Bilingual Education:
Cause or Cure?

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Abstract

Debates around bilingual education are as much political as they are pedagogical. Proponents and opponents of bilingual education argue that it affect Latino dropout rates; with proponents arguing that bilingual education is a cure for the dropout problem and opponents arguing that it is a cause. This paper tests these arguments by comparing two types of programs geared toward limited English proficient (LEP) students, English as a second language (ESL) and bilingual programs. Using data from Texas, this study finds evidence for either proponents or opponents of bilingual education. That is, there is no evidence that bilingual education, compared to ESL programs, either help or hurt the Latino dropout problem. However, the Latino dropout problem appears to be, in part, a function of LEP students not being served by either ESL or bilingual programs. Specifically, Latino dropout rates increase when the number of Latino LEP students who are not served by either ESL or bilingual programs increases. These findings suggest that the important policy decision is not what type of program to use, but instead to ensure that all LEP students are served by some form of English acquisition assistance program.

Introduction

The original draft of the Bilingual Education Act (BEA) of 1968 was directed solely toward Hispanic students. During a hearing on the bill, Texas Senator Ralph Yarborough presented his motivation for drafting the legislation (US Congress 1967):

> The Failure of our Schools to educate Spanish speaking students is reflected in comparative dropout rates. In the five Southwestern states…, Anglos 14 years of age and over have completed an average of 12 years of school compared with 8.1 years for Spanish-surnamed students. I regret to say that my own State of Texas ranks at the bottom, with a median of only 4.7 years of school completed by persons of Spanish surname.

The final draft of the BEA directed funds toward programs for all Limited English Proficient (LEP) students, regardless of native language of LEP students (Lyons 1990). Although the BEA addresses the needs of all LEP students, it is still largely directed toward Hispanic students since three-quarters of all LEP students are native Spanish speakers (Osorio-O'Dea 2000). Given Senator Yarborough's statement linking Hispanic dropouts to poor education practices, it is clear that supporters of the 1968 BEA believed that bilingual education was a potential cure for the Hispanic dropout problem.

The times have changed though. Bill Bennett, during his tenure as Secretary of Education, called the BEA "a failed path … a bankrupted course" as evidenced by the continued high rate of dropouts for Hispanic students (Crawford 1999, 83). California's education code now states that the (California 1998):

> The public schools of California currently do a poor job of educating immigrant children, wasting financial resources on costly experimental language programs whose failure over the past two decades is demonstrated by the current high drop-out rates and low English literacy levels of immigrant children…

This language is the product of the passage of Proposition 227 in 1998, which essentially ended bilingual education in a state that educates 47 percent of all LEP students

(Crawford 1999). Two years later Arizona citizens passed Proposition 203, which is identical to Proposition 227. Where bilingual education was once thought of as a cure for high Hispanic dropout rates, some education policy makers, such as Bill Bennett, and many voters believe that bilingual education causes high Hispanic dropout rates.

Bilingual education has become politically divisive issue, with both sides arguing that it affects Hispanic dropout rates. Even though both sides argue that bilingual education affects Hispanic dropout rates, there is little research on this assertion. This paper will look at the effect of bilingual education on Hispanic dropout rates by analyzing Hispanic dropout rates, along with three other completion statistics, in Texas. In particular, I compare dropout and completion rates across districts that utilize bilingual education and those that utilize English as a second language (ESL) instruction. ESL instruction is similar to the structured immersion programs that were mandated by propositions 227 and 203 in that instruction in both programs is in English. The main difference being that structured immersion programs limit the time that (LEP) students spend in the program to one year, based on the belief that LEP students spend too long segregated from mainstream courses. This paper will also assess the effect of lack of service by any special language program for LEP students. That is, does the increase in the percentage students not enrolled in either bilingual or ESL programs affect Hispanic dropout rates?

