

A Measurement of College Preparedness for Limited English Proficiency Students: A Statewide
Study

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Introduction

The number of English language learners in U.S. schools continues to grow while the effect of bilingual/ESL programs on college readiness is uncertain. Emphasis on success in college is at the forefront of a standards based reform where students and schools strive for a college ready stamp of approval. However, in the 2011-2012 school year 830,795 students (16.9%) in the state of Texas had the label of limited English proficient (LEP), learning two languages at once within schools that vary significantly in their characteristics. Not enough is known about the preparation these schools provide for students hoping to enter college after graduation. The purpose of this study is to analyze campus level predictors related to language support education and their association with the college readiness of LEP students graduating from high school in Texas using a multiple regression model of analysis.

This study is an examination of data from annual reports on the performance of students across the 8,526 schools in Texas. The performance indicators within these reports most important to this research include three college-ready measures: Advanced Course/Dual Enrollment Completion, Recommended High School Program/Distinguished Achievement Program Graduates, and Texas Success Initiative (TSI) Higher Education Readiness in Reading Component. The reports, conducted by the Texas Education Agency (TEA), also provide detailed information on staff composition, finances, programs, and demographics for each campus in the state allowing for the opportunity to explore various predictors of college readiness.

These campus level predictors serve as the independent variables explaining how the allocation of resources for language support programs and related campus inputs determines college readiness for bilingual learners in Texas. The focus will be on the correlation between the language support program predictors and college readiness measures determining the overall program effectiveness for campuses statewide and providing the context for reform in an area of education with a rapidly growing student constituency.

College Readiness

What does it mean to be college ready? There are multiple measures of college readiness. The most common examples include achievement tests (SAT, ACT) and high school GPA. However, college readiness is increasingly dependent on factors such as the number of remedial courses a student must take their freshman year and what type of advanced curriculum they took and passed in high school. The ACT (2007) defines college readiness as the preparation needed to enroll and succeed in a two or four year institution without remediation. Incidentally, many of the students who do graduate from high school require remediation. According to Attewell, Lavin, Domina, and Levey (2006) there are 40% of undergraduates needing to enroll in at least one remedial course upon entering their first year of post-secondary education. This recent increase in remediation for high school graduates entering college underlines the importance of research into better program design and campus supports for public secondary school systems.

For the purpose of this study three separate college readiness measures were chosen to give a comprehensive evaluation of the factors influencing a student's chance of college success as they graduate from high school. Two of the college readiness measures (Advanced Courses/Dual Enrollment LEP Completion Rate and Recommended High School Program or

Distinguished Academic Program LEP Graduates %) are related to curriculum and coursework preparation in high school. These measures should provide a clear picture of students who have taken high school classes with a format similar to what they might experience in college. The third measure of college readiness is assessment based. The Texas Success Initiative LEP Exemption Rate in Reading is a percentage of students that test out of remediation in the area of reading. Texas uses a cut score on their state-wide exams in order to determine students that graduate high school but that do not meet the assessment based criterion for college readiness in math and reading. I specifically chose to use only the reading assessment exemption rate because of the strong cross over that reading preparedness could have for multiple subjects taken by freshmen in college (Williams, Skinner, & Jaspers, 2007). Figure 1 gives a complete breakdown of the college readiness measures use in this study.

Figure 1. College Readiness Measures Explained

Dependent Variables: College Readiness Measures		
Advanced Courses/Dual Enrollment LEP Completion Rate	Recommended High School Program or Distinguished Academic Program Graduates LEP %	Texas Success Initiative LEP Exemption Rate in Reading
<ul style="list-style-type: none"> ❖ The values, expressed as a percent, are calculated as follows: number of students in grades 9-12 who received credit for at least one advanced or dual enrollment course in 2009-10 <i>divided by</i> number of students in grades 9-12 who completed at least one course in 2009-10. ❖ Advanced courses include dual enrollment courses. Dual enrollment courses are those for which a student gets both high school and college credit. ❖ Examples of advanced courses offered are English Language and Composition, English Literature and Composition, International English Language, Calculus AB, Calculus BC, AP Statistics. 	<ul style="list-style-type: none"> ❖ This indicator shows the percent of graduates who were reported as having satisfied the course requirements for the Texas State Board of Education Recommended High School Program or Distinguished Achievement Program. It is calculated as follows: ❖ Number of graduates reported with graduation codes for Recommended High School Program or Distinguished Achievement Program divided by number of graduates 	<ul style="list-style-type: none"> ❖ This shows the percent of graduates who scored at or above the criterion score on the TAKS, SAT, or ACT English language arts tests. ❖ Number of graduates who scored at or above the College-Ready criterion for ELA divided by number of graduates (class of 2010) with ELA results to evaluate.

