

The Effect of After School Program Participation on English Language Acquisition

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October 2008

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We gratefully acknowledge the interest and participation of the Boys & Girls Club of the Peninsula and the Redwood City School District, who provided the data for this study and participated in discussions and offered feedback. We also thank Hayin Kim for research assistance, and Craig Baker, Guadalupe Valdés, and Milbrey McLaughlin for thoughtful comments on versions of this article. This study was funded by generous contributions from: the Thrive Foundation, the Skoll Foundation, the David and Lucile Packard Foundation, and the Office of the President at Stanford University. All views and errors are our own.

Abstract

This study examines English learning in an after school setting among students whose primary language is not English. Focusing on a large after school provider and one school district in the San Francisco Bay Area, we examine the determinants of program participation among native and non-native English speakers and the effects of participation on English language development as measured by the California English Language Development Test (CELDT). Findings indicate that students attending the program, particularly at higher levels of attendance, have greater rates of gain in the listening and speaking portions of the CELDT, but they are not redesignated as English proficient in school sooner than other non-attending students. Our results point to the need for increased examination of the link between in-school and out-of-school activities in relation to English language acquisition among youth.

Introduction

In the past quarter century, the nation's K-12 public schools have experienced a large influx of students who speak languages other than English. In California in the 2005-06 school year, the public schools served 1.6 million children—25% of the public school population—whose primary language was not English (Williams et al., 2007). This is a substantial increase from 25 years earlier, when just 8% of California's public school students were English learners. English learner (EL) students require additional in-school supports to learn English and importantly to meet the accountability standards set forth in the federal No Child Left Behind legislation (NCLB). NCLB, legislated in 2001, creates a system that holds accountable schools, districts, and even principals and teachers for the increasing academic success of all students served in the public schools. English learner students are an important subgroup targeted by the legislation as schools are required to show increasingly higher rates of academic success, as well as English language proficiency, for these students each year. Because California educates one-third of the nation's English learners (Williams et al., 2007), meeting these standards is challenging, but essential to ensure funding and quality education for all schoolchildren. With these high stakes, many in the field of education are grappling with the best ways to help students whose first language is not English gain the language skills they need so that students succeed in learning and their schools succeed within the NCLB accountability system.

A key focus of the English learning literature is understanding the classroom strategies and settings that promote English language acquisition is. Research has shown that many factors affect how EL students acquire English language skills, including their preparation prior to entry into U.S. schools, educational practices, and out-of-school environments (Genesee et al., 2006; Ready and Tindal, 2006; Saunders and O'Brien, 2006; Valdés, 1998). Our study focuses

specifically on one aspect of this field: how an after school setting can affect English language development. The vast literature on after school program participation concludes that out-of-school programs can help improve academic outcomes, especially for disadvantaged or at-risk students including English learners (see Lauer et al. (2006) for a recent meta-analysis of after school program evaluations). In addition, policymakers have recognized the importance of after school programming and in 2008, the federal government appropriated \$1.08 billion for 21st Century Learning Communities—after school programs targeted to high poverty and low-performing schools (Afterschool Alliance, 2008). The 21st Century Learning Communities program has an explicit goal of improving students’ academic outcomes through after school enrichment activities and a specific aim to help children meet state and local standards in core subject areas. This promotion of school-focused goals in after school settings is somewhat controversial, with youth development advocates arguing that a focus on improved test scores will dilute the rich after school field, which they argue should focus on other aspects of youth development—youth voice, leadership, civic engagement, and others (Ames, 2007).

Although there is anecdotal evidence that after school program participation can help English learner students improve their English skills, studies have not examined the magnitude of this effect or the mechanisms for its occurrence. In this paper, we hone in on the role of structured after school programming in helping EL students to become English speakers. Using an innovative data source—the Youth Data Archive (YDA)—we follow elementary and middle school students from a single school district over three academic years to study the link between their after school program participation and English language development.

The setting for this work is Redwood City and the neighboring unincorporated area of North Fair Oaks, which are located about 25 miles south of San Francisco in San Mateo County,

California. We rely on school district data, which contain detailed information on students' demographic and socioeconomic characteristics as well as educational achievements from kindergarten through eighth grade. We link these data to attendance at a local after school program—the Boys & Girls Club—for all three years. The Boys & Girls Club programming is not specifically focused on English learning, but does incorporate academic success elements. Using these data, we examine the characteristics that make English learners and other students more likely to attend the program, and for those who attend, the correlation between this attendance and the probability of reaching several English learning milestones. Our results indicate that Boys & Girls Club attendance is associated with gains in English proficiency from one academic year to the next, particularly in students' speaking and listening skills.

Previous Literature

The issue of whether after school program participation affects English language gains spans two separate literatures: (a) the effects of after school programming, with studies focused on both including academic and social or emotional development outcomes; and (b) the factors influencing English language acquisition, with studies generally situated within school contexts.

The literature on after school programming points to the benefits of high quality programs in fostering both academic and social or emotional development. In the area of academic performance, Klein and Bolus (2002) show that after school program participation significantly improves math and reading test scores among elementary school students; Welsh et al. (2002) and Vandell et al. (2007) also find increases in math test scores among after school program participants. In addition to improving test scores or grades directly, Espino et al. (2004), Fabiano et al. (2005), Huang et al. (2005) and Welsh et al. (2002) all find that young

people who participate in after school programs attended school more regularly and Vandell et al. (2007) find improvements in work habits.

Together, these studies illustrate the benefits of individual after school programs on youth's academic performance. In a meta-analysis of 35 studies examining after school program participation, Lauer et al. (2006) find that after school programming has positive effects on math and reading outcomes for low-income at-risk students, but these results are not as strong for other students. Although this research has not focused specifically on EL students, it does show that disadvantaged youth who attend high quality after school programs often benefit from participation in terms of academic performance.

Young people also accrue additional benefits from participating in after school programs, according to many studies. Although not the primary focus of this paper, youth in after school programs regularly see gains in positive social development that translates into behaviors beneficial to school and other arenas of life. Researchers find that young people participating in after school programs attend school more regularly and are less likely to drop out (Huang et al. 2005). Durlak & Weissberg's (2007) recent meta-analysis adds that after school programming positively affects feelings and attitudes, such as self-perception and school bonding, as well as behaviors. More generally, Morrissey & Werner-Wilson (2005), Eccles & Barber (1999) and Lerner et al. (2005) all find increased pro-social behavior among youth who participate in after school or extracurricular programs. The combination of pro-social attitudes and behaviors, with improved academic attendance and advancement (Welsh et al., 2002; Fabiano et al., 2006; Huang et al., 2005), demonstrate the benefits of after school program participation.

Although the findings are positive, the majority of research on after school program participation focuses on Anglo-American and African American youth in the United States.

Most research has not examined the different experiences of Latino youth, who may face different challenges both academically and socially; namely, Latino youth in after school programs are more likely to be EL students, to be immigrants to the United States and to come from lower-income households (KewalRamani et al., 2007). Researchers have examined children of migrant Latino workers (Riggs & Greenberg, 2004) and rural Latino children (Riggs, 2006) who attend after school programs, but large-scale studies of Latino youth participation in after school programs remain elusive. Similarly, although studies find increased pro-social behavior and academic improvements, they have not focused extensively on English language acquisition.

