Multilingualism in the Los Angeles Unified School District: An Analysis of English Language Learner Programs

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#### Abstract

This paper examines the impacts of English Language Learner (ELL) programs on multilingual students in the Los Angeles Unified School District. Specifically, we explore the impacts of Standard English Immersion (SEI) and multiple variations of English Language Development (ELD) programs on ELL students' high school graduation rates and rates of reclassification to the Fluent English Proficient distinction. In concordance with previous literature, the findings suggest that ELL programs improve outcomes for ELL students both in terms of reclassification rates and high school graduation rates. Furthermore, variations of ELD programs are associated with higher graduation rates and reclassification rates than SEI programs.


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## Introduction

English Language Learners (ELLs) must endure considerable challenges when they enter classrooms in the United States that require them to master the academic material while improving their English proficiency. There is a stark disparity in academic performance between ELLs and the overall student population: For example, during the 2013-2014 school year, 30 percent of ELLs scored proficient or above on California state mathematics assessments compared to 64 percent of students overall. Likewise, the high school graduation rate for ELL students was 65 percent, relative to the statewide average graduation rate of 81 percent ("California," 2014). Such disparities are widespread across the United States, affecting the roughly 10 percent or 4.7 million students nationwide who are classified as ELLs (Carlson \& Knowles, 2016). In Los Angeles County alone, there were 179,322 students who qualified for ELL services during the 2013-2014 school year ("California," 2014). With so many students in need of ELL services, there are vital policy implications in determining the most effective ELL programs

## Literature Review

Previous studies have contrasted the effectiveness of English-only immersion programs with bilingual programs that integrate students' first languages and English into the classroom. Proponents of English immersion programs believe that students who spend more time practicing English become proficient more quickly than they would in bilingual programs. Those who support bilingual programs believe that students must first develop a fundamental literacy base in their primary language. This then transfers to the development of their second language.

Additionally, students in bilingual programs are better able to understand math and science material that may otherwise be lost in translation (Valentino \& Reardon, 2015). Baker (1998) conducted a meta-analysis of past studies: 30 percent of the studies showed that bilingual education is worse than English immersion for reading outcomes, 20 percent concluded that bilingual education is better, and 50 percent found no difference between the two. Findings were similar for mathematics test scores.

The literature tends to find that bilingual ELL methods are superior to immersion programs. For example, Valentino \& Reardon (2015) studied 13,750 ELL elementary and middle school students in an undisclosed urban school district between the years of 2001-2002 and 2009-2010. The district used an algorithm that considered diversity constraints and parental preferences to assign ELL students to different schools and to different programs within their assigned school. Once the algorithm assigned the maximum number of students to a given program, the remaining students were randomly assigned to a different program within the district. Students who were assigned to their parents' preferred program were compared with students who were randomly assigned to another program. This allowed the authors to account for selection bias by incorporating parental first-choice preference fixed effects.

The authors examined students who entered ELL programs in Kindergarten and then reevaluated them in second and seventh grade. They found that in the short-term, second graders who were in immersion classrooms had higher English test scores than students in bilingual classrooms. In mathematics, however, students in bilingual classrooms scored higher. When students were evaluated again in seventh grade, the study found that students in bilingual education programs either caught up to immersion students or surpassed them in performance. While immersion programs had larger initial gains, bilingual programs were more effective in
the long-run for students who entered public schools as Kindergarteners (Valentino \& Reardon, 2015).

Additional literature focuses on the reclassification of ELL students to the "Fluent English Proficient" distinction. A study of Wisconsin high school students found that while reclassified students lose accommodations, they gain a different set of peers and teachers. This puts them on a more advanced academic track. The authors also found that being reclassified by the 10th grade had a causal positive effect on ACT scores. Additionally, there was some evidence for causal positive effects on high school graduation rates and the probability of enrolling in postsecondary education (Carlson \& Knowles, 2016).

Historically, reclassification standards have varied greatly among school districts, making it difficult to compare outcomes between programs (Hill, Weston \& Hayes, 2014). Thus, in June of 2016, California Senate Bill 1108 was amended to improve documentation on reclassification policies and their link to student outcomes ("SB-1108 Elections," 2016). More than 90 percent of districts across California now report using the criteria specified by the California State Board of Education guidelines. The guidelines for reclassification are primarily determined by the California English Development Test (CELDT); students must have an overall proficiency of advanced or higher and each subset score should be at least intermediate. Additionally, scores on the English Language Arts portion of the California Standards Test or California Modified Assessment should be between Basic and Midpoint Basic. Guardians are encouraged to be part of the reclassification process and teachers may reclassify students who are performing poorly on these standardized tests for reasons other than language proficiency. Although these guidelines do allow for flexibility, each school within the LAUSD uses them consistently when deciding whether or not to reclassify a student (Weston \& Hayes, 2014).

Our study seeks to determine whether the efficacy of bilingual and immersion ELL programs in the Los Angeles Unified School District is consistent with the previous literature. We utilize the California Department of Education's school-level data from 1980 to 2016 to examine LAUSD-specific programs that are categorized within the broader distinctions of bilingual and immersion programs. This contributes to the existing literature by determining which characteristics of bilingual and immersion programs are most important to their success. Furthermore, previous literature examines reclassification as a measure of success, but often fails to incorporate long-term indicators. Therefore, our study examines both reclassification rates and high school graduation rates as an indicator of programs' longitudinal success.

## Data

The data are available from the California Department of Education (CDE). The data are school-level and span from 1980 to present, although not all variables are available for every year in the timeframe. While school-level data are not ideal, there are enough available controls to provide us with insights into the efficacy of ELL programs in the Los Angeles Unified School District.

The files from the CDE are separated by year and by variable. We compose out dataset by combining each year and variable from the following sources: Cohort Outcome Data; CBEDS Data about Schools and Districts; English Learners by Grade and Language; Fluent-English Proficient Students by Grade and Language; EL Reclassification Data; EL Services, Reclassification, and Waivers; Student Poverty-Free and Reduced Price Meal (FRPM) Data; and School Level English Learner Staff (Table 1).