Source: Glossary for the Academic Excellence Indicator System 2010-11 <http://ritter.tea.state.tx.us/perfreport/aeis/2011/glossary.html>

Research Review

Gap in College Readiness for Language Minorities

Among the most persistent issues in American education is college readiness. President Obama added emphasis to this issue with the Race to the Top (RTTT) federal program, an incentive-based policy for states looking to earn part of the \$4.35 billion offered as grant money. Regaining the international lead in college attainment by 2020 is explicit in the foundation of RTTT, yet the realities of such an accomplishment are unclear. As Kevin Carey notes (2010), nearly 30% of four-year college students and nearly 60% of community college attendees are forced to take remedial courses, a factor highly associated with dropping out. Language minority students face a difficult path from high school to college. When compared to their English-speaking counterparts, language-minorities lag in post-secondary enrollment and educational attainment (Klein, Bugarin,& Beltranena, 2004). Only 6% of young adults who speak and read English with difficulty successfully enroll in a post-secondary institution (Klein, Bugarin,& Beltranena, 2004). Despite federal policy initiatives, no one has determined what works as effective instruction for language minorities to be 'college ready'.

Determining Which Programs are Most Effective for Language Minorities

Programs that use a bilingual learner's first language for more effective instruction exist and are met with support and critique. Evidence from schooling with support in a student's first language in conjunction with balanced support in English suggests higher academic achievement than in English-only instructional settings (Collier, 1992). Professional literature consistently demonstrates the advantages that bilingual/ESL programs have over English-only methods for educating English Language Learners (ELLs) (Crawford, 2007; Krashen, 2005).

Critics of bilingual/ESL programs support English-only instruction as a method for rapid assimilation, which leads to success in our English-dominant social and academic contexts (Grooms, 2012). Bali (2001) found that the cessation of bilingual/ESL programming for language minority students in California after the passage of Proposition 227 had no effect on achievement relative to language minorities not receiving bilingual/ESL programming. Despite the two sides of the bilingual/ESL debate, research concerning the college-readiness for language minority students is scarce.

Class Size and Attendance Rate

Fry (2008) suggests that a lag in achievement by language minority students is attributable in part the characteristics of the schools they attend. Higher enrollments and larger student to teacher ratios are found to be characteristic of schools with a language minority population. The American Federation of Teachers (2002), strongly recommends smaller class sizes in schools with significant language minority enrollments. This coupled with family involvement promoting school attendance establishes early intervention systems in response to struggling students. Additionally, research has shown that for language minority students and general population high school students, attendance is a strong positive predictor of grade achievement and higher course passing rates (Allensworth & Easton, 2007; Gwynne, J., Pareja, A., Ehrlich, S., & Ainsworth, E., 2012).

Trends in national education reform agendas suggest the need for more insight into the postsecondary transition for students learning English as a second language. As college enrollment immediately after high school becomes more emphasized at the federal level with RTTT, and language minority populations expand, a national solution to the gap in college

readiness for students enrolled in language support programs intensifies. The goal of my analysis of the college readiness of LEP students in Texas is to highlight differences in language minority instruction and campus level student supports. There are important implications for these differences. Gaps in college readiness for language minorities will likely persist if appropriate intervention is not provided at the state and local levels of public education.

Data

The target population for this study consists of students who enrolled in Texas public schools in the academic year ending in June 2012. The Texas Education Agency, a branch of the state government, annually collects a wide range of information on school districts, individual schools, educators, and students through a system known as the Public Education Information Management System (PEIMS). Within PEIMS, the data for this study are found in archived reports known as the Academic Excellence Indicator System (AEIS). Published annually since 1990-91, this report contains student achievement information and demographic information on all public school districts in the State of Texas. AEIS serves as the main accountability system currently in place in the State of Texas. Readily available to the public, this system includes the data that are used for campus and district annual ratings. In making this study possible, the performance on most of the student achievement indicators is grouped by student LEP status. The reports also provide detailed information regarding campus demographics, school finances, and staff characteristics.

Overall Student and Staff Population

Table 1 presents descriptive statistics on all students enrolled in schools state-wide. Hispanic students make up more than half the population and are the majority ethnic group

represented. The number of bilingual/ESL program students and LEP students are at 16.2% and 16.9 % of the population state-wide. Also of note is the high percentage of economically disadvantaged students, 59.2% of the population.

As a snap shot view of college readiness, descriptive statistics related to the three dependent variables taken at the campus level are provided in Table 2. For the first dependent variable, Advanced Courses/Dual Enrollment Rate, the mean enrollment rate for all students was 18.5% compared to 6.5% for LEP students. Regarding the second dependent variable, 73% of all students at the campus level graduated within the Recommended High School Program or Distinguished Academic Program compared to 29.6% of LEP students. For the final dependent variable, Texas Success Initiative Exemption Rate in Reading, the mean exemption rate for all students at the campus level was 55.4% compared to 1.9% for LEP students.

Table 3 presents staff state-wide descriptive statistics, revealing that 24% of teachers during the 2011 school year were Hispanic and only 5% were devoted to bilingual/ESL programs as compared to 16.9% of students enrolled in these programs. A quick analysis of descriptive statistics alone would suggest the need for more qualified staff, representative of a large Hispanic and language minority population.