Researchers who investigate English learner students and the language acquisition process focus largely on processes that occur within schools and have not concentrated in the area of language gains resulting from after school programming. This work on language acquisition in the United States focuses mostly on Latino youth and covers a vast terrain of inquiry: scholars examine oral language, literacy and academic achievement, as well as the conditions under which these phenomena occur (Christian, 2006). Focusing specifically on the outcome of improved English language achievement, research shows that EL students learn English through a variety of ways in schools. Most schools have specialized programs of EL students, but often EL students take some or all classes with English proficient students as well. Researchers find that schools have a variety of factors that influence how well EL students learn. Verdugo & Flores (2007) show that English language acquisition depends on school capacity, climate and management as well as teacher preparation. Genesee et al. (2006) note that multiple modalities, including EL specific classes, targeted short term programs, and bilingual classrooms, have been shown to help EL students. This finding points to the likelihood that EL

students benefit both from formal teaching and informal exposure to English in schools. A five-year evaluation of the merits of California Proposition 227, which required an immersion approach to educating English learner students, found no discernible difference in English learning among students taught in English immersion or previously existing bilingual education programs (Parrish et al., 2006).

Research has shown that students and schools experience differing levels of success related to English language instruction for EL students (Williams et al., 2007). Ready & Tindal (2006) show that baseline preparation—both academic and social—of entering EL students is a key explanation for different outcomes among schools and groups of youth. Students who are poorly prepared for the basics of elementary education—even for non-English language content, such as lacking basic counting skills—face greater challenges in learning English than their better prepared (both English proficient and EL) peers. Conversely, students who are more proficient in their native language have more success learning a second language (based on literature summarized in August & Hakuta (1998)). A review of studies in this area concludes that better educated non-native speaking students succeed at higher rates in English because literacy and other skills have been shown to transfer across languages (Goldenberg, 2008).

In addition, Valdés' (1998) in-depth ethnographic study of EL students, their families and schools, points to the importance of out-of-school social settings, indicating that they heavily affect EL students' in-school performance. The literature on out-of-school settings and oral English language development supports this, as is discussed in a review by Saunders & O'Brien (2006). Although the literature on this topic is relatively small, the consensus among studies is that English language use outside of school is associated with EL students' oral English language development.

More specifically, researchers focus on the type of English language development necessary to succeed in school—academic English. Academic English is defined as, “the ability to read, write, and engage in substantive conversations about math, science, history, and other school subjects” (AERA, 2004). Hakuta, Butler, & Witt (2000) find a widening achievement gap between EL students and native English speakers which the authors credit to the difficulties EL students face in acquiring academic English while keeping pace with native English speakers who are also progressing in their language skills. Parrish et al. (2006) echo this, stating that students who are placed on an English learner track could have less access to grade level instruction in core curriculum areas, which may make it difficult for them to perform at grade-level on standardized tests. Students not performing at grade level on the English language test would not be able to redesignate as English proficient. The authors suggest that alternative educational venues, such as summer and after school programs, may help to close this gap.

The literatures on both after school programming and English acquisition point to the potential importance of non-academic settings in helping English learner students learn English. Our study fits into these literatures by filling in the picture of how different social venues, and in this case an after school setting, influence English language acquisition and at the same time expanding the host of after school program outcome that have been examined to include academic success in learning English.

The Community and the Program

This study concentrates geographically on Redwood City and the neighboring unincorporated area of North Fair Oaks, located about 25 miles south of San Francisco in San Mateo County, California. The community is moderately sized and in recent years has seen an

influx of Latino residents, many of them immigrants from Mexico and other Central and South American countries. The new residents have changed the social landscape of the city; formerly majority white schools and neighborhoods now include a mixture of students and residents with different ethnic and socioeconomic backgrounds as well as academic and programmatic needs.

The Redwood City School District (RCSD) is comprised of 17 schools and serves about 9,000 students from Kindergarten through eighth grade in the Redwood City and North Fair Oaks areas. As Table 1 shows, about 62% of students in the first through seventh grades during the period 2004-05 through 2006-07 are considered English learners. The vast majority of these students are Latino, with only an addition small number of Asian and white students. More than half the students in the district receive Free or Reduced Lunch (59%), one-third of students have parents who did not complete high school, and 11% are in Special Education classes. Students who are not English proficient are overrepresented in each of the categories, with 86% receiving Free or Reduced Lunch, 57% who have parents without a high school diploma, and 13% in Special Education.

The Boys & Girls Club of the Peninsula (BGCP) has several centers across San Mateo County, including one located on the grounds of a school in the district. Nearly all (97%) Redwood City School District attendance at the Boys & Girls Clubs occurs at the Mervin G. Morris clubhouse, located on the grounds of Hoover Magnet School, a K-8 school in the district. This site serves primarily as an after school program provider, though the program is also open for activities on weekends, and hosts organizations during the school day, including an alternative high school with about 15 students. Activities start when school is dismissed and the program has partnerships with several local schools to have students walked over by staff. Once students arrive, they begin with homework help in classrooms using computers. During this

period, students are separated by grade level, and work with staff and volunteers on homework, extra worksheets, independent reading, and occasionally arts projects.

At the end of the homework hour, students move on to other activities, with programs that students or their parents sign up for in advance. Open gym time, arts and craft, enrichment programs are all part of the program offerings. The structured programming schedule goes until about 5:30 p.m., when parents start to pick up students. Around this time, students congregate in the game room, which is well stocked with foosball, pool, and board games.

Data and Methods

Data for this study come from the Youth Data Archive (YDA), which is comprised of individual-level data for young people living in several San Francisco Bay Area communities from a variety of public and private agencies, including school districts, county human services agencies, county health services agencies, city parks and recreation departments, city police departments, and local or regional non-profit youth-serving agencies. The data are linked individually across sources and over time to create a longitudinal record of each youth's schooling, program participation, and service receipt within their communities.

Redwood City School District and BGCP Data Matching

With identifiers such as name, address, birth date, grade, and school, we link school records individually to participation data from the Boys & Girls Club of the Peninsula (BGCP). We identify a total of 1,054 RCSD students across three academic years who participated in the BGCP, which is approximately one-third of the BGCP's total after school population at its Redwood City club. The BGCP serves students in multiple districts at this site, so we would expect a less than 100% match. However, we are likely not matching all RCSD participating

students for several reasons. First, a substantial proportion of participants in the Redwood City club (approximately 19%) attend a Redwood City charter school that is not included in the district administrative data. We are unable to match any of those students. Second, missing information in the BGCP database prohibits us from uniquely identifying some students. When we attempt to match on name only, we match an additional 390 students between RCSD and BGCP. We conduct all analyses using both sets of students (the original 1,054 and the 1,444 that includes less rigorous matching) and find no discernable difference between the two. For brevity, we report only information on matches for which we have corroborating information.

