-tests to examine whether ELT schools and matched comparison schools, by cohort, differed in what percent of students in the school's first year of ELT implementation (spring 2007 for Cohort 1 and spring 2008 for Cohort 2) had also been enrolled at the same school the prior spring (spring 2006 for Cohort 1 and spring 2007 for Cohort 2).[11] For those students who were *new* to ELT schools and matched comparison schools in non-entry grades in the spring of the first year of implementation, we then looked at select student characteristics to better understand if students who receive special services such as students with disabilities or English language learners were disproportionately selecting into ELT schools. This

[10] The number of school years included in the pre-ELT means varies from variable to variable, depending on when the state began to collect that data.

[11] This analysis only includes non-entry grades; in other words, this analysis does not include those students who in the first year of ELT implementation were pre-kindergarten or kindergarten students in elementary/K–8 schools, 5th or 6th grade students (as applicable) in middle schools, or 9th grade students in high schools, as all of these students would be new to these schools given the grade span offered.

analysis used chi-square tests to examine differences between ELT schools and their matched comparison schools; again this analysis was conducted by cohort.

For Cohort 2 ELT and matched comparison schools we also examined student mobility out of schools at non-exit grades given each school's grade span.[12] This analysis used paired t-tests to examine whether ELT schools and matched comparison schools differed in what percentage of students who attended a Cohort 1 ELT school in a non-exit grade as of spring 2006–07 were still enrolled in the school one year later in spring 2007–08.

We also tested for the effects of ELT on student behavior indicators, including rates of attendance, truancy, in-school suspension, and out-of-school suspension. For this analysis, we utilized longitudinal student-level data which are nested within schools, which are then nested within matched pairs. Again, we used a two-level model (i.e., students within schools) with fixed effects for matched pairs to obtain estimates of the differences in outcomes between ELT and matched comparison schools. The model also included a treatment variable at the school level, and a mean baseline measure (baseline average of student-level data from 2001–02 through 2005–06 for cohort 1 schools and through 2006–07 for Cohort 2 schools, or as many baseline years as available) and student demographics (i.e., gender, race, free/reduced-price lunch, special education, and limited English proficiency) at the student level. This analysis was conducted by cohort and by school year.

Because it was not feasible to conduct a random assignment evaluation of ELT, the effects presented do not represent a causal relationship between ELT and the outcomes. In other words, there may be alternative explanations for the effects found and the effect observed may or may not be attributable to ELT. Using a matched comparison design and baseline data in our analyses facilitates our ability to attribute observed differences to ELT.

[12] This analysis only includes non-exit grades; in other words, this analysis does not include those students who in the first year of ELT implementation were 5th or 6th grade students (as applicable) in elementary school, or 8th grade students in middle or K–8 school as they students would be expected to graduate from these schools given the grade span offered.

Appendix D: Interrupted Time Series Analysis

A comparative interrupted time series (ITS) analysis was conducted to examine the effects of ELT on student achievement as measured on the Massachusetts Comprehensive Assessment System (MCAS). The ITS analysis also uses a comparison group, student demographic covariates, and pre-program achievement scores to control for alternative hypotheses that may account for any observed differences in MCAS test scores. Primary alternative hypotheses include: (1) changes in district or state policy that might cause changes in outcomes in both ELT and comparison schools, (2) changes in characteristics of schools (e.g., percent of students that are low income), and (3) pre-existing differences in the academic achievement of ELT and comparison schools. A comparative ITS analysis addresses the first alternative hypothesis because external policy changes (e.g., change in district-wide math curriculum) would be expected to change achievement in both ELT and matched comparison schools. The models control for student demographics to address the second concern. To control for pre-program achievement, the third alternative hypothesis, five years of pre-data[13] are included in the model. Note that this analysis uses individual student-level test scores from consecutive cohorts of students in the same grade from both before and after the program begins.

In the ITS analysis, regression-adjusted post-ELT implementation MCAS scores are compared to the counterfactual, that is, the best prediction of what would have been observed in the absence of the ELT program. In the comparative ITS analysis, this predicted score is estimated taking into account each school's prior achievement as well as the achievement of non-ELT schools. If after implementing ELT, ELT schools deviate significantly from their predicted score and more so than the matched comparison schools, this suggests that the change in the level of student achievement can be reasonably attributed to ELT.

Data Requirements

In conducting an ITS analysis, the greater the number of years of pre-intervention (i.e., pre-ELT) data available, the greater the stability of the prior achievement trend line estimates. The evaluation of ELT utilizes a "short" interrupted time series analysis, as the availability of MCAS data is limited to the past decade.[14] Following guidance from methodologists about appropriate data requirements (Bloom, 2003), a rigorous "short" ITS analysis would adhere to the following criteria:

- **Four or more years of pre-ELT baseline MCAS data.** The primary purpose of having multiple years of pre-intervention performance data is to ensure a reliable estimate of what we would have observed in the absence of ELT (i.e., the counterfactual). With four or more years of baseline MCAS data, there is sufficient data to fit a baseline trend. Baseline data are from consecutive earlier cohorts of same grade students at the same school (e.g., student level Math MCAS data from grade 4 students at a particular school in each school year 2001-02 through 2005–06).

[13] Only four years of pre-program MCAS Science data are available.

[14] Historically interrupted time series analyses have used many data points (e.g., 100 or more) collected on the same outcome over time. However, methodologists also support the use of "short" interrupted time series analyses using far fewer data points over time, particularly when combined with other design elements such as comparison groups (Bloom, 2003; Shadish, Cook, & Campbell, 2002).