Table 1. Descriptive Statistics for all Students in the State of Texas 2011 School Year

	Count	Percent
Total Students	4,912,385	
Demographic Distribution		
African American	635,400	12.90%
Hispanic	2,468,574	50.30%
White	1,531,757	31.20%
Asian	168,913	3.40%
Two or More Races	78,178	1.60%
Bilingual/ESL Enrollment	796,755	16.20%
Economically Disadvantaged	2,909,554	59.20%
Limited English Proficiency	830,795	16.90%
Students w/ Disciplinary Placements (2009-2010)	92,810	1.90%
At-Risk	2,275,179	46.30%

Source: Texas Education Agency, 2011 State Snap Shot <http://ritter.tea.state.tx.us/perfreport/snapshot/2011/state.html>

Table 2. Campus Level Descriptive Statistics for College-Ready Criterion

	N	Mean	Std. Deviation
Percent of Students Classified as LEP	8,526	15.73%	19.35%
Advanced Courses/Dual Enrollment Completion Rate All Students	2,016	18.54%	17.15%
Advanced Courses/Dual Enrollment LEP Completion Rate	1,506	6.47%	12.34%
Recommended High School Program or Distinguished Academic Program Graduates All Students %	1,704	73.02%	26.89%
Recommended High School Program or Distinguished Academic Program Graduates LEP %	870	29.61%	36.65%
Texas Success Initiative Exemption Rate in Reading All Students	1,734	55.38%	25.83%
Texas Success Initiative LEP Exemption Rate in Reading	1,734	1.87%	8.63%

Source: Texas Education Agency, AEIS 2010-2011 Download of Selected Data <http://ritter.tea.state.tx.us/cgi/sas/broker>

Table 3. Descriptive Statistics for Teacher Characteristics

Summary Level	State of Texas (incl. Charters)
Teachers	
% With 5 or Fewer Years of Experience	36%
Average Years of Experience	11.4%
% With Advanced Degrees	22.4%
Teacher Turnover Rate	11.9%
% African American	9%
% Hispanic	24%
% White	64%
% Regular Education	73%
% Special Education	9%
% Compensatory Education	3%
% Bilingual/ESL Education	5%
% Career & Technical Education	4%
% Other Education (Includes G & T)	5%

Source: Texas Education Agency, 2011 State Snap Shot <http://ritter.tea.state.tx.us/perfreport/snapshot/2011/state.html>

LEP and Bilingual/ESL Student Population

The distribution of LEP students across schools is shown in Figure 2. A snapshot of the 2011 school year shows a mean of 15.7% of the student body at the campus level classified as LEP. Figure 3 reveals the distribution of bilingual/ESL students across schools during the 2011 school year. 15.1% was the mean for students enrolled into a bilingual/ESL program across campuses. The similarity of distribution for LEP students and students receiving bilingual/ESL programming means that most, but not all LEP students receive instructional language support. An explanation for this slight gap in received services in the AEIS reports is that “LEP students are identified as limited English proficient by the Language Proficiency Assessment Committee (LPAC) according to criteria established in the Texas Administrative Code,” and that “not all students identified as LEP receive bilingual or English as a second language instruction, although most do” (TEA, 2011-2012).

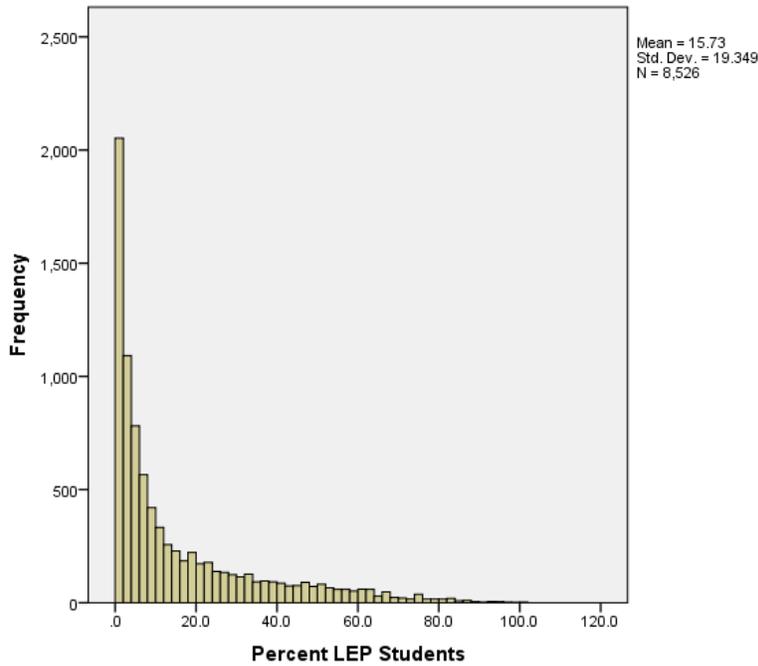
The distribution of LEP and bilingual/ESL students across schools in Texas also shows that over 2,000 schools have a LEP and bilingual/ESL student population representing at most 2% of all the students enrolled. However, the frequency charts reveal that the majority of these schools have no LEP or bilingual/ESL students evident in the mode of zero students for both. The median of 36 LEP students and 33 bilingual/ESL students at the campus level could indicate that small pockets of these students exist throughout the state possibly explaining under representation of bilingual/ESL staff and language minorities’ low enrollment in post-secondary programs.