Data for the study cover the 2004-05, 2005-06 and 2006-07 academic years. School records include information such as students' demographic characteristics, parents' education levels, grade and school attended, Free or Reduced Lunch status, language proficiency, Special Education status, test scores, and English language milestones and test scores. BGCP participation similarly includes the 2004-05, 2005-06 and 2006-07 academic years and documents the number of days each student attends the program, and at which of three centers this occurs.

We examine the effects of students' BGCP participation on the subsequent year's English language development test scores, and therefore concentrate on students who attend BGCP through seventh grade. For some analyses, we use test scores from the subsequent school year and therefore restrict the study population to those in first grade or higher. Because the English proficiency outcomes analysis relies on consecutive years of data, students must be enrolled in the district at least two consecutive years to be included in our study population. The resulting dataset is unbalanced because students may be enrolled for two or three of the academic years examined, and students who are enrolled in just one year are not included.

English Language Milestones

Analyses first consider BGCP participation and then examine the effects of this participation and the extent of participation on students' subsequent English language gains, as measured by the California English Language Development Test (CELDT). The CELDT—which is administered in the Fall of each academic year—assesses a student's English proficiency in four different areas: Listening, Speaking, Reading, and Writing.¹ A student receives a proficiency level of Beginner, Early Intermediate, Intermediate, Early Advanced or Advanced in each skill area, with an overall proficiency level derived by equally weighting the four subtests. Students are considered English Proficient when they earn an overall score of Early Advanced or higher, with a score of Intermediate or higher on each subtest.

Students with a primary language other than English and no previous English proficiency history must take the CELDT test within 30 days of entry into a new California school district. Students who score at the English Proficient level upon entry are classified as Initially Fluent English Proficient (IFEP), and those not meeting this requirement are designated as an English Learner (EL) and must retake the CELDT annually until they meet the requirements to become redesignated as Fluent English Proficient (RFEP).

We consider three language milestones. Two of these milestones, set out in Title III of No Child Left Behind, are the Annual Measurable Achievement Objectives (AMAO) that school districts must meet:

- AMAO 1 measures the annual progress of EL students. It requires students whose overall scores are Beginning, Early Intermediate, or Intermediate to improve one level by the following year. Those who score Early Advanced or Advanced must attain or maintain English Proficient status.

¹ Students in Kindergarten and first grade are only assessed on Listening and Speaking.

- AMAO 2 measures the percentage of EL students in a defined cohort who have achieved English Proficient status. This cohort contains students who could reasonably be expected to have reached English Proficient status. Specifically, it consists of students in the previous year whose overall score was: (1) Intermediate, Early Advanced, or Advanced but who had not attained English Proficient status; (2) Beginning or Early Intermediate and were enrolled in U.S. schools four or more years; or (3) Beginning or Early Intermediate, enrolled in U.S. schools less than four years, and had met the English Proficient level in the assessment year.

The final milestone is redesignation:

- Redesignation to Fluent English Proficient is achieved when a student: (1) attains English Proficiency on the CELDT; (2) achieves a minimum score on the California English-Language Arts Standards Test (CST ELA), which is administered in English; and (3) is evaluated by both the teacher and parents as ready for reclassification. Similar to AMAO 2, we consider redesignation only among students who could reasonably be expected to redesignate in the year.

Methodological Approach

We use logistic regressions to first model the determinants of BGCP participation among RCSD students, controlling for a host of demographic and school-related factors. We then examine the effects of BGCP participation on English language proficiency gain.² Selection bias is a key concern in that BGCP participation is voluntary and it is possible that students who attend have other unobserved characteristics—such as motivation for learning or a desire to learn English—that would have facilitated earlier English proficiency gain than their peers even if they had not attended BGCP. We model several versions of the participation regressions attempting

² All models reported in this paper use the Huber correction for standard errors to account for the possible presence of multiple observations per person in our data.

to better understand the influence of selection, including the exploration of an instrumental variables approach.

In addition, we supplement these quantitative data with qualitative data in an attempt to understand better what is happening at BGCP and how it might help students to learn English. Information was gleaned through interviews and observations at two of the BGCP sites, including the site that the majority of participating RCSD students attend. During Fall 2007, we interviewed or held focus groups with seven club staff members, 20 students, and six parents about reasons for youth attendance, types of services received, program evaluation and satisfaction, and the effects on students' educational outcomes.

Boys & Girls Club Participation

Table 2 shows that a higher percentage of non-native English speakers attend BGCP compared to their English Only peers. Of students in grades one through seven, 8.3% of EL students district-wide visited the BGCP at least once from 2004-05 to 2006-07, compared to 7.3% of RFEP students, 5.9% of IFEP students, and 2.2% of EO students. This may be due in part to the club's location in a neighborhood with a high percentage of non-native speakers.

Among club attenders, EL students are highly represented with nearly two-thirds (64.8%) of participants classified as EL (Table 3). There are about as many RFEP students as EO students (about 14%) and half that many IFEP students who attend the BGCP. Overall, students who attend BGCP are more likely to be receiving Free or Reduced Lunch (86.2% compared to 58.5% in the entire district); more likely to have parents without a high school diploma (49.0% compared to 32.3% for the district); and more likely to be Latino (90.1% compared to 64.6% for the district). Students attending BGCP are no more likely than students overall to be enrolled in

Special Education (10.8%), but English-speaking students at the club are substantially more likely to be enrolled (15.1%). BGCP participants are more likely to be male than female, and this is especially true among the EL and IFEP groups. Many of these factors, especially those related to socio-economic status, are related. We control for these multiple influences in participation regressions to be presented shortly.

Despite the different characteristics of students attending BGCP amongst the four language groups, Table 4 shows that there is very little difference across the groups in the level of attendance. On average, students who attend at least one day are present at the BGCP 52.4 days in the school year. EO students have slightly higher average attendance (54.9 days) and RFEP students have slightly lower (50.7 days). For some of the analyses we present next, we also look at the extent of participation, with the thought that students who attend with higher frequency might experience more pronounced effects on their English acquisition. Ninety days is approximately the 75th percentile, and we see that overall, nearly a quarter (23.1%) attend the program 90 or more days during the school year. This level of participation is similar across all four language groups.

To understand the factors that predict BGCP attendance, Table 5 presents results from three specifications using logistic and linear regressions. The first two specifications use logistic regression to estimate the probability of attending BGCP and attending BGCP for 90 or more days during the school year. Reported in those columns are odds ratios. The third specification is a linear regression that examines the factors associated with the total number of days attended among those who are attending.

Table 5 shows that being initially fluent (IFEP) or redesignated (RFEP) has no statistically significant effect on the probability of attending BGCP, attending it 90 or more days,

or on the number of days attended. Being an English learner, however, is associated with a reduced odds of attending BGCP ($pval=0.106$) and a statistically significant reduced odds of attending 90 or more days. In line with this, being an EL student is also negatively associated with the number of days attended, though this association is not significant. Race and ethnicity are important predictors of participation, with African Americans, Latinos, and Asians all more likely than White students to attend BGCP, but no more likely to attend more days. As would be expected, attending the school where the club is located substantially increases the odds of attending and also the number of days attended. Students who attend Hoover frequent the club approximately 40 more days per school year than do non-Hoover students. Our model also indicates that males, younger students, and those on enrolled in the Free and Reduced Price Lunch program are more likely to attend.