The main dependent variables are high school graduation and reclassification to FEP.
Reclassification includes students who have graduated from the school and students who have
moved. High school graduation statistics are presented in the data as the number of ELL students who graduated in each cohort, as well as the graduation rates of ELL students compared to the percentage of all students who graduate. Additionally, we employ two other dependent variables to further analyze the data: the GED rate and the dropout rate of students enrolled in ELL programs. The ELL Program Variables are classified as follows:

| ELL Program Variables |
| :--- |
| Structured English Immersion |
| English Language Development: not including services from the other fields below |
| ELD and Specifically Designed Academic Instruction in English (SDAIE) |
| ELD and SDAIE with Primary Language Support |
| ELD and Academic Subjects through the Primary Language (L1) |
| Other Instructional Services |
| Not Receiving any EL Services |

Structured English Immersion provides students with instruction through an English language acquisition process in which nearly all classroom instruction is in English, but with a curriculum and presentation designed for children who are learning the language. English Language Development (ELD) is a specialized program of English language instruction appropriate for the student's identified level of language proficiency. It is designed to promote second language acquisition of listening, speaking, reading, and writing. All variations of ELD must be provided by specialized instructors.

One variation of English Language Development is ELD and Specifically Designed Academic Instruction in English (SDAIE). Students in this program receive ELD and, at a minimum, SDAIE services in at least two academic subjects required for grade promotion or graduation. SDAIE is an approach used to teach academic courses to ELL students in English and focuses on increasing the comprehensibility of the academic courses normally provided to FEP and English-only students in the district.

ELD and SDAIE with Primary Language Support describes students who receive Primary Language (L1) support in at least two academic subject areas, in addition to the above described ELD and SDAIE services. L1 support provides students with instructional assistance through their primary language. It may be used to clarify and facilitate student comprehension of academic content for concepts taught primarily in English. It may also include oral language development in the student's primary language. L1 support may be provided by credentialed teachers who are fluent in the student's primary language or by bilingual paraprofessionals. To be classified as L1, children in Kindergarten through sixth grade must be provided with L1 services in at least one language arts class and at least one mathematics, science or social science class. Students in seventh through twelfth grades must be provided with L1 services in a minimum of two academic areas required for grade promotion or graduation.

Finally, "Other Instructional Services" refers to students who receive an ELL service, but do not have a curriculum that corresponds to the programs previously described. Students "Not Receiving any English Learner Services" are ELL students who are not fluent in English, but do not receive any specialized instruction. Below are the other variables that we will use during the analysis:

| Variable | Description |
| :--- | :--- |
| School | Name of the school (approx. 900 schools in the LAUSD) |
| Year | Year of the data |
| Lang | ELL student's primary language |
| GR | Grade level of the ELLs in each school |
| CDS | CDS code (14-digit code that uniquely identifies schools in |
|  | California) |
| NumGED | Number of students in ELL programs that passed the GED |
| Waiversubm | Number of EL Waivers Submitted by Parents |
| Demographic Controls |  |
| -Socioeconomically disadvantaged students (SD) |  |
| - Students receiving special education services (SE) |  |
| - Migrant (MIG) |  |
| - Sex |  |
| Racial/ ethnic designations, coded as follows: |  |
| - 0 - Not Reported |  |
| - 1 - American Indian or Alaskan Native, not Hispanic |  |
| - 2 - Asian, not Hispanic |  |
| - 3 - Pacific Islander, not Hispanic |  |
| - 4 - Filipino, not Hispanic |  |
| - 5 - Hispanic or Latino |  |
| - 6 - African American, not Hispanic |  |
| - 7 - White, not Hispanic |  |
| - 8 - Two or more races |  |
| School Characteristics |  |
| - Charter (dummy variable identifying whether or not the school is a charter) |  |
| - FRPMCount: a total, unduplicated count of students who meet household income or |  |
| categorical eligibility for free and reduced price meals |  |
| - Academic Calendar (e.g. quarters, semesters, etc.) |  |
| - Parental Exception Waivers (for the prior year) |  |
| - Increased Learning Time (for the prior year) |  |
| - Special education students enrolled in ELL programs |  |
| - Advanced Coursework/Dual Class Enrollment (for the prior year) |  |
| - Attendance Rates (for the prior year) |  |
| - School Year Minutes (for the prior year) |  |
| - Total ELL Staff |  |

The summary statistics for the key variables, as well as the controls, can be found in
Table 2. We run separate regressions with graduation rates and reclassification rates as the dependent variables. The controls ensure that the model fits the data well so that we obtain
information regarding the efficacy of ELL programs in general and for each specific ELL program.

## Theory of Equations

We first run the models with a general EL variable to determine the effects of ELL programs as a whole, rather than on each specific program. We include demographic controls including which students are migrants (MIG), are socio-economically disadvantaged (SD), and receive special education programs (SE). These variables are included because migrants and socio-economically disadvantaged students face more barriers that may interfere with their school performance than other children. We include enrollment in special education because children receiving special education services may have different needs that could hinder their academic performance or otherwise alter the ways in which they learn (Table 4).

We use OLS to estimate our preliminary regressions, and then employ logit and glm with a logit link. The first regression provides preliminary results of different ELL programs regressed on reclassification (Table 5). The next set of regressions utilizes the different dependent variables and the glm and logit models (Tables 6 and 7). We utilize logistic regressions because some of the dependent variables are categorically distributed (graduation rate, dropout rate, and GED rate).

Next, we run regressions with additional controls to make the results more viable. We include whether a student attends a charter school because many aspects of the curriculum, in addition to the type of ELL program, may differ from most traditional public schools. We also control for gender due to past studies that find that girls are more likely to excel in traditional schooling than boys, and we control for race because it serves as a proxy for further unobservable characterizes, such as discrimination (Table 8).

