



the effect of afterschool program participation on english language acquisition

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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 the 2008–09 school year, California public schools served 1.5 million children (24 percent of the student population) whose primary language was not English (California Department of Education, 2010). This percentage represents a substantial increase from 25 years earlier, when just 8 percent of California's public school students were English learners (Williams et al., 2007).

Research has shown that many factors affect how English learner (EL) students acquire English language skills, including their preparation before entering U.S. schools, their out-of-school environments, and schools' educational practices (Genesee, Lindholm-Leary, Saunders, & Christian, 2006; Ready & Tindal, 2006; Saunders &

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O'Brien, 2006; Valdés, 1998). An in-depth ethnographic study by Valdés (1998) identified the importance of out-of-school social settings, indicating that they heavily affect EL students' in-school performance. A review of the limited literature on out-of-school settings and oral English language development also supports this finding (Saunders & O'Brien, 2006).

High-quality afterschool programs offer many benefits, including academic achievement, but research has not focused specifically on the effects of afterschool programs on English language development. In a meta-analysis of 35 studies, Lauer and colleagues (2006) found that afterschool programming had positive effects on math and reading outcomes, especially for low-income at-risk students. In addition, research has shown that young people who participated in afterschool programs attended school more regularly than did non-participants (Espino, Fabiano, & Pearson, 2004; Fabiano, Pearson, Reisner, & Williams, 2006; Huang, Kim, Marshall, & Pérez, 2005; Welsh, Russell, Williams, Reisner, & White, 2002) and showed improvements in their work habits (Vandell, Reisner, & Pierce, 2007). Some evidence supports a “dosage effect”: students who attended programs more frequently experienced stronger academic gains (McComb & Scott-Little, 2003). This finding is difficult to replicate because many afterschool programs do not keep the detailed attendance records needed to examine dosage effects.

Together, these studies illustrate the benefits of afterschool programs on students' academic performance, particularly for disadvantaged youth. However, the majority of research on afterschool program participation focuses on Anglo-American and African-American youth. Research has not fully examined the experiences of Latino youth, who may face different academic and social challenges. Latino youth in afterschool programs are more likely to be EL students, to be immigrants to the U.S., and to come from lower-income households (KewelRamani, Gilbertson, Fox, & Povasnik, 2007). Researchers have examined children of migrant Latino workers (Riggs & Greenberg, 2004) and rural Latino children (Riggs, 2006) who attend afterschool programs, but few large-scale studies have examined Latino students' participation in afterschool programs or the effects of participation on English language acquisition.

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of non-academic settings in helping EL students learn English. In this article, we use an innovative data source—the Youth Data Archive—to follow elementary and middle school students from a single school district over four academic years to discern any links between their afterschool program participation and English language development. We found that students attending the program had greater rates of gain in English development, but they did not necessarily achieve proficiency gains or redesignation as “fluent English proficient” sooner than non-participating 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.

The Community and the Program

The setting for this work is 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 Redwood City School District comprises 17 schools serving about 9,000 students in grades K–8.

The afterschool program is the Boys & Girls Club of the Peninsula (BGCP), which has several centers across San Mateo County. Nearly all (97 percent) of the Redwood City students who attend a Boys & Girls Club go to just one clubhouse, which is located on the grounds of a K–8 school in the district. This site serves primarily as an afterschool program, though the club is also open for activities on weekends and hosts organizations during the school day, including a small alternative high school.

Program activities start when school is dismissed. The Boys & Girls Club has partnerships with several other schools to have staff walk students to the program. Students begin with homework help in computer classrooms or working with staff and volunteers. They may complete extra worksheets, engage in independent reading, or occasionally work on art projects. At the end of the homework hour, students move on to activities for which they or their parents have signed up, such as open gym time, arts and crafts, or enrichment programs. Structured programming ends about 5:30 p.m., when students congregate in a game room stocked with foosball, pool, and board games to wait for their parents to pick them up.

Data and Methods

Data for this study come from the Youth Data Archive (YDA), which consists of individual-level data for young people in several San Francisco Bay Area communities. The data are supplied by public and private agencies including school districts, city and county agencies, and local or regional nonprofit 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 services received.

Using identifiers such as name, address, birth date, grade, and school, we linked school records individually to participation data from the Boys & Girls Club. District data contain detailed information on students' demographic and socioeconomic characteristics as well as academic performance. Program data include days of participation collected by each program site.