Results show that EL students are more likely than English Only students to attend BGCP, even after controlling for background characteristics like parental education and Free and Reduced Price Lunch status. It is possible that within these groups, certain characteristics influence participation and attendance as well. Tables 6 and 7 show separate sets of participation and attendance regressions for students who are EO and IFEP to those who are EL and RFEP. The results show that indeed there are differences. Among the EO and IFEP group, results show that more disadvantaged students are more likely to participate—Free and Reduced Price Lunch status is associated with a higher odds of both participating and attending 90 or more days. Also among the EO and IFEP group, receiving Special Education services is associated with attending more days, both in the logistic regression for attending 90 or more days and the linear model. Being classified as Special Education is associated with an additional 42 days of attendance compared to those who are not.

These factors do not come into play for the EL and RFEP group. Having a parent without a high school diploma (relative to those with parents who have more than a high school education) is associated with reduced probability of attending BGCP, but has no effect on days attended. Also for the EL/RFEP group, girls have a lower odds of attending the club, but when they do attend, they attend almost 10 days more than boys.

These results point to important differences among attending students. For native or early English speakers (who are more advantaged on average than non-native speakers), the more disadvantaged students—both economically and academically—are more likely to attend. Among the more socio-economically disadvantaged non-native speakers, boys and students with higher educated parents are more likely to attend. In both cases, Latinos are more likely to attend (the EL/RFEP group is comprised almost entirely of Latinos and Asians). Students attend significantly more days at the lower grades, and this relationship is particularly strong for EO and IFEP students in grades one through four.

BGCP Participation and English Language Outcomes

The goal of this article is to understand how attending after school programming like that offered at BGCP influences English language development amongst non-native English speakers. Tabulations shown in Table 8 indicate that EL students who attend BGCP are more likely to achieve the English language milestones AMAO 1 and AMAO 2 than their peers who do not. Among EL students who do not attend BGCP, 50.6% achieve AMAO 1, indicating that they progressed in their CELDT score between the prior and current years. A higher percentage of BGCP participants achieve this milestone in the same period: 58.2% and 58.8% of students who attend BGCP for 1-89 or 90 or more days, respectively. AMAO 2 measures whether the

student reaches English proficiency and is calculated only for students who might reasonably be expected to attain proficiency. A total of 30.6% of students who do not attend BGCP reach AMAO 2, whereas 36.6% and 37.9% of those who attend BGCP 1-89 or 90 or more days achieve AMAO 2. In the raw data, it does appear that there is a relationship between attending BGCP and English language improvement. However, the same pattern is not in place for the redesignation process. Students attending BGCP for 1-89 days are somewhat more likely than those not attending at all to redesignate in the year after attendance (16.3% compared to 14.1%), but those attending 90 or more days are substantially less likely to redesignate (11.9%).

In a bivariate framework, it is difficult to assess whether these differences in English language milestones are associated with BGCP participation itself, or just the differences in students who do and do not attend the program. Tables 9 and 10 present results from logistic regressions that examine the association between BGCP participation and AMAO 1, AMAO 2, and redesignation among EL students. Table 9 shows the effects of using two dummy variables—whether the student attended BGCP 1-89 days or 90 or more days relative to not attending—on reaching these milestones. Table 10 reports the effects of two alternative specifications, whether the student attended BGCP at all and the number of days attended in a continuous variable. The results show that controlling for a host of demographic and school-related outcomes, attending BGCP for 1-89 days, relative to not at all, increases the odds of reaching AMAO 1 by 1.5. Attending 90 or more days is associated with slightly larger effect—an increased odds of 1.6. Other factors play a fairly predictable role in predicting AMAO 1 achievement: students in Special Education, those with Free Lunch status, those who entered U.S. schools at older ages, and those whose parents have not completed high school are at lower odds of reaching this milestone.

The second column of Table 9 explores the determinants of reaching AMAO 2 and finds similar results, though with a smaller number of students included in the AMAO 2 calculations, the effects of BGCP participation do not reach the same levels of statistical significance. Still, the pattern holds that BGCP attendance, and especially attendance at very high levels, is associated with a greater odds of reaching this English language milestone.

The third column of Table 9 examines the effects of BGCP attendance on redesignation and similar to the bivariate results, finds no measurable effect. Students are redesignated based on several factors, including those that factor into determining AMAO 1 and AMAO 2, but any English gains students may make at BGCP do not appear to be assisting them in redesignating more quickly than their peers who do not attend BGCP. However, as was the case with AMAOs 1 and 2, students in Special Education, with Free Lunch status, and with parents who have lower levels of education have lower odds of redesignating.

Table 10 reports only the BGCP odds ratios for two alternative specifications of BGCP participation shown in Table 9. The first row examines a dummy variable indicating whether a student attended BGCP. The second row reports the odds ratio for a continuous variable of the number of days attended among those who attended BGCP. Results similarly indicate that attending BGCP more days during the year is associated with an increased odds of AMAO 1 and 2 achievement, but that BGCP participation is not associated with a higher odds of redesignation.

Through the fieldwork we conducted at the BGCP, we know that BGCP programming is not specifically focused on English language attainment. Why then would we see an improved chance of attaining AMAO 1 and AMAO 2 associated with attendance, especially at very high levels of attendance? We propose two possible explanations. First, it may be that youth who attend the club are gaining skills in the more non-academic aspects of language—in speaking and

listening rather than in reading and writing. For instance, although BGCP staff are all bilingual, adult volunteers are mostly English speaking. Students who attend the club are put in situations that require them to speak or follow instructions in English. If this helps them to understand or speak English better, it would be consistent with an improvement in their CELDT scores such that they make progress in the AMAOs. Second, it is possible that selection biases associated with who attends BGCP and who attends more regularly are driving the results. We have controlled for factors such as family economic and educational background, but we are unable to observe important factors such as student motivation or family drive for educational success. We next examine each of these possible explanations.

To examine whether students are making progress in the less academic aspects of English language development, we look separately at scores on the reading, writing, listening and speaking portions of the CELDT, all of which are considered in AMAOs 1 and 2. Table 11 reports tabulations of gain in each type of subtest for students who do not attend BGCP and those attending 1-89 or 90 or more days during the year. The first column shows that among students who do not attend BGCP, 48.4% improve in their reading subtest between the current and subsequent academic year. Similarly, 48.3% of those who attend 1-89 days improve in their reading subtest, but 53.1% of those attending 90 or more days improve on this test. For the writing test, raw tabulations show that among students who do not attend BGCP, 54.3% improve their scores the most from year to year. Those who attend BGCP are less likely to see score improvement in writing, however. As hypothesized, students who attend BGCP are more likely than those who do not to improve on their listening and speaking subtests. The difference is fairly large in magnitude as 68.4% of those with no attendance see an improvement in listening

and speaking, compared to 76.7% for those attending BGCP 1-89 days and 76.6% for those attending 90 or more days.