We include additional controls in Table 9 for the percent of students receiving free or reduced price meals (FRPM) and for the number of ELL teaching staff. Students receiving free and reduced price meals are presumably low-income, so controlling for meal prices helps to account for factors associated with being a low-income student, such as lack of access to resources and social capital. We control for ELL staff because a larger staff is likely associated with greater individualized attention and assistance, possibly leading to better student outcomes. We also run regressions with different school characteristics (truancy, school calendar system, increased learning minutes, advanced coursework enrollments, and school year instructional minutes). These additional controls are not reported because they do not have a significant impact on the model, and some of them actually lower the R-squared value.

Finally, we include several interaction terms to examine the effects of charter schools on the two main ELL programs (SEI and ELD). Charter schools seem to have a significant impact on reclassification rates and graduation rates in our models, so it is pertinent to examine how the effects of the ELL programs on these dependent variables differ when the school is a charter school compared to when it is not a charter school. (Table 10).

## Results

In consonance with previous literature, we find that English Language Learner students graduate at a 12.1 percent lower rate and dropout at a 6.46 percent higher rate than LAUSD students as a whole. Being classified as a special education student is highly significantly associated with a 14.2 percent decrease in graduation rates. Females are also 4.98 percent more likely to graduate than their male counterparts (Table 4).

We use an OLS regression to explore the association between English Language Learner programs and reclassification rates to the Fluent English Proficient (FEP) distinction. As shown
in Table 5, each variant of English Language Development is related to an increase in students' reclassification rates, significant at the one percent level. Specifically, ELD programs with Academic Subjects through the Primary Language (Eldl1) and English Language Development Primary Language support (eld_pls) are most effective, as they are associated with a respective 13.00 percent and 12.60 percent increase in reclassification rates. However, by this measure, students enrolled in Standard English Immersion programs are 5.18 percent less likely to be reclassified as FEP (Table 5).

We test the efficacy of the ELL programs on graduation rates, dropout rates, rates of obtaining a GED, and reclassification rates with the glm logit link model and the logit model (Tables 6 and 7). As seen in Table 7, each of the English Language Learner programs are significant at the one percent level under the glm logit link model. Most notably, the ELD with Academic Subjects through the Primary Language (Eldl1) program is associated with a 21.7 percent increase in reclassification rates. Additionally, under both the glm logit link model and the logit model, the English Language Development SDAIE program is associated with an increase in high school graduation rates, significant at the one percent level. However, the impacts are small, with less than a one percent increase in graduation rates. As a robustness check, we find that ELL programs have an equal and opposite effect on high school dropout rates compared to high school graduation rates. Additionally, ELL programs show a slightly positive association with obtaining a GED. For example, under the glm logit link model, English Language Development Primary Language support (eld_pls) is associated with a 0.546 percent increase in GED rates and ELD with Academic Subjects through the Primary Language (Eld11) is associated with a 0.868 percent increase in GED rates (Table 6 and 7).

We then add demographic controls in Table 8 and find that charter schools, gender, and ethnicity are significant indicators of high school graduation rates, dropout rates, GED rates, and reclassification rates. The association between ELL programs and the dependent variables remain marginally significant. English Language Development is associated with a highly significant 10.1 percent increase in reclassification rates. English Language Development Primary Language support (eld_pls) is associated with a 14.4 percent increase in reclassification rates, ELD with Academic Subjects through the Primary Language (Eldl1) is associated with a 16.4 percent increase in reclassification rates and Other English Language Development programs are also associated with a 13.5 percent increase in reclassification rates, each significant at the one percent level (Table 8).

Next, we add controls for school characteristics and find free and reduced price meals, number of ELL staff, and number of Parental Exception Waivers are all highly significant. Students who are waived out of ELL programs are 131 percent less likely to be reclassified as FEP. However, they graduate 0.5 percent more often than other ELL students. Interestingly, an increase in ELL staff is associated with lower high school graduation and reclassification rates. Having more staff possibly decreases ELL students' proclivity to work independently, thereby decreasing their drive to strive towards reclassification and graduation. This result is counterintuitive, however, so further research should verify these findings (Table 9).

Furthermore, many of the controls for ethnicity are insignificant in Table 9, showcasing how prior significance of the demographic controls can be explained by omitted variables. The results for the ELL program variables are consistent in their sign, magnitude, and significance. With an R-squared of 0.85 for the reclassification rate model, we show the importance of
controlling for the number of students receiving free and reduced price meals, the number of ELL staff, and the number of Parental Exception Waivers (Table 9).

Finally, we include interaction terms between the two primary ELL programs, SEI and ELD, and whether a student attends a charter school. Both interaction terms, sei*charter and eld*charter, are significant at the $1 \%$ level. Students who are enrolled in a SEI program at a charter school are $62 \%$ more likely to be reclassified to FEP and $0.4 \%$ more likely to graduate than students under the same program in a non-charter school. Interestingly, there is an opposite effect for ELD programs; students are $2.3 \%$ less likely to graduate if they receive ELD services at charter school relative to a non-charter school. Since charter schools and ELD programs in general have a positive effect on graduation and reclassification, this interaction term implies that charter schools may need to strengthen their ELD programs (Table 10).

## Conclusion

In conclusion, we find that providing English language support services for ELL students is helpful for their academic success both in terms of reclassification rates and high school graduation rates. ELL programs are associated with a notable increase in reclassification rates relative to students who are not enrolled in ELL programs. This is also true for graduation rates, however on a notably smaller scale. This is unsurprising because reclassification rates only apply to ELL programs, whereas graduation rates have more confounding variables. Furthermore, our study is consistent with previous literature and finds that LAUSD's English Language Development (ELD) programs are superior to English-Only Immersion programs in terms of reclassification rates.