- **Two or more years of post-ELT MCAS data**. Two years of post-ELT implementation MCAS data from consecutive cohorts of same-grade students are needed to begin to understand the effects of ELT on student performance (e.g., student level Math MCAS data from grade 4 students at a particular school in each school year 2006–07 and 2007–08). Therefore, this analysis is restricted to the first cohort of ELT schools that began implementation in 2006–07 and have two years of post-ELT test scores.
- **Achievement data in the baseline and follow-up periods that use the same:**
  - assessment instrument (i.e., the MCAS);
  - scoring metric (i.e., raw scores transformed to z-scores); and
  - metric definition (i.e., raw scores on same scale year to year).

The MCAS provides sufficient data for an ITS analysis in eight subject/grade areas, as shown in Exhibit D.1.

Exhibit D.1: Availability of MCAS Data by Subject and Grade Level: Elementary and Middle School Grades

	English Language Arts	Mathematics	Science & Technology/ Engineering	Reading
2001[abc]	4, 7	4, 6, 8		3
2002	4, 7	4, 6, 8		3
2003[d]	4, 7	4, 6, 8	5, 8	3
2004	4, 7	4, 6, 8	5, 8	3
2005	4, 7	4, 6, 8	5, 8	3
2006[ef]	4, 5, 7	3, 4, 5, 6, 7, 8	5, 8	3
ELT Implementation: Cohort 1				
2007	4, 5, 6, 7, 8	3, 4, 5, 6, 7, 8	5, 8	3
ELT Implementation: Cohort 2				
2008	4, 5, 6, 7, 8	3, 4, 5, 6, 7, 8	5, 8	3
2009[g]	4, 5, 6, 7, 8	3, 4, 5, 6, 7, 8	5, 8	3

Source: Massachusetts Department of Education website: For availability of past MCAS data see http://www.doe.mass.edu/mcas/results.html; for future MCAS administrations see http://www.doe.mass.edu/mcas/cal.html. For current (i.e., 2006) MCAS data availability see http://boston.k12.ma.us/teach/mcas.asp#when.

[a] MCAS performance standards were set for MCAS tests in English Language Arts (ELA), Mathematics, and Science & Technology/Engineering for grades 4, 8, and 10 in 1998. Many of these standards were modified in 2001 or 2003 (see below). ITS analyses would use MCAS data from 2001 and beyond that (a) maintain the same performance standards year-to-year and (b) is available at grade-level pre- and post-ELT implementation.

[b] MCAS performance standards were set for three new MCAS tests—grade 3 Reading, grade 6 Mathematics, and grade 7 ELA in 2001.

[c] MCAS performance standards were re-set for the grade 4 ELA test in 2001.

[d] MCAS performance standards were set for two MCAS tests—grade 5 and grade 8 Science & Technology/Engineering in 2003.

[e] MCAS performance standards were set for three new MCAS tests—grade 5, grade 6, and grade 8 ELA in 2006.

[f] MCAS performance standards were set for three new MCAS tests—grade 3, grade 5, and grade 7 Mathematics in 2006.

[g] For spring 2009, this is the projected availability of MCAS data by subject area and grade level. These projections are based on the history of MCAS administration.

Analysis

Outcomes

Eight outcome variables across three subject areas for elementary and middle school grades were examined:

- Reading/ELA: Grades 3, 4, and 7
- Math: Grades 4, 6, and 8
- Science: Grades 5 and 8[15]

Per the advice of the ESE (Researcher's Guide to Massachusetts State Education Data, MA ESE, 2008), individual student-level raw scores on each test, by subject and grade, were transformed into z scores for each administration year.

Sample

Due to the data requirements for an ITS analysis, only Cohort 1 ELT schools and their matched comparison schools are included in this analysis. Because Cohort 1 ELT schools serve a variety of grade span configurations (i.e., K–6, K–5, 6-8, and K–8), the number of schools (ELT and their matched comparison schools) represented in each outcome analysis varies from 10 schools in grades 3, 4, and 6; to 16 schools in grade 6; and 14 schools in grades 7 and 8 (i.e., 7 ELT and 7 comparison schools).

Analytic Approach

One of two analytic models was used to estimate the effects of ELT on each of eight MCAS outcomes in Cohort 1 ELT schools during the first two years of ELT implementation: (1) a linear trend model, or (2) a baseline mean model. The selection of a final model was driven by the trend in the baseline data for each outcome and is further described below. Both models are common in that they:

- Take into the account the multi-level structure of the data accounting for students being clustered in schools by school year,
- Include the same student characteristic covariates (i.e., gender, race, free/reduced price lunch, special education, limited English proficiency) and matched pair indicators,
- Specify random effects at the school level such that there is variance unique to each school, and
- Were fit in two ways—first, looking at the effect of ELT in each year (i.e., ELT year one, ELT year 2) and second, looking at the effect of ELT pooled across the two years.

[15] The possibility of pooling results across grades within subject area was explored to examine the effect of ELT on math (i.e., pooling grade 4 math, grade 6 math, and grade 8 math). This option was not practical given that there were differences in the appropriate analytic model for each grade level within subject (i.e., baseline mean model or linear trend model) and a different subset of ELT schools within each grade level).

The process of determining the best model for each outcome is detailed below in three steps and is represented in Exhibit D.2.

Step 1. For each outcome, the best model for describing the underlying pre-ELT achievement trends in both ELT and matched comparison schools was determined.