Again, it is difficult to assess whether this difference is due to BGCP participation or differences in the characteristics of students who attend BGCP. Tables 12 and 13 report odds ratios from a set of logistic regressions examining the determinants of improvement for each of the subtests. The first rows in Table 12 show that similar to the raw tabulations, the multivariate models also demonstrate the BGCP attendance is largely associated with improvements in the speaking and listening portions of the CELDT, but is not associated with gains in the reading or writing subtests. Attending BGCP for 1-89 days is associated with an increased odds of improving the speaking and listening portions of the CELDT of 1.5. Attending BGCP for 90 or more days is associated with a comparably sized increased odds that does not quite reach statistical significance ($pval=0.140$). This is reinforced by the findings in Table 13, which show the alternative BGCP participation specifications. We find that the number of days is less important in predicting improvement for speaking and listening than attending the club at all. Again, club attendance has no effect on the reading and writing portions of the CELDT.

Although the results are consistent across specifications and in line with hypotheses regarding the ways after school programming might assist English learners gain English proficiency, we remain concerned about selection bias issues. As mentioned previously, it is possible that the students who attend BGCP have some unmeasurable characteristics that make them both more likely to attend BGCP and also more likely to have scored higher on the CELDT. We may therefore be overstating the effect of BGCP participation. Ideally, one would want to account for this bias using a two-stage instrumental variables model in which a set of measurable proxies predicts BGCP in the first stage, which is then used as an unbiased estimator

of English language outcome in the second stage. A typical instrument for program attendance in this type of model is distance to the program, and in this case would be distance from the student's home to the BGCP. However, because the main BGCP site that students in RCSD attend is located on the school campus, students who attend Hoover are already at the BGCP site when they are at school. Distance from the school to their home is presumably not nearly as relevant as would be distance from their home to an off-site location in determining in who attends the club. Because the YDA contains detailed address information for all students, we are able to calculate distance measures and find that indeed, distance is not highly predictive of BGCP participation in the first stage. Students who live closer to school are slightly more likely to attend BGCP, but an instrumental variables model using distance as an instrument does not produce results that are statistically different from those generated by an un-instrumented model.

A less sophisticated approach to examine selection bias is simply to understand more about the students who attend BGCP. Table 14 examines students' prior year test scores in English and math as predictors of BGCP participation (the dependent variable is a simple 0/1 dummy). For all students and those who are not English learners, math scores are not significantly related to attendance. But for English learner students or those who already redesignated, having a higher math score is associated with a 1.16 increase in odds of attending BGCP. Prior year English scores are not associated with BGCP attendance for English learner students, but native English speakers with lower scores are more likely to attend. This is in line with findings showing that students whose parents have lower levels of education and are receiving the Free Lunch program are more likely to attend, as these characteristics are also associated with lower test scores.

Table 14 provides some evidence of possible selection bias in that non-native English speaking students with higher math scores are more likely to attend BGCP. However, it is difficult to assess whether and how much this might affect the results pointing to a positive influence of BGCP participation on the speaking and listening portions of English acquisition. Indeed, we did hear from several non-English speaking parents of young people who attend BGCP that they intentionally send their children to BGCP to learn English, which provides anecdotal evidence of selection bias at work. At a minimum, our results are suggestive of the need for more work to understand how after school settings play a role in helping English learners develop their English language skills.

Discussion and Policy Implications

Using data from one elementary school district and a large after school program provider in California's San Francisco Bay Area, we analyze the effects of after school program participation on English language development of English learner students in grades one through seven. Consistent with the literature on the effects of after school programming on academic outcomes, we find that participation in the program's various activities, and particularly at higher levels of engagement, is associated with improvements in English language development as measured by the California English Language Development Test (CELDT), used statewide to assess English learner students in school. We examine the specific sub-tests of the CELDT and find that gains come in the listening and speaking portions of the test, but not in the reading and writing portions. This is consistent with the types of programming offered at the after school site, which include general homework help and youth development activities that encourage communication in English, but do not specifically focus on English language learning.

Specification testing indicates a possible small selection bias in our results such that students who might be inclined to improve their English abilities might also be more heavily inclined to attend the after school program. When we examine students' prior year English and math test scores, we find that English learners with higher math scores have an increased odds of attending the program of 1.16. If higher math scores are indicative of other characteristics that might affect learning English—such as increased motivation in school—one might conclude that there is a higher propensity to attend the program among students who are more likely to learn English quickly. The magnitude of the odds ratio, though significant, is not very large.

Still, the progression we see in listening and speaking English development test scores is real for the students. As such, we believe there are several policy-relevant conclusions related to this work. First, although after school programming has been linked to a host of positive academic outcomes, particularly for disadvantaged youth, this among the first links established to language development among English learner students. In a state like California where one quarter of the public school population is not designated as English proficient (Williams et al., 2007), understanding the processes of language development both in and out of school is critical in helping students progress. The geographic context of this work offers an important frame. Students in RCSD, particularly at the school in which the after school site is located, live in communities that are heavily concentrated with Latino immigrants. It may be that students' social networks outside of school encourage the use of their primary language, thereby limiting their opportunities to test their listening and speaking English skills except in places like after school programs. As with most endeavors, practicing a new skill is critical to mastering it.

A second implication of this research is that English language learning policy discussions need to concentrate on learning both inside and outside of school walls. To the extent that after

school programming offers a safe venue for testing newly learned English listening and speaking skills, after school programs serving high concentrations of EL students should be purposeful in creating these opportunities for youth. Our fieldwork demonstrates the importance of having bilingual and bicultural staff in order to ensure appropriate support, mentoring, and activities at the after school program site. On the other hand, the presence of monolingual English-speaking volunteers creates an environment in which English language interaction is required. Because the BGCP is a relaxed environment with relatively low risk—there are not grades or test scores involved—it may be that students feel more comfortable trying out English. More research into this area is needed to fully understand the ways that non-school environments, and especially after school programming, can foster English learning in meaningful ways. It is important to note that the students in this study are relatively disadvantaged, with high levels of Free and Reduced Lunch receipt (a proxy for low-income status) and parents without high school educations. The BGCP is able to draw these students because it is extremely low-cost (students pay a nominal fee to enroll), and is affordable to most any student who is interested in attending. More research focusing on other types of after school programs may illuminate different results, which will also add to the policy discussion.

This research also has implications for the after school and out-of-school time literature. It is well documented that high quality programs can produce positive academic and youth development outcomes for participating youth, particularly youth from disadvantaged backgrounds. What is less well known is whether and how gaining English proficiency is linked to the host of positive youth development outcomes that can be attributed to high quality programming. Understanding these processes and whether English learning is a conduit for

creating other positive youth development outcomes is critical in creating and supporting high quality after school programming for our country's growing English learner population.