We examined the effects of students' program participation on their English language development in the subsequent year. Since such an analysis relies on consecutive years of data, we included only students who were enrolled in the district at least two consecutive years, concentrating on students who attended the program up to eighth grade. Using data from four academic years, we identified a total of 1,941 instances where a student was enrolled in the district in consecutive years and participated in the program one or both years. Program participants attended an average of 48.5 days per school year, mainly at the Redwood City club.

English Language Milestones

Analyses first considered program participation and then examined the effects of participation and its extent ("dosage") 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 English proficiency in four areas: listening, speaking, reading, and writing. In each area, students receive a proficiency level of Beginner, Early Intermediate, Intermediate, Early Advanced, or Advanced. Their overall proficiency level is derived by equally weighting the four subtests. K–1 students are tested only on listening and speaking. 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 history of English proficiency testing must take the CELDT within 30 days of entry into a California school district. Students who score at the

"English proficient" level on entry are classified as Initially Fluent English Proficient (IFEP); those not meeting this requirement are designated as English learners and must retake the CELDT annually until they meet the requirements to become Redesignated Fluent English Proficient (RFEP). Being "English proficient" is not the same as meeting the RFEP requirements; RFEP requires English proficiency as well as demonstrated language ability on standardized tests and approval by teachers and parents. Students who have English as their primary language are referred to as English only (EO).

Our analysis considered 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. The third is redesignation.

- **AMAO 1** measures the annual progress of EL students, requiring that students whose overall scores are Beginning, Early Intermediate, or Intermediate improve one level by the following year. Those who score Early Advanced or Advanced must attain or maintain "English proficient" status.
- **AMAO 2** measures the percentage of EL students who have achieved "English proficient" status among those who could reasonably be expected to have reached this status, as defined by the California Department of Education.
- **Redesignated Fluent English Proficient (RFEP)** students meet all three of the following criteria: attaining "English proficiency" on the CELDT; achieving a minimum score on the California English Language Arts Standards Test, which is administered in English; and being evaluated as ready for reclassification by both teacher and parents.

Methodology

We first used logistic regressions to model the determinants of program participation among district students, controlling for a host of demographic and school-related factors. We then examined the effects of program participation on English proficiency gain. Program participation was voluntary, and students who attended could 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 the program. As will be discussed below, we modeled several versions of the participation regressions in an attempt to better understand this issue. We were also unable to control for other potentially important characteristics that might influence participation and outcomes such

Figure 1. Percent of Redwood City Students Attending BGCP

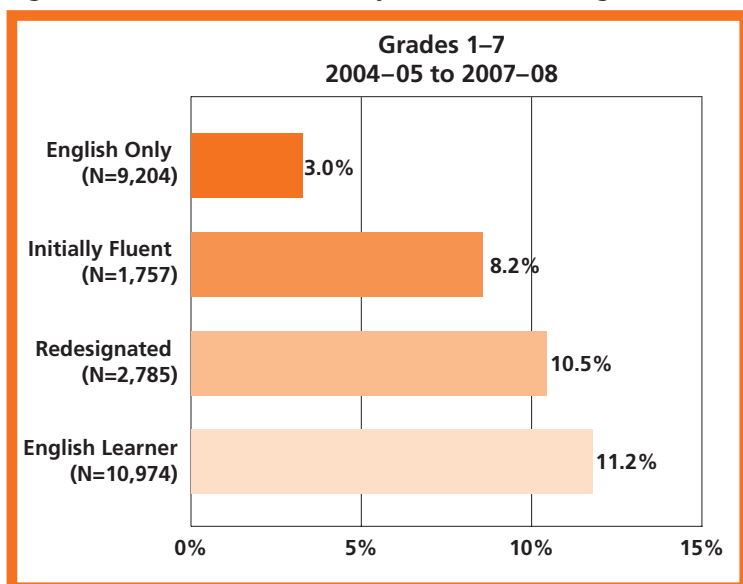


Table 1. Characteristics of Redwood City and BGCP Students Grades 1–7 in 2004–05 to 2007–08

	ALL STUDENTS	STUDENTS ENROLLED IN BGCP
ENGLISH PROFICIENCY		
EL	44.4%	63.5%
RFEP	11.3%	15.0%
IFEP	7.1%	7.4%
EO	37.2%	14.1%
AVERAGE GRADE LEVEL	4.0	4.0
GENDER		
Female	49.4%	43.9%
Male	50.6%	56.1%
ETHNICITY		
Latino	64.7%	89.9%
White	25.4%	4.0%
Asian	6.5%	2.5%
African American	2.2%	2.6%
Native American	0.3%	0.1%
Free or reduced- priced lunch	60.8%	87.2%
Special education	14.6%	15.8%
Parents' education less than HS	32.6%	48.9%
Entered U.S. schools after age 6	11.2%	10.8%
Number of students across four years	24,720	1,941

as whether students with working parents were more or less likely to participate in the program.