Literature Review: Evidence or Lack Of

Several authors argue that bilingual education has become a scapegoat for problems facing Hispanic students, including the dropout problem (Casanova 1991, Krashen 1996 1999, Crawford 1999, Cummins 2000, Leistyna 2002). At best, opponents

to bilingual education are misinformed; at worst, they are xenophobes who want to promote English-only policies (Leistyna 2002). Krashen (1999) directly addresses critics who argue that high Hispanic dropout rates are a function of bilingual education programs. He argues that even if bilingual education programs are part of the problem, they could only be a small part of the problem. First of all, most Hispanic students are native English speakers. Second, most LEP Hispanic students are not enrolled in bilingual education programs. Krashen (1999) cites figures from California reporting that 1,107,186 Hispanic students in California were classified LEP (49.7% of Hispanic students), but only 394,750 Hispanic students were enrolled in bilingual education class (representing 17.7% of Hispanic students). It is quite possible, according to these figures, that part of the Hispanic dropout problem is a function of Hispanic LEP students *not* being enrolled in bilingual programs.

Conventional wisdom argues that LEP status is a factor that increases the likelihood of dropping out (see Steinberg et al. 1984). Evidence also suggests that the linkage between LEP status and increased dropout rates seems to be the strongest for Hispanic students (Stienberg et al. 1984). More recent studies, though, show that the relationship between LEP status and dropouts is likely to be spurious, and is more a function of socio-economic status, immigrant status, and gender (Fernandez and Nielson 1986, Fernandez and Hiranko-Nakanishi 1989, Kao and Tienda 1995, White and Kaufman 1997, Feliciano 2001). Many of these studies also find a positive relationship between bilingualism and school completion. That is, students who speak two languages are less likely to drop out.

Feliciano (2001), for instance, finds that bilingualism among students, and students' family, decreases the likelihood of dropping out. She uses bilingualism as a proxy for biculturalism; and it is measured both as an individual's ability to speak English well as well as their native language, and the proportion of bilingual speakers within a household. Feliciano finds that relative to English only and limited English respondents, bilingual respondents were less likely to be dropouts. She also splits her sample into several different ethnic groups, including four groups for Hispanics. For Mexicans, she finds that being bilingual decreases the likelihood of dropping out. For Mexicans and Puerto Ricans, as the proportion of bilingual speakers in a household increases the likelihood of dropping out decreases. Although her study, as well as the other studies finding a positive relationship between bilingualism and school completion, cannot link bilingualism to bilingual education programs, these studies do suggest that bilingual education can be beneficial for decreasing Hispanic dropout rates.

In an examination of six Washington high schools, Tan (2001) found that promoting multiculturalism in schools helps to decrease dropout rates among Hispanics. Students who perceived that their school was promoting multiculturalism, according to Tan, were more likely to believe that they would graduate, and they also believed that they would receive continued education or training after graduation. She also found that that the schools with low Hispanic dropout rates tended to have more ethnically diverse staff. Interestingly, low dropout schools had more Anglo bilingual teachers, compared with high dropout schools where the bilingual teachers were predominantly Hispanic. Tan believes that seeing Anglo teachers promote multiculturalism, through bilingual

instruction, has a positive impact on Hispanic students by creating what appears to be a less segregated environment.

Although these studies suggest possible linkages between bilingual education and dropping out, they do not directly test the relationship. Krashen (1999) states that even though bilingual education programs are often blamed for the Hispanic dropout problem, there is only one scientific study that directly assesses the linkage between dropouts and bilingual education. This study, by Curiel et al. (1986), finds evidence that bilingual programs can decrease dropouts. A more recent study by Mora (2000) finds somewhat mixed results concerning the linkage between English language assistance programs and dropouts. These two studies, are discussed below.

Curiel et al. (1986) find that bilingual education decreases the likelihood of dropping out. This study compares two groups LEP students through grade school and found that those who were in bilingual programs were less likely to dropout, compared to those who had English-only instruction—it is not clear whether the second group received ESL instruction or were mainstreamed. Curiel et al. (1986) argue that this finding is a function of bilingual program's decreasing grade retention by enhancing English acquisition. They also argue that bilingual programs are less likely to alienate LEP students, compared to mainstreaming them, due to the emphasis placed on the students' culture. Not all bilingual education programs emphasize students' culture, but through the use of students' native language for instruction, there is at least some recognition of LEP students' culture.