> To begin, a **linear baseline trend model** was fit to baseline data only (i.e., pre-ELT) for each of the eight outcomes to examine if a linear (i.e., MCAS year) model was an appropriate representation of the baseline time period (Bloom, 2003). In this model, baseline test scores were allowed to change at a constant rate (increase or decrease) across consecutive annual student cohorts; the ELT and comparison groups could have different slopes and intercepts. If there was a significant ($p<.05$) linear trend in baseline test scores for the ELT and/or comparison schools, this indicated that a linear trend model was an appropriate representation of the baseline data; a linear baseline trend model was then fit to the pre- and post-ELT data for that outcome. On the other hand, if there was no significant linear trend in baseline test scores for both ELT and comparison schools, then a baseline mean model was fit instead for that outcome.

Step 2. Using the appropriate model for each outcome variable (i.e., linear baseline trend model or baseline mean model), post-ELT was added to the model to estimate the effects of ELT. These models estimated the deviation between the pre-ELT trend (or mean) and post-ELT scores for both ELT and matched comparison schools, adjusted for student demographics and matched pair covariates in the model. Both the linear baseline trend model and baseline mean model are discussed in turn.

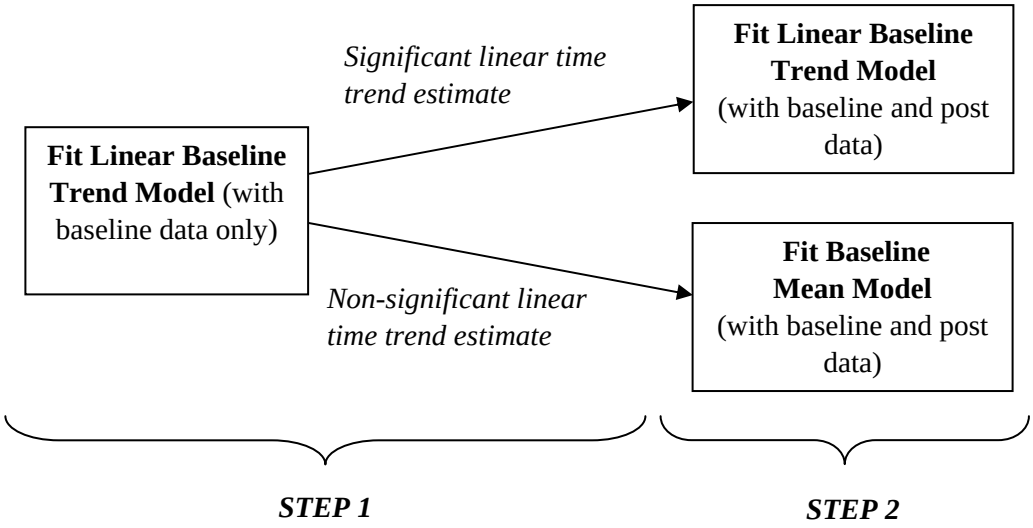
> A **linear trend model** including both pre- and post-ELT data was fit for the five outcomes that demonstrated a significant linear baseline trend in MCAS achievement scores: Grade 3 Reading, Grade 4 ELA, Grades 4 and 6 Math, and Grade 8 Science. In the linear baseline trend model, baseline test scores changed at a constant rate (increase or decrease) across consecutive annual student cohorts and the ELT and comparison groups could have different slopes and intercepts. These patterns were projected into the follow-up period to serve as the counterfactuals for the ELT and comparison group. Post-ELT test scores were then modeled as deviations from these counterfactuals, both in the ELT and comparison group. (See Appendix F for further detail about the model specifications).[16]
>
> A **baseline mean model** was fit for each of the three outcomes where there was no significant increase or decrease in test scores during the baseline period—Grade 7 ELA, Grade 8 Math, and Grade 5 Science. In contrast to the linear baseline trend model, baseline (i.e., pre-ELT) test scores were held constant and flat across consecutive annual student cohorts for each group (i.e., treatment and matched comparison). These patterns were

[16] For the five outcomes where a linear trend model was fit, a quadratic model was also investigated. For four of these five outcomes, the quadratic time function was not significant for the ELT or matched comparison schools. For one outcome (Grade 8 Science), however, the quadratic time function was significant for ELT schools. It is important to note that the effect estimates from the quadratic model were similar in magnitude and non-significance to the linear time trend model. It can also be argued that it is unrealistic to expect quadratic changes in test scores of students from the same grade in such a short time period. Therefore, the linear trend model was selected as the best model.

projected into the follow-up period to serve as the counterfactuals for the ELT and comparison group. Post-program test scores were then modeled as deviations from these counterfactuals, both in the ELT and comparison group (see Appendix F for further detail about the model specifications).

The results of Steps 1 and 2 are presented in Appendix F.

Exhibit D.2: Process of Determining Best Analytic Model for Each Outcome



Step 3. For each outcome, it was calculated whether post-ELT scores in ELT schools were significantly different from the pre-ELT trend (or mean), adjusted by achievement in the matched comparison schools.

Because it was not feasible to conduct a random assignment evaluation of ELT, the effects presented do not represent a causal relationship between ELT and the outcomes. In other words, there may be alternative explanations for the effects found and the effect observed may or may not be attributable to ELT. Using a matched comparison design and baseline data in our analyses facilitates our ability to attribute observed differences to ELT.