Our study suggests that ELD programs are most effective in promoting ELL's academic success. While every child learns differently, our findings suggest that ELD programs are more
effective than English-language immersion programs overall. Yet, unobservable differences may remain between the English Language Learning programs, possibly biasing the results. Therefore, the LAUSD should attempt to offer multiple ELL programs to ensure that all children have the opportunity to be placed in a program that best fits their needs. For example, there should be enough spots in ELD classrooms so that children are not forced to be reassigned to an immersion program.

Additional research for the LAUSD and academic advancement in general should focus on further determining which components of ELL instruction are most effective. Educators should focus on perfecting learning strategies to best meet the needs of all ELL students.

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## Appendix Data and Regressions

Table 1: Data Years Available

| File | Years Available |
| :--- | :--- |
| Cohort Outcome Data | $2010-2015$ |
| CBEDS Data about Schools and Districts | $2008-2015$ |
| English Learners by Grade and Language | $1980-2016$ |
| Fluent-English Proficient Students by Grade and Language | $1980-2016$ |
| EL Reclassification Data | $2012-2016$ |
| EL Services, Reclassification, and Waivers | $1989-2011$ |
| Student Poverty-FRPM Data | $1988-2015$ |
| School Level English Learner Staff | $1989-2010$ |

Table 2: Summary Statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max |
| :--- | :--- | :---: | :---: | :---: | :---: |
| Year | 34301 | 1998.30 | 10.95 | 1981 | 2016 |
| School Code $(c d s)$ | 34301 |  |  |  |  |


| ELL Programs | Obs | Mean | Std. Dev. | Min | Max |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Fluent English Proficient (fep) | 4890 | 235.85 | 313.69 | 0 | 2812 |
| Structured English Immersion (sei) | 15149 | 228.78 | 269.12 | 0 | 1916 |
| English Language Development (eld) | 15149 | 27.29 | 90.23 | 0 | 1149 |
| ELD with Specially Designed Academic <br> Instruction (SDAIE) (eld sdaie) | 15149 | 93.58 | 143.71 | 0 | 1736 |
| ELD and Academic Subjects through the <br> Primary Language (eldll) | 15149 | 26.72 | 83.00 | 0 | 947 |
| ELD and SDAIE with Primary Language <br> Support (eld_pls) | 15149 | 161.95 | 229.33 | 0 | 1863 |
| No English Language Service (noeld) | 9078 | 3.58 | 24.98 | 0 | 853 |
| Other Instructional Services (ELD_Other) | 9078 | 51.02 | 107.04 | 13 | 69 |
| Total EL Students (totallep) | 165711 | 47.58 | 165.62 | 0 | 2867 |


| ELL Program Characteristics | Obs | Mean | Std. Dev. | Min | Max |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Percent of ELL Students in School (EL) | 34301 | 0.05 | 0.21 | 0 | 1 |
| English Language Mainstream Classroom <br> Students Meeting Criteria (elmmeet) | 5463 | 125.46 | 282.63 | 0 | 2195 |
| Number of Parent Waivers Sumbmitted <br> (waiversub) | 7763 | 14.75 | 61.32 | 0 | 790 |
| EL student in Mainstream Classroom due to <br> Parental Request (elmparent) | 5463 | 3.48 | 12.94 | 0 | 253 |
| Alternative Course of Study (acs) | 5463 | 27.91 | 90.52 | 0 | 988 |
| Percent of Students Receiving Special <br> Education Services (specialeducrate) | 34301 | 0.77 | 4.47 | 0 | 100 |


| Student Outcomes | Obs | Mean | Std. Dev. | Min | Max |
| :--- | :--- | :---: | :---: | :---: | :---: |
| Cohort Graduation Rate (cohortgradrate) | 34301 | 69.90 | 29.55 | 0 | 100 |
| Cohort Dropout Rate (cohortdropoutrate) | 34301 | 18.04 | 22.44 | 0 | 100 |
| Rate of Students from Cohort Still Enrolled <br> (stillenrolled) | 34301 | 11.15 | 19.57 | 0 | 100 |


| Number of Students Reclassified to Fluent |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| English Proficient (reclass) | 13918 | 26.56 | 26.19 | 0 | 509 |
| GED Rate (gedrate) | 34301 | 0.14 | 1.41 | 0 | 100 |


| ELL Students Receiving Federal <br> Assistance | Obs | Mean | Std. <br> Dev. | Min | Max |
| :--- | :--- | :--- | :---: | :---: | :---: |
| Students Receiving AFDC (afdc cntn) | 10288 | 243.40 | 249.92 | 0 | 1712 |
| Percent of Students Recieving AFDC <br> (Afdcpct) | 10288 | 17.78 | 16.74 | 0 | 100 |
| Students Receiving Free or Reduced Meals <br> (freemeals) | 20696 | 667.85 | 621.29 | 0 | 4748 |
| Percent of Students Receiving Free or <br> Reduced Meals (freepct) | 20867 | 27.99 | 37.80 | 0 | 100 |
| Students Receiving Free Meals <br> (freemealsonly) | 14308 | 595.35 | 584.71 | 0 | 4388 |
| Students Receiving Reduced Meals <br> (redmealsonly) | 11324 | 66.06 | 71.23 | 0 | 611 |


| ELL Certified Staff | Obs | Mean | Std. Dev. | Min | Max |
| :--- | :--- | :--- | :---: | :---: | :---: |
| Teachers with CLAD Authorization <br> (clad_auth) | 8207 | 8.92 | 12.93 | 0 | 79 |
| Teachers with Senate Bill Authorization <br> (sb_auth) | 16145 | 1.19 | 2.30 | 0 | 20 |
| Teachers with CCTC Bilingual Authorization <br> and SDAIE Authorization (cctc sdaie_auth) | 19191 | 7.82 | 13.02 | 0 | 162 |
| Teachers with CCTC Bilingual Authorization <br> (cctc_auth) | 36959 | 0.92 | 3.13 | 0 | 40 |
| Teachers in Training for SDAIE or ELD <br> Authorization (sdaie_eld_train) | 16145 | 3.08 | 6.20 | 0 | 63 |
| Teachers in Training for CCTC Bilingual <br> Authorization (cctc_train) | 16145 | 0.36 | 1.83 | 0 | 42 |
| Bilingual Aides or Paraprofessionals <br> (aidestotal) | 19460 | 2.98 | 6.74 | 0 | 118 |

