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Title:

The correlates of academic performance for English learner students in a New England district

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Abstract Body

Background/Context:

English learner students are one of the fastest growing subgroups in America's schools (Bos et al., 2012), and gaps between English learner students and their native English-speaking peers in academic outcomes remain large in most districts and states (Simon et al., 2011). Current research on English learner students highlights multiple factors that may influence their academic outcomes, including English learner program pathways (e.g., two-way bilingual, structured English immersion), English learner student characteristics, the demographic characteristics of the schools that English learner students attend, and English proficiency levels.

In Connecticut, the population of English learner students grew 39.7 percent between 2001 and 2010, and now constitutes 5.3 percent of Connecticut's student population, up from 3.8 percent in 2001/02 (National Center for Education Statistics, n.d.), and the performance gaps identified nationally are also found in Connecticut. For example, while 52.5 percent of native English speakers scored proficient or above on the grade 8 Connecticut Mastery Test (CMT) math assessment in 2010/11, only 26.8 percent of English learner students did (Connecticut State Department of Education, n.d. a). Administrators across the state face the challenge of providing programs and services to meet diverse English learner needs (Wainer, 2004; Zehler et al., 2008).

Purpose/Objective/Research Question/Focus of Study:

Focusing on a large urban district in Connecticut, this study examines three research questions:

1. What were the characteristics of English learner students and of the English learner programs and schools they attended in 2010/11?
2. Which student characteristics, types of English learner programs, and school characteristics were most closely related to English learner students' English proficiency scores in 2010/11?
3. Which student characteristics, including English proficiency levels, and which types of English learner programs were most closely related to English learner students' math and reading performance?

Setting:

A large urban district in Connecticut with a share of just over 10 percent of English learner students in its student population was selected as the site for this study.

Population/Participants/Subjects:

This study examines data for all English learner students in grades K–12 in the study district who took the Language Assessment Systems Links (LAS Links) English language proficiency assessment in spring 2011. The analysis sample for research questions 1 and 2 included all students who took the LAS Links; the analysis sample for research question 3 was limited to the subset of students who also took the state math or reading assessments (the CMT is administered in grades 3–8 and the CAPT in grade 10) in 2010/11.

Intervention/Program/Practice:

Not applicable.

Research Design:

The study used administrative data from the study district to conduct descriptive statistics and regression analyses to address the research questions.

Data Collection and Analysis:

Student data, including English learner program enrollment, were obtained from the district, and school data from the state website.

To address Research Question 1 about the characteristics of English learner students and of the English learner programs and schools they attended in 2010/11, frequencies and percentages were calculated for the following student, program, and school characteristics: *Student characteristics*: special education status, immigrant status, gender, race/ ethnicity, home language, attendance rate, and English learner program. *Types of English learner programs*: transitional bilingual education, dual language bilingual education, English as a second language,¹ or eligible for an English learner program but not served due to parent request. *School characteristics*: school size, percentage of English learner students, percentage of students in special education, percentage of racial minority students, percentage of students eligible for free or reduced-price lunch, percentage of English learner students taught by English learner-certified teachers, percentage of students scoring proficient or higher on the state math assessment, and percentage of students scoring proficient or higher on the state reading assessment.

To address Research Questions 2 and 3 on which student, English learner program, and school characteristics were most closely related to English learner students' English proficiency and math and reading performance, regression models examined the association between student outcomes and student characteristics, types of English learner programs, and school characteristics. The student, program, and school characteristics were the same as for research question 1. The outcome was students' overall LAS Links English proficiency scores for research question 2 and math and reading performance on the CMT (grades 3–8) and CAPT (grades 9–12) for research question 3. Analyses were conducted separately for each grade span.

Findings / Results:

Characteristics of English learner students and of the English learner programs and schools they attended

While more than 90 percent of English learner students were Spanish-speaking and Hispanic, the percentage of those born in the United States varied by grade span. The percentage of English learner students born in the United States was higher in early grades than in later . For example, 17.7 percent of English learner students in grades K–1 were born outside the United States, compared with 54.2 percent in grades 6–8.