We supplemented these quantitative data with qualitative data in an attempt to understand better what was happening at the program and how activities might help students to learn English. Information was gleaned through interviews and observations at two of the program sites, including the site that most participating Redwood City students attended. 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 effects on students' educational outcomes.

Program Participation

Overall, 7.9 percent of students in the district attended the afterschool program during one or more of the years we studied. Rates of participation were higher among English learners and those who were redesignated than among other students, as illustrated in Figure 1. Table 1 compares all students in the district to those who attended the program. Program participants were more likely to be Latino (89.9 percent compared to 64.7 percent of students in the district) and EL students (63.5 percent compared to 44.4 percent). Program participants also had lower socioeconomic status, with 87.2 percent receiving free and reduced price lunch, compared to 60.8 percent of all Redwood City students. Almost half of program participants (48.9 percent) had parents who did not complete high school, versus 32.6 percent for all district students.

Table 2 (page 26) shows very little difference in the level of afterschool program attendance across the four language proficiency groups. On average, students who attended at least one day were present at the program 48.5 days in the school year. English only (EO) and Initially Fluent English Proficient (IFEP) students had slightly higher average attendance than English learner (EL) and Redesignated Fluent English Proficient (RFEP) students.

We also looked at the extent of participation, thinking that students who attended with greater frequency might experience more pronounced effects on their English acquisition, as has been shown in the literature with other academic gains. Overall, nearly a quarter (22.0 percent) of program students attended 90 or more days during

Table 2. Extent of Program Participation by EL Group

GRADES 1–7 IN 2004–05 TO 2007–08					
	All Students	EL	RFEP	IFEP	EO
Average days attended	48.5	48.0	47.2	52.2	50.5
% Attended 1–89 days/year	78.0%	78.5%	76.7%	77.1%	77.7%
% Attended 90+ days/year	22.0%	21.5%	23.3%	22.9%	22.3%
Number of students across four years	1,941	1,232	292	144	273

Table 3. Determinants of Program Participation with Three Participation Measures

GRADES 1–7 IN 2004–05 TO 2007–08			
	Participation Odds Ratio	Attendance 90+ Days Odds Ratio	Number of Days Coefficient
IFEP	1.358	1.535	3.238
RFEP	0.971	0.867	-9.496
EL	1.028	0.563*	-14.635**
Female	0.843*	1.102	4.410
Latino	3.838**	1.581	-14.449
Free lunch status	1.730**	2.136**	6.847
Reduced-price lunch status	1.966**	2.306	6.764
Parents' education less than HS	1.332	1.140	-3.268
Parents' education HS graduate	1.373*	1.475	2.083
Attends school with BGCP on site	11.527**	31.933**	40.789**
Number of students across four years	24,670	24,670	1,940

Notes: * $p < .05$, ** $p < .01$. Regressions also include the following variables: African American, Asian, grade-level dummy variables, age of entry to U.S. schools, special education status, and year. Standard errors have been adjusted for multiple observations per person using the Huber-White correction.

the school year; this level of participation was similar across all four language proficiency groups.