Appendix E: Selection and Comparability of Matched Comparison Schools

Early in the evaluation, the ESE and project staff decided that it was important to try to match ELT schools with non-ELT comparison schools in the same district due to potentially important contextual differences among participating districts.[17,18] Instead, ELT schools were matched to non-ELT schools within district and grade span (e.g., K–8, 6–8) based on the following prioritization of matching variables decided in concert with ESE staff involved in the program:

Tier 1: Highest priority matching variables

- ELA Composite Performance Index (CPI),[19]
- Math Composite Performance Index (CPI)
- Aggregate ELA Adequate Yearly Progress (AYP)[20]
- Aggregate Math Adequate Yearly Progress (AYP)

Tier 2: High priority matching variables

- ELA Accountability Status[21]
- Math Accountability Status

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17 We could not identify a within-district match for one ELT school due to the size of the district. This school's match was drawn from a demographically similar district from the same region of Massachusetts that also has ELT schools in its district.

18 The strongest method uses propensity scores, given sufficient sample size. Because the pool of potential comparison schools for this evaluation is small within each district, it was not feasible statistically to use propensity scores to identify matched comparison schools.

19 The Composite Performance Index (CPI) is a "100-point index combining the scores of students who take standard MCAS tests (the Proficiency Index) with the scores of those who take the MCAS-Alternate Assessment (MCAS-Alt) (the MCAS-Alt Index). The CPI is a measure of the extent to which students are progressing toward proficiency in ELA and mathematics, respectively." (http://www.doe.mass.edu/sda/ayp/2008/glossary.doc)

20 "The federal No Child Left Behind Act (NCLB) requires all schools and districts to meet or exceed specific student performance standards in English language arts (ELA) and mathematics by the year 2014. AYP determinations are issued yearly based on the performance of all students (the "aggregate") and for individual student groups ("subgroups") to gauge the interim progress toward the attainment of those goals. To make AYP in 2008, districts and schools must meet a student participation requirement, an additional attendance or graduation requirement, and either the State's 2008 performance target for that subject or the district, school or group's own 2008 improvement target. A group may also make AYP by reducing the percentage of non-proficient students by 10% from 2007 to 2008 under NCLB's Safe Harbor provision." (http://www.doe.mass.edu/sda/ayp/2008/glossary.doc)

21 Districts, schools, and student subgroups are expected to make AYP in ELA and mathematics. Districts, schools, or subgroups that make AYP in consecutive years have no NCLB Accountability Status. Those that do not make AYP for two consecutive years or more may be identified for Improvement, Corrective Action, or Restructuring for students in the aggregate or for one or more student subgroups. Improvement, Corrective Action, and Restructuring status all trigger specific consequences (http://www.doe.mass.edu/sda/ayp/2008/glossary.doc).

Tier 3: Medium priority matching variables

- Student enrollment
- Percent minority (i.e., percent non-White)
- Percent limited English proficiency (LEP)
- Percent low-income
- Percent special education

Tier 4: Lower priority matching variables

- Percent male
- Percent of teachers in core academic subjects who are highly qualified

These data were downloaded from publicly available datasets from the ESE. To identify potential matched comparison schools, data from the year immediately prior to ELT implementation were used. For Cohort 1 schools, 2005–06 data were referenced; for Cohort 2 schools, 2006–07 data were referenced.

After identifying two potential matched comparison schools for each ELT school based on the above criteria, the study team contacted the district superintendents to obtain qualitative information to help determine which of the two potential non-ELT matched comparison schools provided a better match. Superintendents volunteered a range of information regarding the tenure of the school's leadership, district context, and demographics of the school's neighborhood. This process allowed the study team to select matched comparison schools based on critical quantitative and qualitative factors. We then contacted the principals of potential matched comparison schools directly to discuss their schools' participation in the evaluation. Participation as a matched comparison school includes teacher surveys, student surveys, a principal interview, and extant data.

To assess the similarity between the ELT schools and the preferred matched comparison schools, the following statistical tests were conducted by cohort and applicable school year(s):

- Individual paired t-tests for each characteristic measured on a continuous scale used in the matching process (e.g., student enrollment, percent low income). Nine paired t-tests were conducted for each of the two cohorts.
- A composite F-test of all characteristics measured on a continuous scale used in the matching process, conducted separately for each cohort and school year. The composite tests included the nine characteristics analyzed individually via t-tests.

The results of these analyses are summarized in Exhibit E.1. The first panel shows results for Cohort 1, and the second panel shows results for Cohort 2. The focus of this table is the degree of similarity between ELT schools and matched comparison schools in school year 2007–08 (year two of implementation for Cohort 1 schools, year one of implementation for Cohort 2 schools). Results for the 2006–07 school year for Cohort 1 schools only (year one of implementation) are provided for convenience. It should be noted that there have been two changes to the Cohort 1 sample from year one to year two of the evaluation. As previously mentioned, one Cohort 1 ELT school closed between the first and second year of the evaluation as part of a district-wide restructuring effort. In the same district, one matched comparison school closed; therefore, the alternative matched comparison school was used for the second year of the evaluation.

The results of these analyses suggest that both cohorts of ELT schools and matched comparison schools are comparable on virtually all characteristics used in the matching process and allow us to suggest that differences between the two groups can be attributed to the effects of the ELT program. There are two statistically significant differences to note. First, in Cohort 1, ELT schools tend to serve a greater percentage of low income students than matched comparison schools (e.g., 74.9 percent versus 66.8 percent, respectively, in 2007–08); this difference is also present in 2006–07. Second, in Cohort 2, ELT schools tend to have a lower average ELA CPI than matched comparison schools (71.3 versus 75.0, respectively). The analytic models take into account both student demographics as well as schools' prior performance.