Figure 4 shows a scatterplot of the percent of bilingual teachers measured against percent bilingual/ESL students at the campus level. According to the scatterplot there is a strong linear relationship between these two campus measures. As expected, when there are a larger

percentage of bilingual/ESL students there are also a larger percentage of bilingual teachers on campus. However, the scatterplot also reveals a shortage of bilingual teachers for schools with a substantial number of bilingual/ESL students. In fact, the scatterplot shows a significant collection of schools with 0-1% bilingual teachers while up to 80% of their student body is bilingual/ESL students. In addition, there is a pronounced cluster of schools that fall in the category of having 20-60% bilingual/ESL students with less than 20% of their teachers who are prepared to teach in a bilingual classroom. In schools with large numbers of language minority students this discrepancy could translate into large class sizes or students who receive less bilingual/ESL instruction than they need.

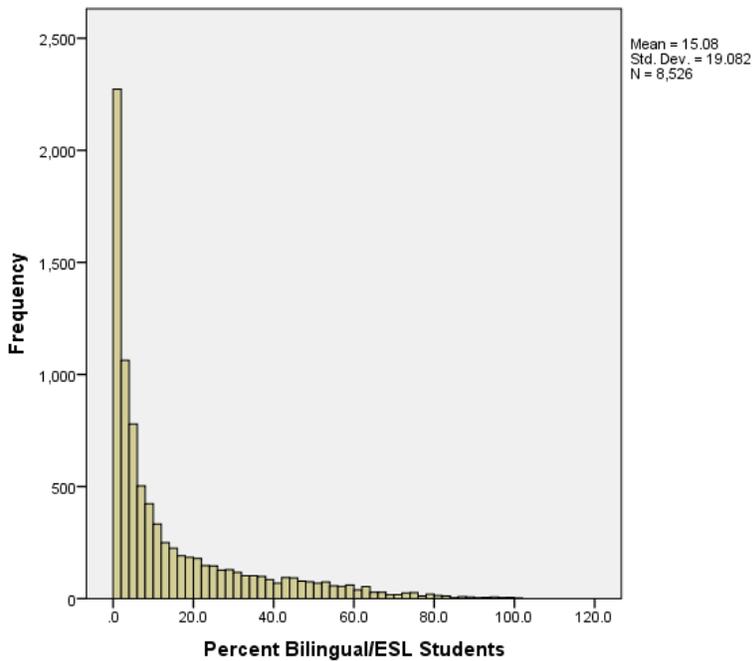
One of the most important findings in this study is the influence on college readiness that percent of Hispanic teachers and percent of bilingual/ESL students on campus has. As noted previously in Table 2 there are large gaps of college readiness between LEP students and all students in the three measures used in this study. The percent of bilingual teachers present on campus represents one important area of focus that could have a significant impact for schools and students serving a large number of language minorities.

Figure 2. Distribution of LEP Students Across Schools, 2011.



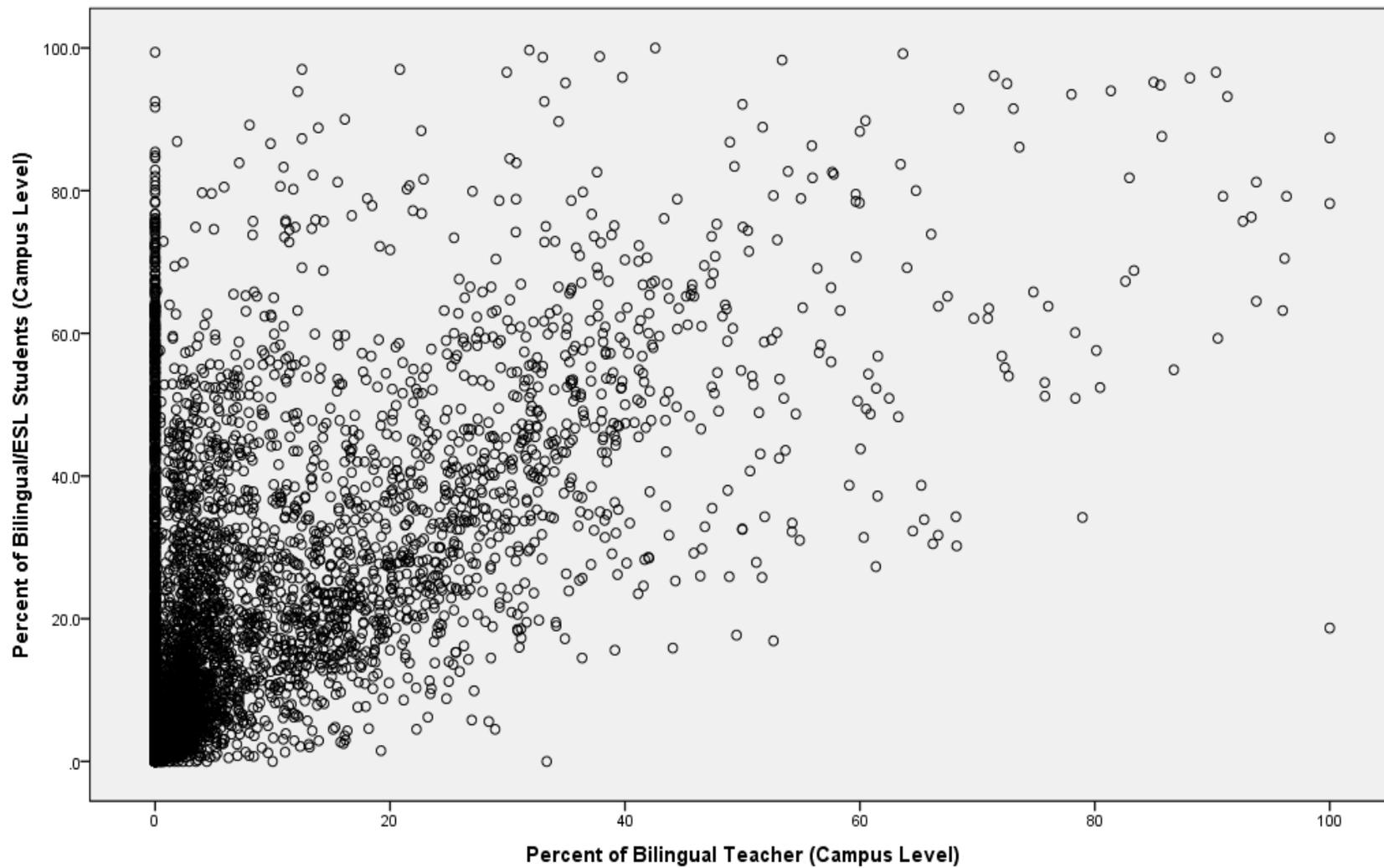
Frequencies: LEP Students (Campus)		
N	Valid	8526
	Missing	0
Mean		97.443
Median		36.000
Mode		.0
Minimum		.0
Maximum		936.0
Percentiles	25	7.000
	50	36.000
	75	136.250