Table 3: ELL Students' Primary Languages

| Primary <br> Language | ELL <br> Students | ELL <br> Students <br> $\mathbf{( \% T o t a l )}$ | FEP <br> $\mathbf{( \% )}$ |  |  |  |  |
| :--- | ---: | :--- | :--- | :--- | ---: | :--- | :--- |
| Albanian | 199 | $0.12 \%$ | $0.10 \%$ | Korean | 10,444 | $6.40 \%$ | $5.80 \%$ |
| Amharic | 41 | $0.03 \%$ | $0.04 \%$ | Kurdish | 102 | $0.06 \%$ | $0.09 \%$ |
| Arabic | 6,397 | $3.92 \%$ | $3.86 \%$ | Lahu | 36 | $0.02 \%$ | $0.03 \%$ |
| Armenian | 6,539 | $4.01 \%$ | $3.76 \%$ | Lao | 2,451 | $1.50 \%$ | $1.20 \%$ |
| Assyrian | 870 | $0.53 \%$ | $0.67 \%$ | Mandarin <br> (Putonghua) | 5,215 | $3.20 \%$ | $2.80 \%$ |
| Bengali | 1,706 | $1.05 \%$ | $0.99 \%$ | Marathi | 10 | $0.01 \%$ | $0.01 \%$ |
| Bulgarian | 15 | $0.01 \%$ | $0.02 \%$ | Marshallese | 66 | $0.04 \%$ | $0.03 \%$ |
| Burmese | 492 | $0.30 \%$ | $0.26 \%$ | Mien (Yao) | 16 | $0.10 \%$ | $0.15 \%$ |
| Cantonese | 7,008 | $4.29 \%$ | $4.31 \%$ | Mixteco | 37 | $0.02 \%$ | $0.04 \%$ |
| Cubano | 803 | $0.49 \%$ | $0.60 \%$ | Native | 162 | $0.10 \%$ | $0.11 \%$ |
| (Visayan) |  |  |  | American |  |  |  |
| Chaldean | 55 | $0.03 \%$ | $0.02 \%$ | Pashto | 796 | $0.49 \%$ | $0.44 \%$ |
| Charmorro | 57 | $0.03 \%$ | $0.09 \%$ | Polish | 856 | $0.52 \%$ | $0.69 \%$ |
| Chaozhoa | 502 | $0.30 \%$ | $0.29 \%$ | Portuguese | 3,333 | $2.04 \%$ | $1.82 \%$ |
| Chinese Other | 1,021 | $0.63 \%$ | $0.72 \%$ | Punjabi | 2,915 | $1.79 \%$ | $1.53 \%$ |
| Croation | 202 | $0.12 \%$ | $0.24 \%$ | Rumanian | 984 | $0.60 \%$ | $0.85 \%$ |
| Dutch | 345 | $0.21 \%$ | $0.28 \%$ | Russian | 4,523 | $2.77 \%$ | $2.65 \%$ |
| Farsi (Persian) | 5,864 | $3.59 \%$ | $3.66 \%$ | Samoan | 1,346 | $0.82 \%$ | $0.93 \%$ |
| Filipino Tagalog | 12,477 | $7.64 \%$ | $7.73 \%$ | Serbio-Croatian | 505 | $0.31 \%$ | $0.54 \%$ |
| Filipino Other | 662 | $0.41 \%$ | $0.40 \%$ | Somali | 481 | $0.29 \%$ | $0.27 \%$ |
| French | 2,318 | $1.42 \%$ | $1.64 \%$ | Spanish | 25,277 | $15.5 \%$ | $14.3 \%$ |
| German | 1,136 | $0.70 \%$ | $1.12 \%$ | Swedish | 6 | $0.00 \%$ | $0.02 \%$ |
| Greek | 339 | $0.21 \%$ | $0.52 \%$ | Taiwanese | 535 | $0.33 \%$ | $0.45 \%$ |
| Gujarati | 1,277 | $0.78 \%$ | $1.00 \%$ | Tamil | 33 | $0.02 \%$ | $0.02 \%$ |
| Hebrew | 2,864 | $1.75 \%$ | $2.10 \%$ | Telugu | 27 | $0.02 \%$ | $0.02 \%$ |
| Hindi | 2,685 | $1.64 \%$ | $2.00 \%$ | Thai | 4,866 | $2.98 \%$ | $2.62 \%$ |
| Hmong | 113 | $0.07 \%$ | $0.05 \%$ | Tigrinya | 131 | $0.08 \%$ | $0.09 \%$ |
| Hungarian | 880 | $0.54 \%$ | $0.82 \%$ | Toishanese | 242 | $0.15 \%$ | $0.17 \%$ |
| Ilocano | 1,399 | $0.86 \%$ | $1.04 \%$ | Tongan | 841 | $0.52 \%$ | $0.46 \%$ |
| Indonesian | 1,785 | $1.09 \%$ | $1.07 \%$ | Turkish | 641 | $0.39 \%$ | $0.39 \%$ |
| Italian | 894 | $0.55 \%$ | $0.93 \%$ | Ukranian | 328 | $0.20 \%$ | $0.20 \%$ |
| Japenese | 5,377 | $3.29 \%$ | $3.49 \%$ | Urdu | 2,904 | $1.78 \%$ | $1.87 \%$ |
| Kannada | 6 | $0.00 \%$ | $0.00 \%$ | Uzbek | 1 | $0.00 \%$ | $0.00 \%$ |
| Khmer | 5,143 | $3.15 \%$ | $2.67 \%$ | Viatnamese | 1,304 | $6.31 \%$ | $5.70 \%$ |
| Khmu | 85 | $0.05 \%$ | $0.07 \%$ | Zapoteco | 2 | $0.00 \%$ | $0.00 \%$ |
| Other | 11,100 | $6.80 \%$ | $7.08 \%$ | Total | $\mathbf{1 6 3 , 2 2 3}$ |  |  |