Exhibit E.1: Comparison of School-Level Characteristics of ELT Schools and Matched Comparison Schools, by Cohort, by School Year

	2007–08 School Year			2006–07 School Year		
	Means			Means		
Characteristic	ELT schools	MC schools	p-value	ELT schools	MC schools	p-value
Cohort 1[a]						
ELA CPI	74.3	77.6	.2647	78.2	77.1	.5012
Math CPI	61.0	65.6	.1794	59.5	62.1	.4057
Student enrollment	496.7	418.1	.3649	479.7	416.4	.4971
Percent minority	71.1	63.2	.1752	70.0	62.5	.1775
Percent limited English proficiency	13.9	11.5	.3240	12.1	9.0	.1759
Percent low income	74.9	66.8	.0282	74.5	66.6	.0302
Percent special education	20.1	20.9	.5363	18.8	20.7	.1395
Percent male	53.1	52.2	.6512	52.2	52.8	.5637
Percent of teachers in core academic subjects who are highly qualified	93.4	93.3	.9353	93.1	91.6	.6172
		Composite F-test	.8808		Composite F-test	.5318
Cohort 2[a]						
ELA CPI	71.3	75.0	.0066			
Math CPI	62.1	67.2	.1456			
Student enrollment	477.2	467.1	.8580			
Percent minority	57.5	53.0	.4036			
Percent limited English proficiency	15.0	14.0	.6554			
Percent low income	72.3	68.2	.2705			
Percent special education	18.4	17.3	.5474			
Percent male	50.6	51.5	.5853			
Percent of teachers in core academic subjects who are highly qualified	96.6	98.0	.2834			
		Composite F-test	.8274			

No ELT

Source: Extant data downloaded from the Massachusetts Department of ESE website (http://profiles.doe.mass.edu/).

[a] Each cohort includes 9 ELT schools and 9 matched comparison schools.

Exhibit reads: For Cohort 1 ELT schools in school year 2007–08, the ELA CPI score was on average 74.3 points for the Cohort 1 ELT schools and 77.6 points for the matched comparison schools. The difference was not statistically significant ($p \geq .05$).

Although the ELT and matched comparisons are comparable on a range of characteristics, it is impossible to say definitively whether or not any differences observed are the direct cause of the ELT program because (a) this is not a randomized experiment and (b) the matching process cannot include every possible characteristic that may be related to the outcomes.

Appendix F: Model Specifications for Outcomes Analyses

1. Difference in Difference Analyses of Changes in Student and Teacher Populations

Data: School-level data measured at two points in time (time nested in schools) with fixed effects for pairs. Treatment and pair dummies at level two.

Level One (Time-level):

$$Y_{tj} = \beta_{0j} + \beta_{1j}(time_{tj}) + r_{tj}$$

Level Two (School-level):

$$\beta_{0j} = \gamma_{00} + \gamma_{01} treatment_j + \gamma_{02} pair_k + \mu_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11} treatment_j + \gamma_{12} pair_k + \mu_{1j}$$

Combined Model:

$$Y_{ij} = \gamma_{00} + \gamma_{01} treatment_j + \gamma_{02} pair_k + \mu_{0j} + (\gamma_{10} + \gamma_{11} treatment_j + \gamma_{12} pair_k + \mu_{1j})$$

$$(time_{tj}) + r_{ij}$$

Where:

Y_{ij}	= outcome measure at time *t* for school *j*
$time_{tj}$	= indicator variable that equals one if the observation is measured post treatment
treatment	= one if school *j* is a treatment (ELT) school and zero if school *j* is a matched comparison school
pair	= one if school *j* is in pair *k* and zero otherwise (k=1 to 10)
r_{ij}, μ_{0j}, μ_{1j}	= individual level and school level random error terms

To calculate the coefficients for *pair* and *pair*time* we averaged across the individual estimates for each *pair* and *pair*time*, respectively.

2. Effect of ELT on Student Behavior Indicators

Data: Student-level data nested in schools with fixed effects for pairs. Baseline covariate at level one and treatment and pair dummies at level two.

Level One (Student-level):

$$Y_{ij} = \beta_{0j} + \beta_{1j}(cbaseline_{ij}) + r_{ij}$$

Level Two (School-level):

$$\beta_{0j} = \gamma_{00} + \gamma_{01} treatment_j + \gamma_{02} pair_k + \mu_{0j}$$

$$\beta_{1j} = \gamma_{10}$$

Combined Model:

$$Y_{ij} = \gamma_{00} + \gamma_{01} treatment_j + \gamma_{02} pair_k + \mu_{0j} + \gamma_{10}(cbaseline_{ij}) + r_{ij}$$

Where:

Y_{ij}	= outcome measure for observation *i* in school *j*
$cbaseline_{ij}$	= baseline equivalent of the outcome measure centered about the grand mean
treatment	= one if school *j* is a treatment (ELT) school and zero if school *j* is a matched comparison school
pair	= one if school *j* is in pair *k* and zero otherwise (*k*=1 to 10)
r_{ij} , μ_{0j}	= individual level and school level random error terms

To calculate the coefficient for *pair*, we averaged across the individual estimates for each *pair*.