Figure 3. Distribution of Bilingual/ESL Students Across Schools, 2011.



Frequencies: Bilingual/ESL Students (Campus)		
N	Valid	8526
	Missing	0
Mean		93.450
Median		33.000
Mode		.0
Minimum		.0
Maximum		935.0
Percentiles	25	5.000
	50	33.000
	75	130.000

Figure 4. Percent of Bilingual Teachers Measured Against Percent Bilingual/ESL Students



Data Analyses

College readiness within a school system can vary depending on a variety of factors such as the hiring of properly trained teachers, program funding for the implementation of new curricula, and support services for at-risk students during the high school to college transition. Moore et al. (2010) argue that “schools can take actions to improve the numbers of college ready graduates in the areas of teacher development and special program implementation” (p. 832). Instructional strategies and interventions for students at risk of dropping out can also insure that students leave high school more prepared for a post-secondary education (Moore et al., 2010). In this study, a multiple regression analysis is used to determine the contribution one campus level variable has amongst other important campus level variables influencing college readiness. As Keith suggests (2006), school systems are a perfect example of a complex, multifaceted system with interrelated factors influencing an outcome. In Texas, the size and diversity of the student population presents a challenge for policy makers and educators (see Table 1). In an analysis of LEP student college readiness, there are multiple variables simultaneously influencing the measured outcome. A multiple regression analysis is a useful method for observing the influence of individual predictor variables and to measure the combined effect of groups of predictor variables on the outcome of interest, LEP college readiness.

Variables

It is important to note that I am only using independent variables measuring the performance of students with limited English proficiency (LEP). AEIS data come sorted by campus demographics making this important part of the analyses possible. College readiness, serving as the dependent variable, is a measure of three unique achievement indicators taken from the Texas Academic Excellence Indicator System (AEIS, 2010). All college readiness

indicators exist separately but may be used by AEIS reports to provide a picture of the college preparedness across campuses. The three featured college readiness indicators are: Advanced Course/Dual Enrollment Completion, Recommended High School Program/Distinguished Achievement Program Graduates, and Texas Success Initiative (TSI) Higher Education Readiness in Reading Component (Figure 1). All three of these achievement indicators are individually regressed on a block of independent variables consisting of student, staff, and campus predictors.

The independent variables used are: Percent of Teachers Bilingual, Percent of Teachers Hispanic, Percent of Students Bilingual, Attendance Rate LEP Students, Teacher to Student Ratio, Per Pupil Expenditures, and Per Pupil Bilingual Program Expenditures. The independent variables are chosen from various characteristics of the school campus with the purpose of isolating where college readiness is influenced most for language minority students. Two of the independent variables are not directly related to services provided to language minorities or students classified as LEP (Teacher to Student Ratio and Per Pupil Expenditures). These variables were included because of their relationship to the college readiness variables indicated in the Pearson correlation coefficient analysis (Table 4).

Table 4. Pearson correlation coefficients for all variables.