Table 4: Graduation, Dropout, and GED Rates for All LAUSD Students

| VARIABLES | (1) Graduation Rate | (2) <br> Dropout Rate | (3) <br> GED Rate |
| :---: | :---: | :---: | :---: |
| ELL Student | -0.121*** | 0.0646*** | 0.000421 |
|  | (0.0135) | (0.0101) | (0.000931) |
| Migrant | -0.0147 | 0.0117 | 0.00160 |
|  | (0.0209) | (0.0157) | (0.00144) |
| Socioeconomically |  |  |  |
| Disadvantaged | 0.00645 | -0.00745 | 0.000427 |
|  | (0.0133) | (0.0100) | (0.000921) |
| Special Education | -0.142*** | 0.0414*** | 0.000229 |
|  | (0.0135) | (0.0101) | (0.000931) |
| Female | 0.0498*** | -0.0248*** | 0.00198*** |
|  | (0.00620) | (0.00467) | (0.000428) |
| Charter | 0.159*** | -0.0799*** | -0.00213*** |
|  | (0.00599) | (0.00451) | (0.000414) |
| Ethnicity |  |  |  |
| Unknown | -0.392*** | 0.454*** | 0.00158* |
|  | (0.0129) | (0.00973) | (0.000893) |
| Native American | 0.0237* | 0.0359*** | -0.00173** |
|  | (0.0127) | (0.00954) | (0.000876) |
| Asian | 0.140*** | -0.0741*** | -0.00174** |
|  | (0.0109) | (0.00819) | (0.000752) |
| Pacific Islander | -0.0455*** | 0.0947*** | -0.00157* |
|  | (0.0135) | (0.0102) | (0.000936) |
| Filipino | 0.174*** | -0.0884*** | -0.00102 |
|  | (0.0114) | (0.00857) | (0.000787) |
| Hispanic | -0.0168* | 0.00427 | -0.000162 |
|  | (0.00887) | (0.00668) | (0.000613) |
| Black | -0.0364*** | 0.0399*** | -0.00113* |
|  | (0.00930) | (0.00700) | (0.000642) |
| Multi-racial | -0.120*** | 0.150*** | 0.0386*** |
|  | (0.0151) | (0.0113) | (0.00104) |
| Constant | 0.633*** | 0.200*** | 0.00175*** |
|  | (0.00608) | (0.00457) | (0.000420) |
| Observations | 9,667 | 9,667 | 9,667 |

[^0]Table 5: Preliminary OLS Regression

| VARIABLES | (1) |
| :---: | :---: |
|  | Reclassification |
| SEI | $-0.0518^{* * *}$ |
|  | (0.00368) |
| ELD | 0.0483*** |
|  | (0.00588) |
| ELD with SDAIE | 0.114*** |
|  | (0.00292) |
| ELD with SDAIE and L1 | 0.126*** |
|  | (0.00405) |
| ELD with L1 | 0.130*** |
|  | (0.00489) |
| No ELL Program | 0.0276* |
|  | (0.0158) |
| Other ELL Program | 0.0682*** |
|  | (0.00475) |
| Constant | 10.68*** |
|  | (0.545) |
| Observations | 9,078 |
| R-squared | 0.416 |
| Standard errors in parentheses |  |
| *** $\mathrm{p}<0.01, * * \mathrm{p}<0.05, *$ | <0.1 |

Table 6: Logit Results

|  | $(1)$ | $(2)$ <br> Dropout <br> Rate | GED Rate | Reclassification |
| :--- | :---: | :---: | :---: | :---: |
| VARIABLES | Graduation Rate |  |  |  |
|  | $0.000513^{*}$ | -0.000405 | -0.00116 | $0.0248^{* * *}$ |
| SEI | $(0.000307)$ | $(0.000334)$ | $(0.00186)$ | $(0.00703)$ |
| ELD | $-0.00122^{* * *}$ | $0.00204^{* * *}$ | -0.000872 | $0.0815^{* * *}$ |
|  | $(0.000396)$ | $(0.000440)$ | $(0.00136)$ | $(0.00881)$ |
| ELD with SDAIE | $0.000828^{* * *}$ | $0.000531^{* *}$ | -0.00304 | $0.0803^{* * *}$ |
|  | $(0.000224)$ | $(0.000223)$ | $(0.00201)$ | $(0.00441)$ |
| ELD with SDAIE and L1 | -0.000801 | $3.87 \mathrm{e}-05$ | $-0.00546^{* * *}$ | $0.102^{* * *}$ |
|  | $(0.000636)$ | $(0.000600)$ | $(0.00209)$ | $(0.0127)$ |
| ELD with L1 | $0.00490^{* * *}$ | $-0.00346^{* * *}$ | $-0.00868^{* * *}$ | $0.217^{* * *}$ |
|  | $(0.000858)$ | $(0.000935)$ | $(0.00254)$ | $(0.0201)$ |
| No ELL Program | $-0.000921^{* * *}$ | $0.000420^{* *}$ | 0.000573 | $-0.0152^{* * *}$ |
|  | $(0.000214)$ | $(0.000204)$ | $(0.000465)$ | $(0.00568)$ |
| Other ELL Program | $-0.000844^{* * *}$ | $0.000589^{* *}$ | $-0.00389^{* *}$ | $0.148^{* * *}$ |
|  | $(0.000216)$ | $(0.000248)$ | $(0.00167)$ | $(0.00440)$ |
| Constant | $0.606^{* * *}$ | $-1.482^{* * *}$ | $-5.848^{* * *}$ | $7.715^{* * *}$ |
|  | $(0.0367)$ | $(0.0385)$ | $(0.162)$ | $(0.694)$ |
| Observations |  |  |  |  |
| R-squared | 2,558 | 2,558 | 2,558 | 2,558 |