3. Effect of ELT on MCAS

A. Baseline Mean Model

$$Y_i = A + BT_i + \sum D_k FY_{ki} + \sum E_j X_{ji} + \sum G_p M_{pi} + \upsilon_t + \varepsilon_i$$

where

Y_i = the test score for student i,

T_i = the treatment indicator. Equals one if student i was in an ELT school and zero otherwise,

FY_{ki} =the post program treatment indicator. Equals one if student i was a member of the cohort for the follow-up time period k in an ELT school and zero otherwise.

X_{ji} = j^{th} characteristic of student i,

M_{pi} = the indicator variable for the p^{th} matched pair,

υ_t = school random error term,

ε_i = individual random error term (for student i).

B. Linear Baseline Trend Model

$$Y_i = a + bt_i + cT_i + dT_i t_i + \sum D_k FY_{ki} + \sum E_j X_{ji} + \sum G_p M_{pi} + \upsilon_t + \varepsilon_i$$

The model specifications for the linear baseline trend model include many of the same terms as the baseline mean model (see above). The additional terms in this specification are defined as follows:

t_i =a counter for time that is zero for students in the first baseline cohort and increases by one unit for each subsequent cohort,
a = intercept for the comparison group,
b = slope for the comparison group,
c = difference between the treatment group's intercept and that of the comparison group,
d = difference between the treatment group's slope and that of the comparison group.

Exhibit F.1: Summary of Model Selection Process, by Subject/Grade

	Baseline Mean Model [a]			Significance test for linear time trend (p<.05) (Arrow indicates final model)				Linear Baseline Trend Model [b]		
	Effect Est.	Std. Error	p-value		ELT or MC [c]	p-value		Effect Est.	Std. Error	p-value
READING/ENGLISH LANGUAGE ARTS										
Grade 3										
Year 1	-.00	.099	.9982		ELT	.53	→	.19	.130	.1533
Year 2	-.54	.100	<.0001		MC	.02		-.28	.151	.0569
Grade 4										
Year 1	-.11	.094	.2243		ELT	.99	→	.07	.124	.5589
Year 2	-.14	.094	.1382		MC	.00		.11	.144	.4276
Grade 7										
Year 1	.06	.047	.1692	←	ELT	.27		N/A		
Year 2	.02	.046	.6327		MC	.11		N/A		
MATH										
Grade 4										
Year 1	-.36	.099	.0003		ELT	.57	→	-.12	.131	.3592
Year 2	-.27	.099	.0070		MC	.00		.05	.151	.7277
Grade 6										
Year 1	-.00	.046	.9443		ELT	.00	→	.14	.060	.0160
Year 2	.02	.047	.7072		MC	.14		.21	.069	.0024
Grade 8										
Year 1	-.24	.050	<.0001	←	ELT	.23		N/A		
Year 2	-.17	.051	.0006		MC	.21		N/A		
SCIENCE										
Grade 5										
Year 1	.06	.097	.5189	←	ELT	.35		N/A		
Year 2	-.04	.094	.6381		MC	.09		N/A		
Grade 8										
Year 1	-.04	.047	.4097		ELT	.26	→	.08	.065	.2061
Year 2	-.09	.048	.0477		MC	.01		.07	.079	.3497

Source: Individual student-level data provided by MA ESE for school years 2001-02 through 2007–08.

[a] The baseline mean model controlled for matched pairs and student-level demographics (gender, race, free/reduced price lunch, special education, limited English proficiency) while holding baseline test scores constant across consecutive annual student cohorts for each group (i.e., ELT and matched comparison).

[b] The linear baseline trend model controlled for matched pairs and the same set of student-level demographics while baseline test scores changed at a constant rate (increase or decrease) across consecutive annual student cohorts for each group (i.e., ELT and matched comparison).

[c] MC = Matched comparison schools.

Exhibit reads: The effect of ELT (in effect size) on Grade 3 Reading in the first year of ELT implementation (2006–07) using a baseline mean model was -.00, with a standard error of .099. This effect was not statistically significant ($p \geq .05$). A significant linear time trend indicated that a linear baseline trend model was a better fit to the baseline data and was selected as the final analytic model. The effect of ELT (in effect size) on Grade 3 Reading in the first year of ELT implementation (2006–07) using a linear baseline trend model was .19 with a standard error of .130. This effect was not statistically significant ($p \geq .05$).

Appendix G: Survey Data Statistics by Cohort

Exhibit G.1: Teachers' Perceptions of the Impact of the Longer Schedule, By ELT Cohort, Fall 2007 and Spring 2008