Mora (2000) used the National Education Longitudinal Study to assess the impact of English language assistance (ELA) programs on academic performance and school

completion. Her sample included respondents who did not speak English in 1988, resided in a predominantly non-English speaking home in 1988, and reported non-English language usage in 1992. In one equation, Mora used four dummy variables--ELA in grades 1-3, ELA in grades 4-8, and ELA in high school--to predict dropping out. For this model, she found that ELA in grades 4-8 increased the likelihood of dropping out, but no significant relationship for the other variables. In a second equation, she split ELA in high school into bilingual program enrollment, English as a second language (ESL) program enrollment, and other ELA enrollment. For this model, the variable for grades 4-8 ELA enrollment becomes insignificant, and the only significant variable indicates a positive relationship between dropping out and other ELA enrollment in high school. Even though the coefficient is insignificant for bilingual education in high school, the sign for the coefficient is negative, indicating that bilingual education does not cause dropouts and may in fact decrease dropout among language minority students. Mora's study also only looks as high school students with limited or no English language skills. Her study cannot, then, make a statement about students who have successfully acquired English skills prior to entering high school. Given their LEP status near the end of high school, the group in Mora's study might not be a representative sample of students who have been in bilingual education programs.

Considering that much of political debate concerning bilingual education links bilingual programs to Hispanic dropout rates, either as a cause or cure, it is surprising that there is such a dearth of studies assessing this linkage. The mixed results from Mora's (2001) study do not offer a conclusive answer to this question. Also, by restricting her sample to those who do not speak English at the time they are juniors in high school, the

results of Mora's study cannot assess the potential accomplishments of bilingual programs that successfully teach English language skills to LEP students. Curiel et al. (1986) find a positive relationship between bilingual education and school completions. Their study, though, only compares a small number of students in one district that uses one type of bilingual program, transitional bilingual education, and uses simple analysis (comparison of means) to assess this linkage.

Data and Methods

The data for this analysis comes from two sources. The first source is the Texas Education Agency (TEA). Variables from TEA data include dropout, continuing high school education, GED completion and high school graduation rates for Hispanics, percent LEP and economically disadvantaged students, class size, instructional expenditures and teacher salary and teacher experience. The second source of data is the 2000 U.S. Census data mapped to the school district level. Variables from the Census include percent Hispanics over 25 without high school diploma or equivalent degree, per capita income for Hispanics, per capita income for all residents and percent Hispanics who are foreign born. Districts in this analysis are those districts with at least 20 Spanish speaking LEP students for all years from 1992 to 2002, creating a sample of 394 Texas districts. The restriction based on Spanish speaking LEP student enrollment ensures that the Hispanic student population in a district include at least some LEP students.

Dependent Variables

This study will analyze five dependent variables. The first dropout measure the measure that is commonly reported by districts and is used in the state's performance ranking system, the Academic Excellence Indicator System (AEIS). This measure is

calculated by dividing the number of Hispanic student dropouts in a given year by the

total Hispanic enrollment for that year, then multiplying the proportion by 100 in order to

produce a percentage. The sample mean for this measure is 1.3, ranging from 0 to 9.3

percent. Even though these figures seem low, there are flaws with this measure that need

to be considered when assessing this measure.

First, according to a report commissioned by the Texas state legislature, measure

is not conceptually aligned with what most people consider dropout rates (Texas

Education Agency 2000). That is, dropout rates commonly measure of a cohort that drop

out. This measure produces a yearly measure for all students. This report also shows that

AEIS measure produces the lowest dropout figures when compared to the cohort

measure. This makes the AEIS measure politically appealing, but possibly misleading.

One of the reasons why the AEIS measure is consistently lower is that the denominator

includes students in lower grades that do not commonly dropout. These two concerns,

though, should not pose a problem for this analysis, since I am more concerned with the

variance in dropouts not levels. The final problem, though, does pose problems for

analysis. Difference in growth patterns across districts could affect this measure. That is,

a district with high growth rates will likely look better than a district with no growth, or

declining enrollment. The denominator for a district with a high growth rate will be

larger than one with less growth, even though the enrollment in the grades where

dropping out is more likely to occur is the same, making the rate for the district with high

growth appear lower.