<i>College Readiness Measures</i>		Bilingual Teachers %	Hispanic Teachers %	Bilingual Students %	Attendance Rate (LEP)	Teacher Student Ratio	Per Pupil Total Expenditures	Per Pupil Bilingual Program Expenditures
<i>Advanced Courses/Dual Enrollment Rate (LEP)</i>	Pearson Correlation	.023	.124**	.048	.332**	.285**	-.160**	-.014
	Sig. (2-tailed)	.377	.000	.063	.000	.000	.000	.599
	N	1483	1483	1506	1506	1483	1484	1484
<i>Recommended High School Program % (LEP)</i>	Pearson Correlation	.216**	.323**	.386**	.272**	.339**	-.148**	.117**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.001
	N	865	865	870	865	865	867	867
<i>TSI Reading Rate (LEP)</i>	Pearson Correlation	.240**	.108**	.322**	.259**	.298**	-.100**	.138**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000
	N	1645	1645	1668	1400	1645	1649	1649

**Correlation is significant at the 0.01 level (2-tailed).

Results of the Pearson correlation coefficient analysis show that the Advanced Courses Rate (LEP) college readiness measure correlates significantly ($r = .124$) with the percentage of teachers who are Hispanic on campus. The percentage of LEP students enrolled in a recommended high school program and the LEP TSI Reading rate also correlate significantly ($r = .323$, $r = .108$) with percentage of teachers who are Hispanic on campus. All three of the college readiness measures correlate significantly with LEP attendance rate ($r = .332$, $r = .272$, $r = .259$) and teacher to student ratio ($r = .285$, $r = .339$, $r = .298$). It is also important to note that per pupil total expenditures negatively correlates with each college readiness measure at a significant level ($r = -.160$, $r = -.148$, $r = -.100$) suggesting that more expenditures have an inverse effect on college readiness for LEP students. The strongest correlation shown is between percentage of bilingual students on campus and percentage of LEP students enrolled in the recommended high school program.

These Pearson correlation coefficient results suggest a relationship between college readiness measures and student, staff, and campus predictors. A multiple regression analysis will help to illustrate the effect of specific predictor variables when the combined effect of all predictors is measured on college readiness (Hill, 2007). Tables 5, 6, and 7 present multiple regression models for each college-readiness variable and all seven campus level predictors.

Advanced Courses/Dual Enrollment LEP Rate

When the dependent variable Advanced Courses/Dual Enrollment LEP rate was regressed on all the campus level predictors an $R^2 = .145$ is produced (see Table 5). Therefore 14.5 % of the variance in Advanced Courses/Dual Enrollment Rate for LEP students can be explained by the chosen predictor variables. Furthermore, these results suggest that as LEP

student attendance rate and teacher to student ratio increase they have a significant positive effect on the rate of LEP students enrolled in advanced or dual enrollment courses.

Recommended High School Program Percent LEP Enrollment

When the dependent variable Recommended High School Program Percent LEP Enrollment was regressed on all the campus level predictors an $R^2 = .272$ is produced (see Table 6). This means that 27.2% of the variance in the criterion variable can be explained by the predictor variables. This is also almost twice the predictive power that was shown for the regression of Advanced Courses/Dual Enrollment LEP rate on the predictor variables. The predictor variables had the strongest effect on the recommended high school program Percent LEP enrollment variable. Holding all else constant, every percent increase in the number of bilingual/ESL students on campus resulted in a .996 % increase in LEP students enrolled in a recommended high school program. Also, the percent of Hispanic teachers (.241) and LEP attendance rate (.200) had a significant positive effect on the percent of LEP students enrolled in the recommended high school program.

Texas Success Initiative LEP Exemption Rate in Reading

When the dependent variable Texas Success Initiative LEP Exemption Rate in Reading was regressed on all the campus level predictors an $R^2 = .156$ is produced (see Table 7). This means that 15.6% of the variance in the criterion variable can be explained by the predictor variables. Similar to the Advanced Courses/Dual Enrollment criterion variable, the TSI LEP exemption rate in reading had a significant and positive relationship with the attendance rate predictor variable. For every percent increase in the number of LEP students in attendance the percent of students above college-ready criterion increases (.023 %).

Table 5. Multiple Regression- Advanced Courses/Dual Enrollment LEP Rate

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.380 ^a	.145	.140	11.505		

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	32757.931	7	4679.704	35.357	.000 ^b
	Residual	193899.370	1465	132.355		
	Total	226657.301	1472			

Coefficients^a						
Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
1	(Constant)	-6.052	1.468		-4.121	.000
	Camp_TeachBilProg_Percent	-.083	.119	-.023	-.698	.486
	Camp_TeachHISP_Percent	.040	.013	.081	3.044	.002
	Campus_BilEsl_Stud_Percent	-.044	.043	-.035	-1.018	.309
	Campus_AttendanceRate_LEP	.076	.008	.261	9.755	.000
	Camp_TeacherStudentRatio	.570	.094	.190	6.049	.000
	Camp_ExpendByProg_PerPupil	2.815E-5	.000	.015	.492	.623
	Camp_ExpendByProg_Bilingual_PerPupil	-.001	.001	-.018	-.651	.515

a. Dependent Variable: Campus_AdvCourses_LEP_Rate

Table 6. Multiple Regression- Recommended High School Program % LEP Enrollment

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.522 ^a	.272	.266	31.450		

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	314930.672	7	44990.096	45.485	.000 ^b
	Residual	842728.922	852	989.118		
	Total	1157659.593	859			