Fall 2007								Survey Item	Spring 2008							
		Percent of Teachers							Percent of Teachers							
		ELT Cohort 1			ELT Cohort 2				ELT Cohort 1			ELT Cohort 2				
Chi-square value	p-value	Better	Same	Worse	Better	Same	Worse		Better	Same	Worse	Better	Same	Worse	Chi-square value	p-value
14.82	.0006	71	27	2	55	44	1	Student academic performance	55	42	4	49	49	2	4.12	.1275
7.78	.0204	22	57	21	15	55	30	Student behavior	19	51	30	13	58	29	5.28	.0715
14.78	.0008	51	40	9	38	56	6	Student engagement in school	39	48	12	37	53	10	1.31	.5189
.17	.9187	18	70	12	18	69	13	Student attendance	24	64	12	16	68	16	6.66	.0358
8.04	.0180	77	19	4	66	30	4	Students' opportunities for enrichment activities	78	18	4	75	22	3	2.07	.3544
9.15	.0103	18	42	40	12	55	33	Students' participation in activities outside of school	25	51	23	14	67	19	17.02	.0002
14.95	.0006	34	61	5	19	74	6	Student safety	30	61	9	16	77	7	18.91	<.0001
8.59	.0136	8	34	59	2	39	59	Student fatigue	6	42	52	4	44	51	1.27	.5299
3.50	.1739	5	28	67	2	30	68	Teacher and staff fatigue	8	35	56	5	32	63	4.83	.0895
12.45	.0020	31	49	20	19	64	17	Homework completion rates	18	64	18	15	69	16	1.44	.4869
6.57	.0375	55	41	4	51	48	1	Your ability to use different instructional strategies (e.g. project-based learning, small-group learning)	54	41	4	55	43	2	2.18	.3356
4.84	.0890	53	40	7	59	38	3	Your ability to cover more material	53	41	5	60	37	3	4.80	.0907
4.68	.0962	42	55	3	49	50	1	Your ability to differentiate instruction	46	51	3	50	49	1	1.70	.4265
.86	.6508	36	50	14	32	54	13	Your collaborative/common planning time	44	44	12	36	51	14	4.28	.1178
4.15	.1253	20	55	25	23	46	31	Your individual planning time	29	53	18	28	52	20	.27	.8722
15.85	.0004	56	41	2	40	59	2	Your relationships with students	47	51	3	36	62	2	7.23	.0269
6.55	.0379	33	48	20	25	59	16	Your professional development opportunities	30	51	19	29	47	24	2.12	.3463
5.61	.0604	41	54	5	32	60	7	Your connections with school partners	36	57	7	41	55	4	3.48	.1759
5.01	.0786	22	75	3	16	78	6	Your communication with parents	19	75	6	14	81	5	2.80	.2464

Source: ELT Teacher Surveys, Fall 2007 and Spring 2008

Exhibit G.2: Teachers' Attitudes Towards Teaching, ELT and Matched Comparison Schools, By Cohort, Spring 2008

ELT Schools							Matched Comparison Schools					
		Percent of Teachers					Percent of Teachers					
		Cohort 1		Cohort 2			Cohort 1		Cohort 2			
Chi-square value	p-value	Agree	Disagree	Agree	Disagree	Survey Item	Agree	Disagree	Agree	Disagree	Chi-square value	p-value
1.72	.1898	94	6	91	9	Overall, I am very satisfied with being a teacher.	93	7	94	6	.15	.6944
.41	.5232	83	17	81	19	Overall, I am very satisfied with being a teacher at this school.	82	18	94	6	11.33	.0008
1.76	.1848	88	12	84	16	If I could start over again, I would still become a teacher.	84	16	76	24	3.77	.0520
1.86	.1731	88	12	91	9	I plan to stay in the teaching profession until I retire.	90	10	93	7	.71	.4010
.05	.8206	38	62	37	63	I think about transferring to another school.	27	73	22	78	1.37	.2416
.91	.3412	27	73	30	70	I think about transferring to another district.	21	79	29	71	2.89	.0892
.84	.3603	64	36	60	40	I am satisfied with my teaching salary.	51	49	43	57	2.49	.1149
.28	.5971	22	78	24	76	The stress and challenges of teaching aren't really worth it.	22	78	29	71	2.37	.1235
.34	.5580	43	57	41	59	My enthusiasm for teaching has increased since my school adopted an expanded schedule.	n/a	n/a	n/a	n/a	n/a	n/a
.43	.5116	46	54	43	57	I am more satisfied with my job since my school adopted an expanded schedule.	n/a	n/a	n/a	n/a	n/a	n/a
.15	.6959	47	53	49	51	My teaching has improved since my school adopted an expanded schedule.	n/a	n/a	n/a	n/a	n/a	n/a

Source: ELT and Matched Comparison Teacher Surveys, Spring 2008

Exhibit G.3: Students' Perceptions of the Impact of the Longer Schedule on Time Spent On Activities, By ELT Cohort, Spring 2008

Survey Item	Percent of Students						Chi-square value	p-value
	ELT Cohort 1			ELT Cohort 2				
	Less time	Same time	More time	Less time	Same time	More time		
Playing outside	58	28	14	56	25	19	4.40	0.1109
Watching television	49	43	8	56	34	10	6.22	0.0446
Playing video games	60	34	6	64	28	7	3.19	0.2027
Playing on the computer	40	42	18	52	31	17	12.23	0.0022
Spending time with friends	46	33	20	40	35	25	3.43	0.1799
Spending time with family	43	41	15	42	40	18	1.44	0.4874
Taking care of brothers/sisters	51	39	10	46	41	13	2.52	0.2837
Working at a job	62	33	5	67	30	4	1.74	0.4199
Volunteering	62	35	4	60	32	8	5.97	0.0506
Working on homework	34	46	20	36	42	22	0.86	0.6507
Playing on sports teams	46	39	15	50	33	16	2.21	0.3319
Participating in art, theater, music, or dance	51	35	13	52	30	18	3.54	0.1707
Attending a church youth group	61	36	3	63	32	6	3.50	0.1734
Going to the library	59	33	8	58	34	8	0.20	0.9047
Working with an adult on my homework	54	37	9	54	34	12	2.56	0.2777
Going to an after-school program at my school	63	27	10	67	25	9	1.12	0.5706
Going to an after-school program outside of school	67	24	8	66	26	8	0.25	0.8827

Source: ELT Student Surveys, Spring 2008

Exhibit G.4: Students' Attitudes Towards Their School, ELT and Matched Comparison Schools, By Cohort, Spring 2008