Because of the potential problems with the AEIS dropout measure, a second

dropout measure is used in this study. This measure calculated using the 9th grade

Hispanic enrollment in the denominator, adjusted for transfers in and out of the district, and the Hispanic dropouts over a four year period in the numerator. Compared to the AEIS dropout measure, the cohort Hispanic dropout measure produces higher dropout rates; with a mean of 10 percent, ranging from 0 to 51.[1] Even though this measure produces larger values, when compared to the AEIS measure, it also likely under reports dropouts, since students that dropout prior to entering the 9th grade are not reported in this measure. Those students who move out of state or the country are also not included in these measures. The AEIS measure also does not include students that move out of the state, but it does include all other students who drop out, not just those who dropout after entering the 9th grade.

Greene (2002) argues that dropouts are not the only measure of district failure. Grade retention or receiving a GED instead of a high school diploma can both be considered failures. To test the affect of ELL program type and enrollment, three other cohort measures are analyzed. These three measures are cohort measures are calculated using the 9th grade Hispanic enrollment in the denominator with the continuing high school, GED, graduation numbers in the numerator. The continued high school measure is constructed by using the number of students who are still enrolled in high school after four years.. That is, it is the number of students from the 9th grade 1997-1998 cohort that enroll in high school for the 2001-2002 school year. If a student who continues high school after four years and subsequently drops out or graduates, this student will not be

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[1] There were two districts that reported Hispanic dropout rates of 81 and 92 percent. The average dropout rate for both these districts, when not including these values, was about 12 percent. Since both these were districts with large Hispanic student populations, which would make it unlikely to see such large fluctuations, I treated these values as coding errors and dropped these observations from the analysis.

counted as either a dropout are a high school graduate. The numerator for GED measure

is the count those in the cohort who received a GED during the four year period. Finally,

the numerator for the graduation rate is the count of the cohort who graduate in four

years. As with the cohort dropout measure, the denominator for these three measures is

adjusted for students transferring in and out of the district.

Independent variables

The independent variables consist of ELL program types, ELL program

enrollment, district resources, and district demographics. The first key variable in this

analysis is dummy variable for the use bilingual education in a district. This variable will

test whether there is a difference in completion rate performance between districts that

utilize bilingual education for their LEP students and those that utilize ESL instruction.

The main difference between these program types is in the language of instruction. ESL

classes are generally taught in English by teachers who are trained to help students learn

English. ESL teachers do not necessarily speak the native language of the students. ESL

instruction is similar to structured immersion instruction, the type of program supported

by bilingual education opponents, with the only difference being the time LEP students

spend in these programs prior to being mainstreamed. In Texas, the average time LEP

students spend in ESL programs is 3.8 years (Texas Education Agency, 2002). Structured

immersion programs limit enrollment time to one year.

Unlike ESL or structured immersion programs, bilingual programs utilize

students' native language. It is important to note, though, that bilingual education

programs vary significantly. On one end are two-way bilingual programs, where all

students learn two languages, regardless of their native language. Next are maintenance

bilingual programs, where instruction is geared towards continuing development of both the students' native language and English. The most common type of bilingual program is transitional bilingual education. Transitional programs begin with a significant amount of instruction occurring in the students native tongue, with native language instruction decreasing over time. On average, LEP students in Texas who are served by bilingual spend 3.6 years in bilingual programs before being mainstreamed (Texas Education Agency 2002). Several districts in Texas transition LEP students from bilingual programs to ESL programs prior to mainstreaming LEP students. These students, on average, spend 6.9 years receiving bilingual and ESL instruction (Texas Education Agency, 2002).