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-29.088	6.464		-4.500	.000
	Camp_TeachBilProg_Percent	-.131	.381	-.013	-.344	.731
	Camp_TeachHISP_Percent	.241	.047	.171	5.102	.000
	Campus_BilEsl_Stud_Percent	.996	.156	.277	6.385	.000
	Campus_AttendanceRate_LEP	.200	.039	.162	5.166	.000
	Camp_TeacherStudentRatio	2.281	.356	.227	6.407	.000
	Camp_ExpendByProg_PerPupil	8.872E-5	.000	.012	.359	.720
	Camp_ExpendByProg_Bilingual_PerPupil	-.013	.008	-.054	-1.655	.098

a. Dependent Variable: Campus_RecHSProg_LEP_Percent

Table 7. Multiple Regression- Texas Success Initiative LEP Exemption Rate in Reading

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.395 ^a	.156	.152	8.528		

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19099.861	7	2728.552	37.519	.000 ^b
	Residual	103268.276	1420	72.724		
	Total	122368.137	1427			

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-5.843	1.053		-5.549	.000
	Camp_TeachBilProg_Percent	.033	.110	.009	.297	.766
	Camp_TeachHISP_Percent	-.033	.010	-.087	-3.201	.001
	Campus_BilEsl_Stud_Percent	.307	.037	.280	8.387	.000
	Campus_AttendanceRate_LEP	.023	.006	.108	3.961	.000
	Camp_TeacherStudentRatio	.470	.070	.200	6.731	.000
	Camp_ExpendByProg_PerPupil	1.085E-6	.000	.001	.024	.981
	Camp_ExpendByProg_Bilingual_PerPupil	-.003	.002	-.041	-1.506	.132

a. Dependent Variable: Campus_TSI_LEP_Read_Rate

Discussion

The number of students identified as having limited English proficiency increases in Texas and nationwide every year. In the 2004 school year approximately 5.1 million language minority students were enrolled in U.S. schools, reflecting a more than 56 percent increase over the previous 10 year span (Kohler, 2007). In Texas, from 1997 to 2007 the number of students given the label of limited English proficiency (LEP) grew 51 percent, from 514,139 students to 731,304 students (Cortez, 2009). Unfortunately, the numbers of students who are college ready do not increase linearly to the growth of the LEP population in Texas. During the 2006-2007 school year, less than one-third of all high school graduates and one-fifth of all Hispanic high school seniors were college ready in both reading and math (Moore, 2010). This study represents an analysis of Texas school characteristics that are most effective in producing college-ready language minority students.

Attendance Rate

Much of the literature concerning language minority students enrolled in bilingual/ESL programs focuses on assimilation, all-English vs. native language development programs, and high stakes testing (Crawford, 2007). However, findings from Crawford's study regarding the influence of attendance rate for LEP students suggest that more time spent in school provides an increased opportunity for entry into higher education. In all three college readiness measures attendance rate at the campus level had a small positive effect on college readiness. The implications for this finding are in the area of funding. More money directed into daily school attendance interventions deserves consideration by administrators who decide on the distribution of campus level program funds. Sawyer and Gibson (2012) used ACT scores as college readiness

benchmarks and concluded that attendance consistently contributed to educational gains in grades 8-12 when continued interventions were in place.

Percent of Hispanic Teachers and Percent Bilingual/ESL Students on Campus

In two out of three of the college readiness measures percent of Hispanic teachers and percent of bilingual/ESL students on campus correlated positively with college readiness. This consistent positive correlation raises important questions in regards to compositions of schools. Should schools where a large percentage of the student body is Hispanic and bilingual have an ethnically and linguistically representative staff? Should school policy initiatives aimed at equal racial and ethnic distribution amongst school districts be reconsidered for communities with large numbers of LEP identified students?

Schmid, 2001, points out that “students who are most at-risk of academic failure are from poor and minority backgrounds that view schooling as an alienating force that provides unequal opportunities” (pg. 82). If schools were more inviting rather than alienating, students might feel more comfortable and motivated within their learning environment. LEP students would see more success when attending a campus where they have a large group of fellow LEP students as support. Furthermore, campuses with more native language supports in the form of qualified Hispanic teachers would provide resources for LEP students who struggle and need extra intervention. Novice teachers would also benefit from the shared pedagogical resources that more Hispanic teachers could provide to enhance the planning and implementation of lessons for LEP students.

Hagedorn et al., (2007) found that the idea of “critical mass” was an important predictor of Latino student success in a community college as demonstrated by higher enrollment in non-

remedial coursework and increased GPAs. Critical mass in terms of school communities relates to the level of ethnic and linguistic representation that brings comfort or familiarity for students within the educational environment. Furthermore, “the level of representation of Latino faculty on campus was also found to have significant impact on student success” (Hagedorn, et al., pg. 89). School level student body and staff composition could play an important role in the success of a language minority population in Texas where Hispanic students represent over half of the total school population.

Teacher/Student Ratio

My results indicate that for every unit of increase in teacher/student ratio we should expect a 2.43 percent increase in LEP students enrolled in the Recommended High School Program at the campus level holding all other variables constant. The Recommended High School Program variable represents one of the three college ready measures used. A similar positive correlation can be seen with the teacher/student ratio and the remaining college readiness variables. This relationship suggests that for LEP students, an increase in classroom teacher support has a significant effect on college readiness. The implication of this correlation is that funding for programs with a large proportion of LEP students is best directed towards classroom personnel. Rothstein and Miles (1995) note that Texas has a legal requirement to lower class sizes for bilingual students. A continuation and expansion of this policy is recommended to allow for an increased percentage of college ready LEP students leaving high school.