Robust standard errors in parentheses
*** $\mathrm{p}<0.01$, ** $\mathrm{p}<0.05$, * $\mathrm{p}<0.1$

Table 7: Glm with Logit Link Results

| VARIABLES | $(5)$ <br> Graduation Rate | $(6)$ <br> Dropout Rate | $(7)$ <br> GED Rate |
| :--- | :---: | :---: | :---: |
|  |  |  |  |
| SEI | -0.000629 | 0.000982 | $-0.0122^{* * *}$ |
|  | $(0.00100)$ | $(0.000715)$ | $(0.00312)$ |
| ELD | -0.00114 | $0.00169^{*}$ | $0.00215^{* *}$ |
|  | $(0.000973)$ | $(0.000926)$ | $(0.000928)$ |
| ELD with SDAIE | $0.00267^{* * *}$ | 0.000563 | $-0.00685^{* * *}$ |
|  | $(0.000556)$ | $(0.000401)$ | $(0.000821)$ |
| ELD with SDAIE and L1 | $-0.00285^{* *}$ | $-0.00218^{*}$ | $0.00782^{* *}$ |
|  | $(0.00135)$ | $(0.00113)$ | $(0.00395)$ |
| ELD with L1 | 0.00297 | $-0.00320^{* *}$ | -0.00373 |
|  | $(0.00414)$ | $(0.00158)$ | $(0.00412)$ |
| No ELL Program | -0.000278 | $0.00167^{* *}$ | $0.00134^{* * *}$ |
|  | $(0.000622)$ | $(0.000709)$ | $(0.000456)$ |
| Other ELL Program | $-0.00200^{* * *}$ | 0.000160 | $-0.00537 * * *$ |
|  | $(0.000499)$ | $(0.000412)$ | $(0.00111)$ |
| Constant | $1.970^{* * *}$ | $0.972^{* * *}$ | $-0.728^{* * *}$ |
|  | $(0.0809)$ | $(0.0614)$ | $(0.0739)$ |
| Observations |  |  |  |
|  | 2,558 | 2,558 | 2,558 |

Robust standard errors in parentheses
*** $\mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05$, * $\mathrm{p}<0.1$

Table 8: Logit Results with Demographic Controls

| VARIABLES | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Graduation Rate | Dropout Rate | GED Rate | Reclassification |
| SEI | -0.00248*** | 0.00114*** | -0.00225 | -0.0175** |
|  | (0.000370) | (0.000387) | (0.00187) | (0.00744) |
| ELD | $1.99 \mathrm{e}-06$ | 0.00143 *** | -5.00e-05 | 0.101*** |
|  | (0.000382) | (0.000416) | (0.00131) | (0.00860) |
| ELD with SDAIE | 0.00209*** | -0.000255 | -0.00209 | 0.100*** |
|  | (0.000247) | (0.000225) | (0.00195) | (0.00455) |
| ELD with SDAIE and L1 | 0.00209*** | -0.00110* | -0.00459** | 0.144*** |
|  | (0.000712) | (0.000569) | (0.00195) | (0.0126) |
| ELD with L1 | 0.00110 | -0.00118 | -0.00922*** | 0.164*** |
|  | (0.000889) | (0.000988) | (0.00261) | (0.0197) |
| No ELL Program | -0.000354* | $4.08 \mathrm{e}-05$ | 0.000878** | -0.00424 |
|  | (0.000185) | (0.000135) | (0.000399) | (0.00554) |
| Other ELL Program | -0.00149*** | 0.000859*** | -0.00499** | 0.135*** |
|  | (0.000223) | (0.000247) | (0.00218) | (0.00437) |
| Charter | 1.134*** | -0.497*** | 0.301 | 17.76*** |
|  | (0.0723) | (0.0753) | (0.238) | (1.267) |
| Female | 0.344*** | -0.181*** | 0.180 | 0.254 |
|  | (0.0661) | (0.0703) | (0.247) | (1.137) |
| Ethnicity |  |  |  |  |
| Unknown | -1.627*** | 2.344*** | -12.83*** | -0.246 |
|  | (0.158) | (0.150) | (0.427) | (2.280) |
| Native American | -0.167 | 0.397** | -0.123 | 1.531 |
|  | (0.153) | (0.176) | (0.334) | (2.717) |
| Asian | 0.560*** | -0.470*** | -1.926*** | -2.982 |
|  | (0.128) | (0.145) | (0.244) | (1.947) |
| Pacific Islander | -0.212 | 0.655*** | -0.472 | -2.487 |
|  | (0.207) | (0.211) | (0.333) | (3.000) |
| Filipino | 0.780*** | -0.497*** | -13.02*** | 6.463*** |
|  | (0.143) | (0.174) | (0.314) | (2.109) |
| Hispanic | -0.0150 | -0.124** | -0.0551 | -0.813 |
|  | (0.0697) | (0.0620) | (0.281) | (1.476) |
| Black | -0.136* | 0.0854 | -1.586*** | -0.0301 |
|  | (0.0779) | (0.0770) | (0.180) | (1.559) |
| Multi-racial | 0.872*** | -0.932*** | 0.180 | -1.101 |
|  | (0.250) | (0.320) | (0.363) | (2.899) |
| Constant | 0.0581 | -1.324*** | -5.707*** | -0.302 |
|  | (0.0532) | (0.0488) | (0.136) | (1.061) |
| Observations | 2,558 | 2,558 | 2,558 | 2,558 |
| R-squared |  |  |  | 0.673 |