The dummy variable for bilingual programs is created by using LEP enrollment data. If a district had any LEP students enrolled in certified bilingual programs over the four year time period, it was coded as being a bilingual district. Of course, this measure cannot distinguish between the different forms of bilingual education, or differentiate between programs that used only bilingual education before mainstreaming LEP students and those that used a bilingual to ESL track for their LEP students. Within this sample, 50 percent of the districts utilized some from of bilingual education. A negative and significant coefficient for this measure in the dropout models would indicate that bilingual programs help to decrease Hispanic dropout rates. A positive and significant coefficient would indicate that ESL programs perform better than bilingual programs. This result would support those who argue against bilingual education and for structure immersion courses, since ESL programs are similar to structured immersion in that instruction for both programs is in English.

The other key independent variable in this analysis is the percentage of Spanish speaking LEP students that are not enrolled in either bilingual or ESL programs. This does not include LEP students that are not enrolled in ELL programs due to parents request. I expect that LEP Students whose parents request not to be enrolled in ELL programs have resources at home that will help with their English acquisition, which in turn increases their likelihood for academic success. Students that are included in this measure may be students a that are not in schools with adequate resources, or students that are no longer enrolled in ELL programs but are still classified as LEP. It is expected that as this measure increases, Hispanic dropout rates will increase.

A set of control variables are also included in this analysis. These control variables capture LEP student enrollment, district performance, district resources, and district demographics. LEP enrollment is measured as both the percent of Hispanic students in a district who are classified Spanish speaking LEP, and the natural log of Spanish speaking LEP enrollment.[2] As the percentage of LEP enrollment increases, so will the percentage of Hispanics who are or have once been classified LEP. As this variable increases, then, so should Hispanic dropout rates. The logged LEP enrollment measure is used to control for regulations concerning ELL programs. Districts with 20 LEP students in a given grade are required to offer bilingual instruction if these students are in grades kindergarten through 6, unless they can show that they are not able to hire qualified bilingual instructors. Because of this, 90 percent of districts with more than 200 LEP students, the median enrollment for this sample, use bilingual instruction. Conversely, only 20 percent of districts with LEP enrollment between 20 and 200 offer

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[2] LEP enrollment is highly skewed. Models where run with both the non-logged and logged LEP enrollment and the model with logged enrollment produces better model fit.

bilingual instruction. Without this control, the dummy variable would capture differences in districts with large LEP enrollment, as well as differences between large and small districts.

District performance is captured by using Anglo student dropout and completion rates for the five Hispanic student dependent measures. To capture district resources I use measures of average teacher salaries, average teacher experience, average class size, per-pupil instructional expenditures and district wealth. District wealth is measured by using the district's median home price from the 2000 Census. Districts with greater property wealth are able to produce greater school revenue. To control for the severity of districts' dropout problems, a measure of percent of Hispanics in a district who are over twenty and do not have a high school diploma or equivalent degree is used.

Finally, district growth is included in all the models. This measure serves two purposes. First, districts with high growth rates may have problems with building space and hiring qualified teachers, both of which could affect dropout and completion rates. Also, this should help control for the problem with the AEIS dropout measure. As noted above, a district with a high growth rate could have a lower measure even though it might have the same dropout rate as a district with low growth.

Method

Even though there were multiple years of data from the TEA (1998-2001), I choose a between-effects estimator instead of a fixed or random effects estimator, which ignores within district effects by estimating the average of the dependent variable for a

district as a function of the average of each independent variable.[3] For several districts the cohort measures vary significantly. This variation is larger for districts with smaller Hispanic student population. Averaging the dependent variables over the four year period should produce a measure that better represents the true district performance, even for those districts with low Hispanic enrollment.

More importantly, due to the nature of the dependent variables and the distribution of students served by ESL and bilingual programs, using yearly variations becomes problematic. For the cohort dropout measure, students may have dropped out at any time over a four year period. So, even though there is a dropout for measure for the class of 2001, dropouts for this class could have occurred anywhere between 1998 and 2001. On the other side of the equation, LEP Students may have completed bilingual or ESL education several years before they entered the 9th grade. Similarly, it is when LEP students did not receive ESL or bilingual instruction. In any given year, the number of LEP not served by ELL programs is distributed across several grades. Averaging number of LEP students served over the four year period should to produce a measure districts' commitment toward their LEP students.