Finally, there are implications for many areas of policy in the value of linking disparate sources of data in ways that allow for new cross-agency analyses. The Youth Data Archive model of tracking individual young people across the various institutions that serve them throughout the community can be applied to a variety of policy areas to answer a host of questions about how we are and should be serving youth in and out of school settings. Cross-agency data sharing with the goal of supporting youth in communities offers tremendous potential in terms of being able to document the mechanisms for creating positive youth outcomes.

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**Table 1: Characteristics of students attending Redwood City School District
Grades 1-7 in 2004-05 to 2006-07**

	All Students	EL	RFEP	IFEP	EO
English proficiency		44.6%	10.6%	7.1%	37.7%
Average Grade	4.0	3.6	5.6	3.6	4.0
Female	49.3%	47.1%	53.9%	49.2%	50.6%
Male	50.7%	52.9%	46.1%	50.8%	49.4%
African American	2.4%	0.0%	0.0%	0.2%	8.8%
Asian	6.6%	3.9%	7.8%	10.5%	6.2%
Latino	64.6%	95.0%	89.6%	75.1%	19.7%
Native American	0.3%	0.0%	0.0%	0.0%	0.7%
White	26.1%	1.1%	2.7%	14.2%	64.5%
Free or reduced-priced lunch	58.5%	86.4%	74.6%	56.7%	21.2%
Special education	10.8%	13.2%	2.8%	3.9%	11.6%
Parents' education less than HS	32.3%	56.5%	39.7%	21.7%	3.6%
Enter US schools after age 6	11.4%	17.7%	8.9%	5.2%	5.8%
Total Number of Observations	18,332	8,183	1,943	1,299	6,903

**Table 2: BGCP participation among RCSD students in total and by EL group
Grades 1-7 in 2004-05 to 2006-07**

	Percent Attending	Number Students	N (RCSD)
EL	8.3%	683	8,183
RFEP	7.3%	142	1,943
IFEP	5.9%	77	1,299
English Only	2.2%	152	6,903
All Students	5.7%	1,054	18,332

**Table 3: Characteristics of students attending BGCP in total and by EL group
Grades 1-7 in 2004-05 to 2006-07**

	All Students	EL	RFEP	IFEP	EO
English proficiency		64.8%	13.5%	7.3%	14.4%
Average Grade	3.9	3.6	5.7	3.3	4.2
Female	41.7%	39.2%	45.8%	39.0%	50.7%
Male	58.3%	60.8%	54.2%	61.0%	49.3%
African American	2.6%	0.0%	0.0%	0.0%	17.8%
Asian	3.0%	2.2%	2.1%	1.3%	8.6%
Latino	90.1%	97.8%	97.9%	90.9%	48.0%
Native American	0.2%	0.0%	0.0%	0.0%	1.3%
White	4.1%	0.0%	0.0%	7.8%	24.3%
Free or reduced-priced lunch	86.2%	91.1%	87.3%	70.1%	71.7%
Special education	10.8%	12.7%	1.4%	2.6%	15.1%
Parents' education less than HS	49.0%	58.6%	51.4%	28.6%	13.8%
Enter US schools after age 6	12.3%	15.4%	7.7%	5.2%	6.6%
Total Number of Observations	1,054	683	142	77	152

**Table 4: Extent of BGCP participation over one year in total and by EL group
Grades 1-7 in 2004-05 to 2006-07**

	All Students	EL	RFEP	IFEP	EO
Average days attended	52.4	52.0	50.7	54.0	54.9
% Attended 1-89 days/year	76.9%	76.9%	76.1%	79.2%	76.3%
% Attended 90+ days/year	23.1%	23.1%	23.9%	20.8%	23.7%
Total Number of Observations	1,054	683	142	77	152

**Table 5: Determinants of BGCP participation with three participation measures
Grades 1-7 in 2004-05 to 2006-07**

	Participation (0/1) Odds Ratio (SE)		Attendance 90+ Days (0/1) Odds Ratio (SE)		Number of Days Coefficient (SE)	
IFEP	1.091 (0.243)		1.233 (0.532)		27.010 (12.832)	
RFEP	0.835 (0.166)		0.879 (0.344)		6.795 (8.799)	
EL	0.752 (0.133)		0.52 (0.167)	*	-5.646 (8.236)	
Female	0.723 (0.065)	**	1.041 (0.184)		5.678 (3.851)	
Asian	1.863 (0.556)	*	1.029 (0.575)		-8.904 (15.025)	
African American	6.387 (1.949)	**	1.592 (1.324)		-17.455 (13.313)	
Latino	4.656 (1.136)	**	1.569 (0.840)		-17.908 (13.494)	
Attends Hoover School (site of BGCP)	13.456 (1.290)	**	49.971 (11.645)	**	39.911 (3.717)	**
Special education	0.950 (0.139)		1.306 (0.332)		7.654 (6.162)	
First grade	1.009 (0.124)		1.992 (0.699)	*	18.124 (5.694)	**
Second grade	1.311 (0.155)	*	3.44 (1.171)	**	20.712 (5.882)	**
Third grade	1.333 (0.158)	*	3.392 (1.155)	**	22.814 (5.628)	**
Fourth grade	1.220 (0.144)		3.602 (1.178)	**	28.215 (5.485)	**
Fifth grade	1.141 (0.119)		2.248 (0.683)	**	19.674 (5.217)	**
Sixth grade	1.182 (0.095)	*	1.938 (0.560)	*	10.48 (4.398)	*
Seventh grade (omitted)						
Free lunch status	1.626 (0.244)	**	1.722 (0.588)		4.211 (5.009)	
Reduced lunch status	1.943 (0.369)	**	1.885 (0.762)		7.160 (6.745)	
Parents' education less than HS	0.921 (0.180)		0.987 (0.410)		-2.236 (6.585)	
Parents' education HS graduate	1.117 (0.198)		1.217 (0.477)		3.082 (6.166)	
Parents' education more than HS(omitted)						
Enter US schools after age 6	0.828 (0.115)		0.583 (0.172)		0.028 (5.650)	
2005	1.032 (0.049)		0.644 (0.099)	**	1.566 (3.558)	
2006	1.173 (0.042)	**	0.771 (0.090)	*	0.404 (2.789)	
2007 (omitted)						
Number of Observations	18,294		18,247		1,053	

Notes:

(1) * p<.05, **p<.01.

(2) RFEP indicates that the student was redesignated from English Learner to English Speaking among a set of students who might be expected to reach redesignation.

(3) Standard errors have been adjusted for multiple observations per person using the Huber-White correction.