The percentage of English learner students in special education (15.9 percent) was higher than the district average for all students (12.0 percent). The percentage of English learner students in special education also varied by grade span, with the highest percentage in grades 6–8 (24.1 percent) and 4–5 (23.2 percent) and the lowest in grades K–1 (7.8 percent).

Participation in English learner programs varied across grade spans. The district provided a range of English learner programs, including transitional bilingual education, dual language bilingual, and English as a second language. Participation varied across grade spans in grades K–

¹ English as a second language services are broken into different categories, not included here due to space limitations.

12. About 5 percent of eligible students were not enrolled in any English learner program due to parent request.

Some school characteristics varied by grade span. The greatest variations among school characteristics were in the percentage of English learner students enrolled and the percentage of English learner students taught by English learner–certified teachers (table 4). Students in grades 9–12 attended schools with a lower percentage of English learner students than students in grades K–8. English learner students in grades K–1 attended schools in which 79.3 percent of English learner students were taught by English learner–certified teachers, while those in grades 9–12 attended schools in which 31.4 percent were taught by such certified teachers.

Relationships between student characteristics, types of English learner programs, and school characteristics and English proficiency scores

This section describes the findings from the multilevel and ordinary least squares regression models for research question 2 on the association between individual characteristics and students' English proficiency scores, holding all other characteristics at the weighted grand mean. Table 5 (insert here) presents the regression coefficients for the final models as standardized differences and their associated statistical significance.

Across all grade spans being in special education was associated with significantly lower English proficiency scores than the average for all English learner students. Student special education status was the only variable associated with English proficiency scores across all grade spans.

The differences in English proficiency for students enrolled in each English learner program varied by grade span. Enrollment in transitional bilingual education programs in grades K–8 was associated with lower English proficiency scores than the average for each grade span, as was participation in English as a second language services (for students speaking a language other than Spanish) in grades K–1, 4–5, and 9–12. Enrollment in dual language bilingual education programs in grades K–1 and 6–8 was associated with higher English proficiency scores than the average.

In some grade spans attending a higher performing school was associated with higher English proficiency scores. In grades 4–5 and 6–8 attending a school with a higher overall math proficiency rate was associated with higher English proficiency scores than the average for the grade span. Similarly, in grades K–1 attending a school with a higher overall reading proficiency rate was associated with higher English proficiency scores.

In all grade spans the variables associated with English proficiency scores explained similar percentages of variance in those scores. The variables associated with English proficiency scores explained 20.0–21.2 percent of the variance in those scores in grades K–1, 2–3, and 6–8 and 17.2 percent of the variance in grades 9–12. In grades 4–5 the retained variables explained the largest percentage of the variance in scores, 31.2 percent.

Relationship between student characteristics, types of English learner programs, and English proficiency scores and math and reading performance

This section describes the findings from the ordinary least squares regression models for research question 3 on the association between individual characteristics and student math and reading performance, holding all other characteristics in the model at the weighted grand mean.

The student characteristics associated with math and reading scores varied by grade span and content area. In each grade span different student characteristics were associated with math and

reading scores. Speaking a language other than Spanish was associated with higher math scores than the average for the grade span in grades 4–5 and higher reading scores in grades 3, 4–5, and 9–12 but lower math and reading scores in grades 6–8. Being in special education was associated with math scores lower than the average in grades 3 and 9–12 and reading scores lower than the average in all grade spans except grades 6–8.

In all grade spans students' English proficiency scores were associated with math and reading performance.

In all grade spans higher English proficiency scores were associated with higher math and reading scores. Previous studies have shown that scores on large-scale English proficiency assessments are associated with student performance on large-scale content assessments (Parker, Louie, & O'Dwyer, 2009). The results presented here confirm that finding across all grade spans. Students' English proficiency was the only characteristic consistently associated with math and reading scores across all grades and grade spans.

There were no clear patterns in the differences in math and reading scores across types of English learner programs.