Results

Table 1 presents the results of the analyses of Hispanic dropout rates. The first column presents the results using the AEIS dropout measure, and the second column presents the results of the model using the cohort measure. For both models, the coefficient for bilingual indication is positive but not significant. Thus, there is no

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[3] Instead of estimating $y_{it} = \alpha + \mathbf{x}_{it}\beta + \upsilon_i + \varepsilon_{it}$, a between effect estimator estimates $\bar{y}_i = \alpha + \bar{\mathbf{x}}_i\beta + \upsilon_i + \bar{\varepsilon}_i$.

statistical evidence that districts that utilize bilingual education, compared to districts that only use ESL programs, have higher or lower Hispanic dropout rates.

The coefficient for the second independent variable of interest for this analysis, percent of LEP students not served by ELL programs, does offer evidence of a positive relationship between lack of ELL program service and Hispanic dropout rates. This result holds for both dropout measures. These results suggests that it is not necessarily the type of program the LEP students are severed, but the lack of service by any programs that contributes to the Hispanic dropout problem.

Table 3 presents the results from the models using the thee other cohort measures. The first column presents the results for the continuing high school education model. These results suggest that there is a difference in continuing high school education rates associated with different program types. The model predicts continuing high school education rates in that districts that utilize bilingual education are 1.2 percentage points higher than districts that only ESL instruction. There is no statistical evidence of relationship between the percentage of LEP students not enrolled in ELL programs and continuing high school education rates.

The second column presents the results for the GED rate model. For this model, there is no evidence of a relationship for either the bilingual program variable or the percentage of LEP students not enrolled in ELL programs.

The final column shows the results from the graduation rate model. Like the continuing high school education model, this model presents evidence of a relationship between program type, but no evidence of a relationship for the no ELL service variable. Compared to districts that only use ESL instructions, districts that utilize some form of

bilingual education are predicted to have graduation rates that are 2.4 percentage points lower.

Discussion

As noted in the introduction, opponents to bilingual education cite the continuing high Hispanic dropout rates as evidence of bilingual education failure. Since most Hispanic students do not need ELL programs, this argument is weak. More importantly, since not all LEP students receive ELL instruction, part of the Hispanic dropout problem may be the lack of service, not program failure. The findings in this paper offer evidence that the high Hispanic dropout rates are at least in part a function of the failure to serve the need of LEP students.

Texas, in general, serves its LEP students well. The state education code mandates that districts have certain programs and qualified teachers for these programs if they have sufficient numbers of LEP students. All the districts in the sample served most, if not all, of their LEP students through bilingual or ESL instruction. Many other states, though, do not have similar requirements regarding ESL or bilingual instruction for LEP students. And even though the U.S. Supreme Court, in its *Lau v. Nichols* decision, ruled that districts must address the needs of their LEP students, enforcement of this decision has waned since the early 1980's (Crawford 1999). States without requirements regarding the service of LEP students will likely have greater numbers of LEP students who are not served by ELL programs. The results from this study suggest that this increases the Hispanic dropout problem. If states are concerned with Hispanic dropout rates, then they should consider drafting and enforcing education codes that mandate ELL program service for LEP students.

The results presented here do not find evidence that differences between bilingual and ESL programs produce different Hispanic dropout rates. There is evidence, though, of a relationship between program type and continuing high school education and graduation rates. That is, districts that only use ESL instruction are better at progressing Hispanics toward graduating on time. What cannot be assessed from these measures is whether the increased number of Hispanics who continue high school education eventually graduate or become dropouts.

Differences in bilingual education types also cannot be assessed with these results. There is a significant difference in program enrollment time between LEP students on a bilingual to mainstream track compared to those on a bilingual to ESL to mainstream track, 3.6 and 6.9 years respectively (Texas Education Agency, 2002). Enrollment time is essentially the same between students on a bilingual only track compared to students on a ESL only track, 3.6 and 3.8 years respectively. If time in ELL program affects academic success, then separating districts by the type of bilingual programs they use may offer greater clarity in results.