Table 6: Determinants of BGCP participation among English only and IFEP students with three participation measures Grades 1-7 in 2004-05 to 2006-07

	Participation (0/1)		Attendance 90+ Days		Number of Days	
	Odds Ratio (SE)		Odds Ratio (SE)		Coefficient (SE)	
Female	0.909 (0.163)		1.165 (0.460)		-6.116 (7.968)	
Asian	1.061 (0.436)		1.071 (0.617)		-4.605 (11.534)	
African American	5.196 (1.660)	**	1.237 (1.064)		1.636 (11.459)	
Latino	3.631 (0.922)	**	1.176 (0.674)		-8.285 (11.755)	
Attends Hoover School (site of BGCP)	18.903 (4.906)	**	52.769 (21.115)	**	55.252 (9.206)	**
Special education	0.820 (0.252)		3.208* (1.478)	*	42.058 (15.215)	**
First grade	0.883 (0.225)		5.418 (6.236)		34.886 (14.239)	*
Second grade	1.363 (0.309)		14.117 (15.510)	*	36.588 (11.085)	**
Third grade	1.575 (0.349)	*	12.430 (13.675)	*	35.899 (10.955)	**
Fourth grade	1.514 (0.350)		8.143 (8.902)		29.935 (10.876)	**
Fifth grade	1.093 (0.264)		6.230 (7.254)		18.775 (11.242)	
Sixth grade	1.003 (0.190)		2.114 (2.553)		6.087 (10.711)	
Seventh grade (omitted)						
Free lunch status	2.801 (0.690)	**	7.416 (4.144)	**	1.145 (8.030)	
Reduced lunch status	2.688 (0.830)	**	6.166 (4.390)	*	15.153 (13.099)	
Parents' education less than HS	1.217 (0.470)		0.548 (0.395)		-5.292 (14.851)	
Parents' education HS graduate	1.378 (0.375)		0.533 (0.280)		-5.190 (10.732)	
Parents' education more than HS(omitted)						
Enter US schools after age 6	0.664 (0.275)		0.602 (0.453)		11.874 (13.163)	
2005	1.226 (0.127)	*	0.614 (0.221)		3.741 (10.154)	
2006	1.353 (0.099)	**	0.611 (0.179)		-2.273 (6.931)	
2007 (omitted)						
Number of Observations	8,189		8,142		229	

Notes:

(1) * p<.05, **p<.01.

(2) RFEP indicates that the student was redesignated from English Learner to English Speaking among a set of students who might be expected to reach redesignation.

(3) Standard errors have been adjusted for multiple observations per person using the Huber-White correction.

Table 7: Determinants of BGCP participation among EL and RFEP students with three participation measures Grades 1-7 in 2004-05 to 2006-07

	Participation (0/1) Odds Ratio (SE)		Attendance 90+ Days (0/1) Odds Ratio (SE)		Number of Days Coefficient (SE)	
Female	0.670 (0.070)	**	1.059 (0.212)		9.657* (4.328)	*
Asian	(omitted)		(omitted)		(omitted)	
African American	(omitted)		(omitted)		(omitted)	
Latino	2.677 (0.862)	**	2.530 (1.563)		-3.474 (13.142)	
Attends Hoover School (site of BGCP)	13.206 (1.352)	**	46.540 (13.019)	**	34.524 (3.758)	**
Special education	0.954 (0.159)		0.842 (0.252)		-3.948 (5.494)	
First grade	1.018 (0.134)		1.397 (0.480)		11.94 (5.702)	*
Second grade	1.237 (0.161)		2.173 (0.737)	*	13.345 (6.266)	*
Third grade	1.204 (0.163)		2.311 (0.802)	*	15.441 (5.956)	**
Fourth grade	1.102 (0.148)		2.834 (0.946)	**	26.353 (6.310)	**
Fifth grade	1.143 (0.131)		1.836 (0.563)	*	17.01 (5.789)	**
Sixth grade	1.227 (0.109)	*	1.931 (0.573)	*	9.712 (4.857)	
Seventh grade (omitted)						
Free lunch status	1.046 (0.168)		0.811 (0.261)		0.684 (6.071)	
Reduced lunch status	1.321 (0.299)		0.970 (0.431)		0.152 (8.161)	
Parents' education less than HS	0.608 (0.136)	*	1.211 (0.774)		1.345 (7.240)	
Parents' education HS graduate	0.708 (0.159)		1.624 (1.061)		8.514 (7.707)	
Parents' education more than HS(omitted)						
Enter US schools after age 6	0.845 (0.125)		0.548 (0.176)		-2.502 (5.533)	
2005	0.961 (0.052)		0.617 (0.106)	**	1.165 (3.757)	
2006	1.125 (0.046)	**	0.815 (0.104)		1.318 (3.124)	
2007 (omitted)						
Number of Observations	10,102		10,102		825	

Notes:

(1) * p<.05, **p<.01.

(2) RFEP indicates that the student was redesignated from English Learner to English Speaking among a set of students who might be expected to reach redesignation.

(3) Standard errors have been adjusted for multiple observations per person using the Huber-White correction.

**Table 8: English Language Milestones Among English Learners Attending and Not Attending BGCP
Grades 1-7 in 2004-05 to 2006-07**

	RCSD Students Not Attending BGCP		RCSD Students Attending BGCP 1-89 Days		RCSD Students Attending BGCP 90 or More Days	
	%	N	%	N	%	N
<i>Achievement in Subsequent School Year</i>						
AMAO1	51.1	6,384	58.2	464	58.8	136
AMAO2	30.6	3,102	36.6	205	37.9	66
RFEP	14.1	3,169	16.3	203	11.9	67

Notes: (1) AMAO1 indicates improvement in the CELDT test over the prior year.

(2) AMAO2 indicates English proficiency achievement among a set of students who might be expected to reach proficiency.

(3) RFEP indicates that the student was redesignated from English Learner to English Speaking among a set of students who might be expected to reach redesignation.

Table 9: Determinants of English Language Milestones among English Learner Students

	AMAO1		AMAO2		RFEP	
	Odds Ratio		Odds Ratio		Odds Ratio	
	(SE)		(SE)		(SE)	
Does not attend BGCP (omitted)						
Attends BGCP 1-89 days	1.500 (0.168)	**	1.520 (0.267)	*	1.147 (0.264)	
Attends BGCP 90 or more days	1.602 (0.306)	**	1.709 (0.521)		0.900 (0.364)	
Female	1.117 (0.060)	*	1.095 (0.089)		1.060 (0.107)	
Asian (omitted)						
Latino	0.992 (0.145)		0.836 (0.173)		0.878 (0.178)	
Attends Hoover School (site of BGCP)	1.001 (0.077)	*	0.917 (0.109)		1.084 (0.160)	
Special education	0.366 (0.029)	**	0.199 (0.027)	**	0.283 (0.055)	**
First grade	0.099 (0.011)	**	0.136 (0.026)	**	0.035 (0.014)	**
Second grade	0.156 (0.017)	**	0.185 (0.034)	**	0.591 (0.107)	**
Third grade	0.592 (0.062)	**	0.756 (0.125)		0.539 (0.102)	**
Fourth grade	0.571 (0.060)	**	0.556 (0.088)	**	1.113 (0.173)	
Fifth grade	0.334 (0.035)	**	0.427 (0.072)	**	0.581 (0.103)	**
Sixth grade	0.660 (0.070)	**	0.868 (0.145)		0.552 (0.098)	**
Seventh grade (omitted)						
Free lunch status	0.739 (0.069)	**	0.629 (0.084)	**	0.674 (0.097)	**
Reduced lunch status	1.036 (0.130)		1.006 (0.174)		0.977 (0.182)	
Parents' education less than HS	0.770 (0.099)	*	1.166 (0.212)		0.420 (0.081)	**
Parents' education HS graduate	0.923 (0.121)		1.386 (0.254)		0.680 (0.128)	*
Parents' education more than HS(omitted)						
Enter US schools after age 6	0.767 (0.058)	**	1.001 (0.127)		0.755 (0.126)	
2005	1.651 (0.099)	**	(omitted)		(omitted)	
2006	0.991 (0.063)		0.613 (0.058)	**	0.361 (0.039)	**
2007	(omitted)		0.584 (0.054)	**	(omitted)	
Number of Observations	7,342		3,548		3,659	

Notes:

(1) * p<.05, **p<.01.