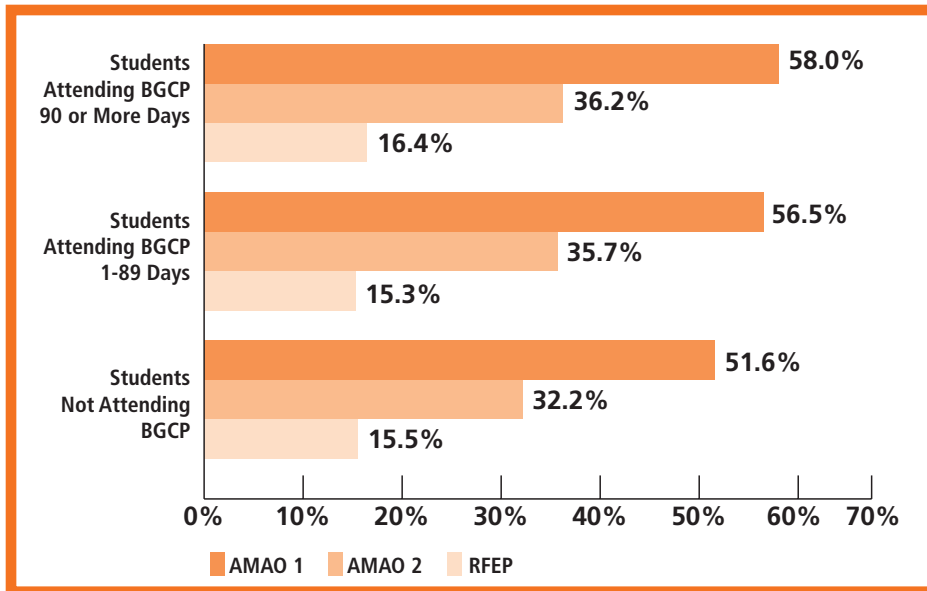
To understand the factors associated with program attendance, we used three different regression models, shown in Table 3. We used logistic regressions for atten-

dance outcomes that are measured as yes or no and linear regressions for the number of days attended, which is a continuous measure. The first two columns show the logistic regressions for characteristics associated with an increased likelihood of attending the program (column 1) and of attending the program for 90 or more days (column 2). These columns report odds ratios, which explain the effect of each control variable on the outcome variable in terms of increased or decreased odds. An odds ratio greater than 1 means that students with this characteristic were more likely than students without this characteristic to attend the program or to attend the program for 90 or more days. An odds ratio of less than 1 means that students with this characteristic were less likely to experience the outcome than were other students. An odds ratio near 1 indicates no difference in outcomes for students with and without the characteristic. The third column shows a linear regression that examines the factors associated with the total number of days attended among those who are attending. In this column, the coefficients show whether students with the specific characteristic had more or fewer average days of attendance.

After controlling for ethnicity, we found that language status had no effect on overall participation (column 1). EL status had a negative and significant effect both on whether the student attended 90 or more days and on the number of days attended. Other factors than language proficiency were stronger predictors of whether a student ever participated in a Boys & Girls Club. Students who were male, Latino, or enrolled in the free and reduced-price lunch program were all significantly more likely to participate, even after controlling for whether students attended the school that had a Boys & Girls Club program on site. As would be expected, attending the school

where the club was located substantially increased both the odds of attending and the number of days attended. Students who attended that school frequented the club approximately 40 more days per school year than did other students.

Figure 2. English Language Outcomes for BGCP Participants and Non-Participants



Program Participation and English Language Outcomes

We next focus on understanding how attending an after-school program like the Boys & Girls Club might be associated with English language development among EL learners. Tabulations shown in Figure 2 indicate that EL students who attended the program had higher rates of achievement on the English language milestones AMAO 1 and AMAO 2 than did non-participants. Among EL students who did not attend the program, a total of 51.6 percent achieved AMAO 1, indicating that they progressed in their CELDT score between the prior and current years. A higher percentage of afterschool participants achieved this milestone in the same period: 56.5 percent of students who attended for 1–89 days and 58.0 percent of those who attended 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, as defined by the California Department of Education. A total of 32.2 percent of students who did not attend the program reached AMAO 2, whereas 35.7 percent and 36.2 percent of those who attended 1–89 or 90 or more days achieved AMAO 2.

However, we found no association between afterschool program participation and the status of Redesignated Fluent English

Proficient (RFEP). Participants attending for 90 or more days were only slightly more likely than those not attending at all to be redesignated in the year after attendance, at 16.4 percent compared to 15.5 percent; the difference was smaller than for the AMAO outcomes.

These tabulations do not allow us to assess whether these differences in English language milestones are associated with program participation or with differences between students who did and did not attend the program. The first three columns of Table 4 present results from logistic regressions that examined the association between program participation and AMAO 1, AMAO 2, and redesignation. These regression models control for a host of background characteristics so that we can begin to isolate the specific effect of afterschool program participation on

Table 4. Determinants of English Language Milestones among EL Students

	AMAO 1	AMAO 2	RFEP	IMPROVEMENT IN SPECIFIC SUBTEST		
				Reading	Writing	Speaking/Listening
	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio
Attends BGCP 1–89 days	1.238*	1.023	0.811	1.077	1.142	1.174
Attends BGCP 90 or more days	1.354	0.875	0.703	1.096	1.183	1.080
Number of students across four years	9,974	4,901	4,901	8,073	8,073	9,690

Notes: * $p < .05$, ** $p < .01$. AMAO 1 indicates improvement in the CELDT test over the prior year. AMAO 2 indicates English proficiency achievement among a set of students who might be expected to reach proficiency. 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. Regressions also include all the variables listed in Table 3. Standard errors have been adjusted for multiple observations per person using the Huber-White correction.