The purpose of this study was to isolate the effects of campus level characteristics on the college readiness of LEP students graduating from Texas high schools using a multiple

regression model of analysis. Not enough is known about the preparation that language support programs in Texas provide for its' 830,795 LEP students (16.9%) hoping to start college.

Considering the annual release of AEIS data, continued research in the area of college readiness for LEP students in Texas is vital. Study findings are limited to a small number of campus level predictors, and a thorough investigation of additional factors associated with the success of LEP students is necessary. The increasing representation of language minority students in Texas and nationwide coupled with a national push for college attendance indicates the need for more research and resource allocation in this important area of education.

References

- American College Testing (ACT). (2007). Rigor at risk: Reaffirming quality in the high school core curriculum. Iowa City, IA: Author.
- Allensworth, E., & Easton, J. Q. (2007). What matters for staying on-track and graduating in Chicago public high schools. Chicago: Consortium on Chicago School Research.
- American Federation of Teachers (2002). "Teaching English-Language Learners: What does Research Say?" *Education Issues Policy Brief*. Washington DC.
- Attewell, P., Lavin, D., Domina, T., & Levey, T. (2006). New evidence of college readiness. *Journal of Higher Education*, 77, 886-924.
- Bali, V. A. (2001). Sink or Swim: What Happened to California's Bilingual Students After Proposition 227? *State Politics & Policy Quarterly*, 1(3), 295-317.
- Carey, K. (2010). A 'race to the top'. *The Chronicle of Higher Education*, Retrieved from <https://ezproxy.library.nyu.edu/login?url=http://search.proquest.com/docview/214638001?accountid=12768>
- Collier, V. P. (1992). A Synthesis of Studies Examining Long-Term Language Minority Student Data on Academic Achievement. *Bilingual Research Journal*, 16(1&2).
- Cortez, A., & Villarreal, A. (2009). Education of English Language Learners in U.S. and Texas Schools – Where We Are, What We Have Learned and Where We Need to Go from Here - A 2009 Update. *Intercultural Development Research Association*.
- Crawford, J. (2007). The Decline of Bilingual Education: How to Reverse a Troubling Trend? *International Multilingual Research Journal*, 1(1), 33-37. doi: 10.1207/s19313160imrj0101_3

- Fry, R. (2008). *The Role of Schools in the English Language Learner Achievement Gap*. Washington DC. *Pew Hispanic Center*. June 2008.
- Grooms, A. M. (2012). *Bilingual Education in the United States: An analysis of the Convergence of Policy, Theory, and Research* (Doctoral dissertation, University of Pittsburgh, 2011). Ann Arbor, MI: UMI.
- Gwynne, J., Pareja, A., Ehrlich, S., & Ainsworth, E. (2012). *What Matters for Staying On-Track and Graduating in Chicago Public Schools: A Focus on English Language Learners* (Rep.). Chicago, Illinois: The University of Chicago Consortium on Chicago School Research. (ERIC Document Reproduction Service No. ED532513)
- Hagedorn, Linda Serra, Winny (YanFang) Chi, Rita M. Cepeda, and Melissa McLain. "AN INVESTIGATION OF CRITICAL MASS: The Role of Latino Representation in the Success of Urban Community College Students." *Research in Higher Education* 48.1 (2006): 73-91. Print.
- Hill, T. & Lewicki, P. (2007). *STATISTICS: Methods and Applications*. StatSoft, Tulsa, OK.
- Keith, T. Z. (2006). *Multiple regression and beyond*. Boston: Pearson Education.
- Klein, Steven, Rosio Bugarin, and Renee Beltranena. *Language Minorities and Their Educational and Labor Market Indicators - Recent Trends*. Rep. N.p.: National Center for Educational Statistics, 2004. Print.
- Kohler, A.D., and M. Lazarín. "Hispanic Education in the United States," NCLR Statistical Brief (Washington, D.C.: National Council of La Raza, 2007).
- Krashen, S. (2005). What Works? Reviewing the Latest Evidence on Bilingual Education. *Language Learner*, Nov/Dec, 7-10.

Moore, G. W., Slate, J. R., Edmonson, S. L., Combs, J. P., Bustamante, R., & Onwuegbuzie, A.

J. (2010). High School Students and Their Lack of Preparedness for College: A Statewide Study. *Education and Urban Society*, 42(7).

Rothstein, R., & Miles, K. H. (1995). Where's the Money Gone? Changes in the Level and Composition of Education Spending. *Economic Policy Institute*.

Sawyer, R., & Gibson, N. (2012). Exploratory Analyses of the Long-Term Effects of Improving Behavior, Attendance, and Educational Achievement in Grades 1 - 6 and 8 - 12. *ACT Research Report Series*, 3.

Texas Education Agency. Glossary for the Academic Excellence Indicator system 2011-2012 Report. Available: <http://ritter.tea.state.tx.us/perfreport/aeis/2012/glossary.html>

Williams, Robert L., Christopher H. Skinner, and Kathryn E. Jaspers. "Extending Research on the Validity of Brief Reading Comprehension Rate and Level Measures to College Course Success." *The Behavior Analyst Today* 8.2 (2007): n. pag. Print.