(2) AMAO1 indicates improvement in the CELDT test over the prior year.

(3) AMAO2 indicates English proficiency achievement among a set of students who might be expected to reach proficiency.

(4) RFEP indicates that the student was redesignated from English Learner to English Speaking among a set of students who might be expected to reach redesignation.

(5) Standard errors have been adjusted for multiple observations per person using the Huber-White correction.

Table 10: Determinants of English Language Milestones Alternate Specifications

	AMAO1		AMAO2		RFEP
	Odds Ratio		Odds Ratio		Odds Ratio
	(SE)		(SE)		(SE)
Attends BGCP (0/1)	1.117 (0.094)		1.212 (0.156)		1.064 (0.173)
Total Days Attended BGCP	1.004 (0.001)	**	1.005 (0.002)	*	1.001 0.003
Number of Observations	7,342		3,548		3,659

Notes:

- (1) * $p < .05$, ** $p < .01$.
- (2) AMAO1 indicates improvement in the CELDT test over the prior year.
- (3) AMAO2 indicates English proficiency achievement among a set of students who might be expected to reach proficiency.
- (4) RFEP indicates that the student was redesignated from English Learner to English Speaking among a set of students who might be expected to reach redesignation.
- (5) Other control variables are those listed in Table 9.
- (6) Standard errors have been adjusted for multiple observations per person using the Huber-White correction.

Table 11: Scoring on CELDT Subtests Among English Learners Attending and Not Attending BGCP Grades 1-7 in 2004-05 to 2006-07

	RCSD Students Not Attending BGCP		RCSD Students Attending BGCP 1-89 Days		RCSD Students Attending BGCP 90 or More Days	
	%	N	%	N	%	N
<i>Achievement in Subsequent School Year</i>						
Improvement in Reading Subtest	48.4	5,473	48.3	387	53.1	113
Improvement in Writing Subtest	54.3	5,473	52.7	387	50.4	113
Improvement in Speaking/Listening Subtests	68.4	5,367	76.7	382	76.6	107

Notes:

- (1) In 2005, speaking and listening subtests were combined as one test but were subsequently separated. For comparison across years, we combine these components into one.
- (2) Includes students in second and higher grades because first graders do not take the reading and writing subtests.

Table 12: Determinants of improvement in English language subtests

	Improvement in Reading Subtest		Improvement in Writing Subtest		Improvement in Speaking/Listening Subtest	
	Odds Ratio (SE)		Odds Ratio (SE)		Odds Ratio (SE)	
Does not attend BGCP (omitted)						
Attends BGCP 1-89 days	1.039 (0.127)		0.980 (0.121)		1.545 (0.213)	**
Attends BGCP 90 or more days	1.262 (0.250)		0.913 (0.197)		1.465 (0.379)	
Female	1.099 (0.056)		1.127 (0.065)	*	0.992 (0.062)	
Asian (omitted)						
Latino	1.115 (0.142)		1.229 (0.191)		1.125 (0.184)	
Attends Hoover School (site of BGCP)	1.024 (0.081)		1.025 (0.086)		1.119 (0.103)	
Special education	0.463 (0.036)	**	0.380 (0.031)	**	0.576 (0.050)	**
Second grade	0.392 (0.038)	**	0.175 (0.019)	**	0.327 (0.035)	**
Third grade	0.807 (0.077)	*	0.308 (0.033)	**	1.202 (0.139)	
Fourth grade	0.772 (0.075)	**	0.309 (0.033)	**	1.071 (0.122)	
Fifth grade	0.558 (0.055)	**	0.389 (0.041)	**	0.418 (0.045)	**
Sixth grade	0.989 (0.100)		0.569 (0.059)	**	0.866 (0.097)	
Seventh grade (omitted)						
Free lunch status	0.787 (0.071)	**	0.867 (0.088)		0.808 (0.088)	*
Reduced lunch status	0.876 (0.102)		1.050 (0.141)		0.978 (0.145)	
Parents' education less than HS	0.747 (0.086)	*	0.733 (0.104)	*	0.777 (0.112)	
Parents' education HS graduate	0.842 (0.098)		0.861 (0.124)		0.928 (0.136)	
Parents' education more than HS(omitted)						
Enter US schools after age 6	0.753 (0.051)	**	0.699 (0.053)	**	0.655 (0.051)	**
2005	1.439 (0.093)	**	1.814 (0.120)	**	1.258 (0.088)	**
2006	0.905 (0.064)		0.709 (0.047)	**	1.075 (0.077)	
2007 (omitted)						
Number of Observations	5,973		5,973		5,856	

Notes:

(1) * p<.05, **p<.01.

(2) Includes only students in second and higher grades because first graders do not take the reading and writing subtests.

(3) Standard errors have been adjusted for multiple observations per person using the Huber-White correction.

Table 13: Determinants of improvement in English language subtests, alternate specifications

	Improvement in Reading Subtest	Improvement in Writing Subtest	Improvement in Speaking/Listening Subtest	
	Odds Ratio (SE)	Odds Ratio (SE)	Odds Ratio (SE)	
BGCP Participation (0/1)	1.063 (0.092)	0.984 (0.089)	1.238 0.126	*
Total BGCP Days	1.001 (0.001)	0.999 (0.001)	1.003 (0.002)	
Number of Observations	5,973	5,973	5,856	

Notes:

(1) * p<.05, **p<.01.

(2) Includes only students in second and higher grades because first graders do not take the reading and writing subtests

(3) Other control variables are those listed in Table 11.

(4) Standard errors have been adjusted for multiple observations per person using the Huber-White correction.

Table 14: Selection testing -- effects of prior year CST scores on BGCP participation

	All RCSD Students	English Only and IFEP Students	English Learner and RFEP Students	
	Odds Ratio (SE)	Odds Ratio (SE)	Odds Ratio (SE)	
Prior Year Math CST (1-5 Scale)	1.063 (0.061)	0.885 (0.114)	1.161 (0.073)	*
Prior Year English CST (1-5 Scale)	0.913 (0.057)	0.754 (0.094)	0.993 (0.067)	
Number of Observations	11,689	5,201	6,488	

Notes:

(1) * p<.05, **p<.01.

(2) Other control variables are those listed in Table 12.

(3) Standard errors have been adjusted for multiple observations per person using the Huber-White correction.