English language outcomes. However, we are unable to fully account for factors such as student motivation to learn English. We can include only observable characteristics that are present in the district database.

The results show that, after controlling for a host of demographic and school-related outcomes, attending the program for 1–89 days, relative to no participation, increased the odds of reaching AMAO 1 by 1.24, a statistically significant effect. Attending 90 or more days was associated with slightly larger but not quite significant effect—an increased odds of 1.35. The second and third columns of Table 4 explore the determinants of reaching AMAO 2 and RFEP. Whereas every EL student is subject to AMAO 1, which measures annual progress on the CELDT, AMAO 2 and RFEP are based on the subset of EL students who are reasonably expected to reach English fluency. For neither AMAO 2 nor RFEP did we find that attending the program had a measurable effect on reaching the milestone. Students were redesignated based on several factors, including those that factor into determining AMAO 1 and AMAO 2, but any English gains students made at the Boys & Girls Club did not appear to be assisting them in being redesignated more quickly than their peers who did not attend the program.

Through the fieldwork we conducted at two program sites, we learned that the afterschool programming was not specifically focused on English language attainment. Why then would we see an improved chance of attaining AMAO 1 among students who participated? We propose two possible explanations. First, it may be that youth who attended the club gained skills in specific aspects of language, but not in others. For instance, although program staff members were all bilingual, adult volunteers were mostly English speaking. Students who attended the club were put in situations that required them to speak English and follow instructions in English. If this exposure helped them to understand or speak English better, they may have improved more in the speaking and listening portions of the CELDT but perhaps less in the reading and writing portions. Second, selection biases associated with who attended the program and who attended more regularly may be driving the results. We controlled for factors such as family economic and educational background, but we were unable to observe important factors such as student motivation or family drive for educational success.

Although afterschool programming has been linked to a host of positive academic outcomes, particularly for disadvantaged youth, our results establish one of the first links between afterschool participation and language development among EL students.

To examine the aspects of language acquisition in which students were making progress, we looked separately at scores on the reading, writing, listening, and speaking portions of the CELDT, all of which are considered in AMAOs 1 and 2. The second set of three columns in Table 4 report odds ratios from a set of logistic regressions examining the determinants of improvement for each of the subtests. Attending the program for 1–89 days was associated with increased odds of 1.17 of improving the speaking and listening portions of the test. Attending for 1–89 or 90 or more days was positively associated with improvements in the writing portion. However, none of these odds ratios reach statistical significance, so they cannot be distinguished, statistically, from a zero effect.

Policy Implications

Using data from one elementary school district and a large afterschool program provider in California's San Francisco Bay Area, we analyzed the effects of afterschool program participation on English language development of EL students in grades 1–7. Consistent with the literature on the effects of afterschool programming on academic outcomes, we found some evidence that participation in the program's various activities, and possibly at higher levels of engagement, was associated with one measure of improvement in English language development as measured by the test used statewide to assess EL students. We found this result when we examined improvements in English development overall, but program participation did not appear to be affecting students' English proficiency or their redesignation to Fluent English Proficient. Some evidence suggests that afterschool participants may have made more gains in the listening and speaking portions of the test than in reading and writing, but these results are not conclusive.

Our work suggests several policy-related conclusions. First, although afterschool programming has been linked to a host of positive academic outcomes, particularly for disadvantaged youth, our results establish one of the first links between afterschool participation and language development among EL students. In states with large immigrant populations like California, where one quarter of the public school population is designated as not proficient in English (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 Redwood City, particularly at the school in which the afterschool site is located, live in communities that are heavily concentrated with Latino immigrants. Students' social networks are likely to encourage the use of their primary language; the afterschool program may be one of the few places outside of school where students can try out their English listening and speaking skills.

Finally, the value of linking disparate sources of data in ways that allow for new cross-agency analyses has many policy implications. 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 both in and out of school. Cross-agency data sharing with the goal of supporting youth in communities offers tremendous potential in documenting the mechanisms for creating positive youth outcomes.

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