Robust standard errors in parentheses

Table 9: Results with Demographic, Staff, and Socioeconomic Controls

| VARIABLES | (1) Reclassification | (2) Graduation Rate |
| :---: | :---: | :---: |
| SEI | 0.0495*** | -0.000615*** |
|  | (0.0143) | (0.000232) |
| ELD | $0.106^{* * *}$ | -9.19e-05 |
|  | (0.00784) | (0.000128) |
| ELD with SDAIE | 0.0547*** | $-0.000346 * * *$ |
|  | (0.00478) | (7.78e-05) |
| ELD with SDAIE and L1 | 0.0963*** | 0.000836*** |
|  | (0.0154) | (0.000250) |
| ELD with L1 | -1.627*** | $0.0205^{* * *}$ |
|  | (0.232) | (0.00379) |
| No ELL Program | -0.0163 | -0.00397*** |
|  | $(0.0173)$ $-1.316^{* * *}$ | $(0.000282)$ $0.0501 * *$ |
| Waivers Submitted | (0.402) | (0.00654) |
| Other ELL Program | 0.148*** | -0.000991*** |
|  | (0.00543) | (8.86e-05) |
| Charter | 6.487*** | $0.136{ }^{* * *}$ |
|  | (2.318) | (0.0378) |
| Female | $0.164$ | $0.0764 * * *$ |
| Ethnicity |  |  |
| Unknown | 0.161 | -0.320*** |
|  | (1.886) | (0.0307) |
| Native American | -2.600 | -0.0962*** |
|  | (2.096) | (0.0342) |
| Asian | 1.275 | $0.131 * * *$ |
|  | (1.735) | (0.0283) |
| Pacific Islander | -0.0813 | 0.00463 |
|  | (2.491) | (0.0406) |
| Filipino | -0.0607 | $0.145^{* * *}$ |
|  | (1.792) | (0.0292) |
| Hispanic | 0.0847 | -0.00731 |
|  | (1.345) | (0.0219) |
| Black | -0.850 | -0.0278 |
|  | (1.437) | (0.0234) |
| Multi-Racial | -0.211 | -0.0284 |
|  | (2.629) | (0.0429) |
| Number of Staff | $\begin{gathered} -0.149 * * * \\ (0.0308) \end{gathered}$ | $\begin{gathered} -0.00145 * * * \\ (0.000502) \end{gathered}$ |
| Free/Reduced Price Meal | 0.0175*** | 0.000250*** |
|  | (0.00105) | (1.72e-05) |
| Constant | -6.035*** | 0.503*** |
|  | (0.911) | (0.0148) |
| Observations | 1,159 | 1,159 |
| R-squared | 0.852 | 0.403 |

Table 10: Results with Added Charter School Interaction Terms

| VARIABLES | (1) Reclassification | (2) Graduation Rate |
| :---: | :---: | :---: |
| SEI | $0.00765$ | $-0.00139 * * *$ <br> (0.000300) |
| ELD | $0.102 * * *$ | -0.000149 |
|  | (0.00727) | (0.000127) |
| ELD with SDAIE | 0.0496*** | -0.000412*** |
|  | (0.00448) | (7.83e-05) |
| ELD with SDAIE and L1 | $0.138{ }^{* * *}$ | $0.00156^{* * *}$ |
|  | (0.0174) $-1.438 * *$ | $(0.000305)$ $0.0221^{* * *}$ |
| ELD with L1 | (0.215) | (0.00376) |
| No ELL Program | -0.00911 | -0.00388*** |
|  | (0.0160) | (0.000279) |
| SEI*Charter | 0.624*** | 0.00450*** |
|  | (0.0487) | (0.000851) |
| ELD*Charter | -4.704*** | -0.0231*** |
|  | ${ }^{(0.337)}$ | (0.00588) |
| Waivers Submitted | $-1.060^{* * *}$ | $0.0548^{* * *}$ |
| Other ELL Programs | ${ }_{0}^{(0.376)}$ | $\xrightarrow{(0.000657)}$ |
|  | (0.00506) | (8.83e-05) |
| Charter | 81.61*** | 0.527*** |
|  | (6.838) | (0.119) |
| Female | 0.424 | 0.0770*** |
|  | (0.931) | (0.0162) |
| Ethnicity |  |  |
| Unknown | 0.0915 | -0.319*** |
|  | (1.741) | ${ }^{(0.0304)}$ |
| Native American | $\begin{aligned} & -2.873 \\ & (1.935) \end{aligned}$ | $\begin{gathered} -0.0972^{* * *} \\ (0.0338) \end{gathered}$ |
| Asian | -1.632 | $0.127 * * *$ |
|  | (1.602) | (0.0280) |
| Pacific Islander | -0.174 | 0.00465 |
|  | (2.299) | (0.0401) |
| Filipino | -0.0277 | 0.148*** |
|  | (1.655) | (0.0289) |
| Hispanic | 0.432 | -0.00428 |
|  | (1.242) | (0.0217) |
| Black | $\begin{gathered} -0.495 \\ (1.327) \end{gathered}$ | $\begin{aligned} & -0.0257 \\ & (0.0232) \end{aligned}$ |
| Multi-Racial | -0.150 | -0.0243 |
|  | (2.428) | (0.0424) |
| Number ELL Staff | -0.138*** | $-0.00130^{* * *}$ |
|  | (0.0285) | (0.000498) |
| Free/Reduced Price Meal | 0.0190*** | $0.000259^{* * *}$ |
|  | (0.000979) | (1.71e-05) |
| Constant | -6.586*** | 0.503*** |
|  | (0.844) | (0.0147) |
| Observations | 1,159 | 1,159 |
| R-squared | 0.874 | 0.418 |

Standard errors in parentheses: *** $\mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05$, * $\mathrm{p}<0.1$
(1) Uses OLS and (2) uses Logit


[^0]:    Standard errors in parentheses
    *** $\mathrm{p}<0.01, * * \mathrm{p}<0.05, * \mathrm{p}<0.1$