At each grade span in math, at least one type of English learner program was associated with scores that differed from the average for the grade span. Students participating in a particular type of English learner program had scores above the average in some grade spans and below the average in other grade spans. For example, students receiving English as a second language services (for students speaking a language other than Spanish) in grades 4–5 had lower math and reading scores than the average for the grade span, while those in grades 6–8 had higher math and reading scores than the average for the grade span.

In most grade spans the variables associated with math and reading scores explained similar percentages of variance in math and reading performance.

In grades 3, 4–5, and 6–8 the variables associated with math and reading scores explained similar percentages of variance in these scores, although the variance differed across grade spans.

Conclusions:

While there are differences in performance on both the LAS Links and CMT/CAPT assessments by type of English learner program, the differences do not have a clear pattern. Further research should prioritize looking at English learner achievement longitudinally; the results of longitudinal research would provide more information on language acquisition patterns and could help policymakers identify indicators to show when students diverge from those patterns and could benefit from additional or different interventions. The value of the studies depends on the availability of more variables than were available for this study, including a baseline measure of English proficiency, annual scores on English proficiency assessments, shifts in enrollment in English learner programs over time, and other services provided (such as special education services and disability designations, as appropriate).

Finally, more research should also be done to better understand the relationship between English language proficiency and special education status. Previous research has noted that the identification of learning disabilities among English learner students can be challenging and is handled differently from district to district (Sánchez, Parker, Akbayin, & McTigue, 2010), as are policies about services provided to dually identified students.

For additional information about how findings were discussed with the district, <http://ies.ed.gov/ncee/edlabs/regions/northeast/pdf/NEIDiscussionTreeELLA.pdf> and Blog: http://www.relnei.org/blog_relnei/educators-respond-study-els-ne-district.

Appendices

Appendix A. References

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Appendix B. Tables and Figures

Table 5. Overall LAS Links English proficiency score regressed on student characteristics, types of English language learner programs, and school characteristics, by grade span (coefficients in standard deviation units)

Characteristic	Grades K–1	Grades 2–3	Grades 4–5	Grades 6–8	Grades 9–12
<i>Student characteristics (compared to grand mean)</i>					
Home language not Spanish	1.04**				
Immigrant status (born outside United States)				0.10**	
In special education	-0.42**	–	–	-0.57	-0.75**
		0.94***	0.56**		
			*		
Gender (female)			0.12*		
Race/ethnicity not Hispanic				-0.54	
Attendance rate	0.17***				
<i>Types of English language learner programs (compared to grand mean)</i>					
<i>Grades K–8</i>					
Transitional bilingual education	-0.28***	–	–	–	
		0.34***	0.63**	0.95***	
			*		
Dual language bilingual education	0.36	-0.06	-0.06	1.82	
Language transition support services	na	0.30***	0.20**	-0.06	
English as a second language services (for students speaking a language other than Spanish)	-0.59*	-0.20	-0.28	-0.24	
Eligible but not served due to parent request	0.73***	0.14	0.38	-0.02	
<i>Grades 9–12</i>					
Transitional bilingual education					-0.06
High school English as a second language					-0.17
Language transition support services					0.27
English as a second language (for students speaking a foreign language other than Spanish)					-0.49*
Eligible but not served due to parent request					0.59
<i>School characteristics</i>					
School size					
Percentage of English language learner					

Characteristic	Grades K–1	Grades 2–3	Grades 4–5	Grades 6–8	Grades 9–12
students					
Percentage of students in special education					
Percentage of racial/ethnic minority students					
Percent of students eligible for free or reduced-price lunch					
Percentage of English language learner students taught by English language learner–certified teachers					
School math proficiency rate (10 percent increment)	–0.33		0.02**	0.24**	
School reading proficiency rate (10 percent increment)	0.39*				

* $p < .05$, ** $p < .01$, *** $p < .001$.

LAS Links is Language Assessment Systems Links assessment.

na is not applicable because the type of program is not offered at that grade level.

Source: Authors' calculations based on data from the Connecticut State Department of Education.