Finally, opponents of bilingual education argue that LEP students should spend as little time as possible in ELL programs. Propositions 227 and 203 in California and Arizona mandate that LEP students spend no more than a year in structured immersion programs. As noted above, the main difference between ESL and structured immersion programs is the amount of time LEP students spend in either program. In Texas, LEP students enrolled in ESL only tracks spend on average more than three times as long in ESL compared to time spent in a structure immersion program. This study cannot directly assess whether three plus years is too long or one year is not long enough. If, though, one

year is not enough, then districts utilizing structured immersion instruction will increase the number of LEP students in a district that are not being served by special language programs. The results here show that increases in this phenomena are associated with increased Hispanic dropout rates. Further analysis comparing structured immersion programs with other program types would shed light on whether the current policy solutions offered by California and Arizona have merit.

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Table 1. ELL Service and Hispanic Dropout Rates

	AEIS Hispanic Dropout Rate	Cohort Hispanic Dropout Rate
Bilingual Program	1.253	0.077
	(0.690)	(0.087)
% LEP Not in ELL Programs	0.138	0.035
	(0.062)*	(0.008)**
Logged LEP Enrollment	0.370	0.112
	(0.292)	(0.037)**
% LEP	-0.032	-0.006
	(0.025)	(0.003)
AEIS Anglo Dropout Rate	0.768	
	(0.080)**	
Cohort Anglo Dropout Rate		0.866
		(0.055)**
Average Teacher Salary	-0.000	-0.000
	(0.000)	(0.000)
Average Teacher Experience	0.483	0.040
	(0.164)**	(0.021)
Class Size	43.905	8.384
	(55.465)	(6.995)
Instructional Expenditures	-0.002	-0.000
	(0.001)	(0.000)
Median Home Value	0.000	0.000
	(0.000)	(0.000)
% Hispanics W/0 HS Diploma/Equivalency	0.097	0.006
	(0.026)**	(0.003)
District Growth	10.505	0.213
	(11.658)	(1.468)
Constant	0.685	0.291
	(6.141)	(0.770)
Observations	1510	1510
Number of Districts	394	394
Adjusted R-squared	0.29	0.47

Standard errors in parentheses
* significant at 5%; ** significant at 1%

Table 2: Hispanic Completion Rates and ELL Service			
	Hispanic Continued HS Education Rate	Hispanic GED Rate	Hispanic Graduation Rate
Bilingual Program	1.199	0.778	−3.160
	(0.491)*	(0.531)	(1.064)**
% LEP Not in ELL Programs	−0.055	0.035	−0.141
	(0.043)	(0.047)	(0.094)
Logged LEP Enrollment	0.838	−0.187	−1.037
	(0.210)**	(0.223)	(0.450)*
% LEP	−0.004	−0.030	0.060
	(0.018)	(0.019)	(0.039)
Anglo Continued HS Ed.	0.540		
	(0.065)**		
Anglo GED Rate		0.489	
		(0.047)**	
Anglo Graduation Rate			0.549
			(0.056)**
Average Teacher Salary	−0.000	−0.000	0.000
	(0.000)	(0.000)	(0.000)
Average Teacher Experience	0.168	0.255	−0.885
	(0.117)	(0.125)*	(0.252)**
Class Size	−89.298	−62.302	112.478
	(39.463)*	(42.392)	(85.666)
Instructional Expenditures	0.000	0.002	−0.000
	(0.001)	(0.001)*	(0.002)
Median Home Value	0.000	0.000	−0.000
	(0.000)**	(0.000)**	(0.000)**
% Hispanics W/O HS Diploma/Equivalency	0.014	0.030	−0.135
	(0.019)	(0.020)	(0.041)**
Growth	−1.069	−0.173	−8.500
	(8.275)	(8.908)	(17.941)
Constant	5.596	−3.430	40.062
	(4.327)	(4.655)	(9.965)**
Observations	1510	1510	1510
Number of DISTRICT	394	394	394
Adjusted R-squared	0.49	0.27	0.38

Standard errors in parentheses
* significant at 5%; ** significant at 1%