ELT Schools							Matched Comparison Schools					
		Percent of Students					Percent of Students					
		Cohort 1		Cohort 2			Cohort 1		Cohort 2			
Chi-square value	p-value	True	False	True	False	Survey Item	True	False	True	False	Chi-square value	p-value
.01	.9183	84	16	85	15	I feel like I learn a lot in school.	89	11	88	12	.08	.7800
.09	.7649	58	42	57	43	I like being at my school.	63	37	72	28	5.60	.0180
1.73	.1883	49	51	54	46	I am often bored in class.	54	46	49	51	2.13	.1445
1.39	.2390	56	44	52	48	I look forward to going to school most of the time.	62	38	60	40	.15	.6972
.50	.4781	86	14	88	12	I am getting a good education at my school.	91	9	92	8	.09	.7649
.28	.5947	81	19	79	21	I feel safe while at school.	89	11	83	17	4.50	.0340
1.86	.1728	79	21	83	17	I feel safe on my way home from school.	88	12	89	11	.05	.8256

Source: ELT and Matched Comparison Student Surveys, Spring 2008

Exhibit G.5: Students' Engagement and Disengagement in School, ELT and Matched Comparison Schools, By Cohort, Spring 2008

ELT Schools									Matched Comparison Schools							
		Percent of Students							Percent of Students							
		Cohort 1			Cohort 2				Cohort 1			Cohort 2				
Chi-square value	p-value	Never or Almost Never	Sometimes	Always or Almost Always	Never or Almost Never	Sometimes	Always or Almost Always	Survey Item	Never or Almost Never	Sometimes	Always or Almost Always	Never or Almost Never	Sometimes	Always or Almost Always	Chi-square value	p-value
.80	.6699	8	68	24	10	68	22	I am interested in the work I get to do in my classes.	9	74	17	8	73	19	.72	.6988
.61	.7367	54	40	7	56	37	7	I get in trouble at school.	59	36	5	57	38	4	.35	.8375
6.78	.0337	3	49	49	4	40	56	I pay attention in class.	4	42	55	3	47	50	2.17	.3372
5.64	.0597	4	34	63	4	26	70	I try my best at school.	5	26	69	4	23	73	1.60	.4488
14.73	.0006	60	33	6	73	23	4	When I am in class, I just pretend I am working.	66	30	4	66	30	4	.34	.8441
5.62	.0602	16	62	23	18	53	28	I am tired at school.	20	62	17	21	63	16	.19	.9072
2.75	.2533	17	56	27	22	55	24	I am hungry at school.	23	56	21	22	57	21	.09	.9538
8.68	.0130	16	62	22	15	54	32	I check my schoolwork for mistakes.	15	56	29	16	56	29	.00	.9983
6.17	.0458	6	48	46	5	41	55	I get good grades in school.	4	38	58	3	43	54	1.77	.4132
17.88	.0001	59	32	10	73	20	7	I try to stay home from school.	75	20	5	74	22	4	.68	.7129
3.48	.1759	10	47	43	7	44	49	I finish my homework on time.	5	43	53	8	38	54	4.02	.1340
2.71	.2578	14	51	35	15	45	40	When I am in class, I can't wait for class to end.	9	60	31	9	62	29	.36	.8344
8.52	.0141	5	42	53	5	32	63	I follow the rules at school.	4	33	63	6	31	63	1.67	.4335
14.43	.0007	85	10	6	93	5	2	I skip (cut) classes during school.	90	7	2	92	6	2	.98	.6141
5.26	.0720	87	7	6	92	5	3	I skip (cut) the entire school day.	95	2	3	90	8	2	11.09	.0039
5.13	.0770	7	58	35	8	49	43	I get my questions answered in class.	6	56	37	6	49	45	4.10	.1285
11.67	.0029	21	58	21	21	48	31	What I learn in elective/enrichment activities helps me do better in math and English classes.	24	56	20	21	49	30	9.05	.0109
10.33	.0057	23	72	5	29	61	10	I have trouble figuring out the answers in my classes.	27	67	6	23	70	6	1.41	.4946

Source: ELT and Matched Comparison Student Surveys, Spring 2008

Exhibit G.6: Students' Relationships With Their Teachers, ELT and Matched Comparison Schools, By Cohort, Spring 2008

ELT Schools							Matched Comparison Schools					
		Percent of Students					Percent of Students					
		Cohort 1		Cohort 2			Cohort 1		Cohort 2			
Chi-square value	p-value	True	False	True	False	Survey Item	True	False	True	False	Chi-square value	p-value
.00	.9733	66	34	67	33	I spend more time with my teachers in my academic classes this year.	60	40	61	39	.10	.7465
.65	.4184	36	64	33	67	I spend more time with my teachers in non-academic classes this year.	25	75	25	75	.00	.9524
9.01	.0027	19	81	11	89	I spend more time with my teachers outside of class this year.	10	90	11	89	.16	.6851
1.29	.2568	74	26	70	30	I get along better with my teachers this year.	83	18	81	19	.35	.5530
3.50	.0612	76	24	70	30	I know my teachers better this year.	81	19	79	21	.55	.4597
5.24	.0221	76	24	68	32	My teachers know more about me this year.	76	24	75	25	.31	.5786
10.98	.0009	64	36	52	48	I feel like I can talk to a teacher about my problems this year.	56	44	66	34	7.13	.0076

Source: ELT and Matched Comparison Student Surveys, Spring 2008