

Biliteracy Seals in a Large Urban District in New Mexico: Who Earns Them and How Do They Impact College Outcomes?

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Biliteracy Seals in a Large Urban District in New Mexico: Who Earns Them and How Do They Impact College Outcomes?

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New Mexico is one of 48 states that offer a biliteracy seal to high school graduates to recognize their proficiency in a non-English language. The Regional Educational Laboratory Southwest English Learners Research Partnership collaborated with a large urban district in New Mexico to study the characteristics and college readiness of students who earned different types of biliteracy seals (state, district, and global seals), the number of students who met some requirements for a seal but did not earn one, and the effect of earning a seal on college outcomes. The study used data from three cohorts of grade 12 students in the district from 2017/18 to 2019/20. Between 2017/18 and 2019/20, 7 percent of graduates earned at least one type of biliteracy seal, and these graduates were more likely than graduates who did not earn a seal to be Hispanic, to be eligible for the National School Lunch Program, to be a current English learner student, to have ever been an English learner student, and to speak Spanish at home. Graduates who earned a biliteracy seal were more likely than similar graduates who did not earn a seal to enroll in college within one year of high school graduation. Finally, among graduates who enrolled in college, graduates who earned a biliteracy seal were more likely than graduates who did not earn a seal to enroll in a four-year college and to enroll in college full time. The New Mexico Public Education Department and district leaders can use the findings to decide how to expand access to biliteracy seals.

Why this study?

As part of ongoing efforts to support students' cultural and linguistic diversity, the New Mexico legislature passed House Bill 330 in 2014 authorizing school districts to award State Seals of Bilingualism-Biliteracy ("state seals"; see box 1 for definitions of key terms) on New Mexico high school diplomas (New Mexico Public Education Department, 2020a). The state seal provides a mechanism for the New Mexico Public Education Department and school districts to encourage students to pursue biliteracy and demonstrate the skills gained through the process to future employers and college admissions officers (New Mexico Public Education Department, 2020b).¹ To earn a state seal, students must demonstrate a minimum level of proficiency in speaking, reading, and writing in one or more non-English languages by high school graduation (Takanishi & Le Menestrel, 2017). Since 2015/16 New Mexico school districts have awarded 3,310 state seals covering 21 languages (New Mexico Public Education Department, 2021). However, as of 2020/21, only 27 percent of school districts and charter schools across the state offered the state seal (National Center for Education Statistics, 2021b; New Mexico Public Education Department, 2022). Some districts in New Mexico offer other options for earning a biliteracy seal in addition to the state seal.

For additional information, including background on biliteracy seals, technical methods, and supporting analyses, access the report appendixes at <https://ies.ed.gov/ncee/rel/Products/Publication/100913>.

1. According to student focus group data from early-adopter districts in New Mexico collected by the New Mexico Public Education Department, students who earned the state seal reported that their Spanish improved while working toward seal completion. Students who earned the state seal also reported that they could communicate better with Spanish-speaking customers at their jobs or were able to serve as communicators for family members more frequently (Regional Educational Laboratory Southwest, 2020).

Biliteracy seals provide one way for schools to recognize students' college and career readiness (Bae & Darling-Hammond, 2014). Currently, 48 states and the District of Columbia offer students the opportunity to earn a biliteracy seal, and approximately 91,000 biliteracy seals were earned nationwide in 2018 (Californians Together, n.d.; Chou, 2019). Understanding that biliteracy is an important component of college and career readiness in the country's increasingly linguistically diverse society, some colleges offer credit to students who graduate from high school with a seal (Heineke et al., 2018). Employers also value biliteracy. A 2017 study found that job advertisement postings aimed at bilingual workers increased fivefold between 2010 and 2015 and that the fastest growth in bilingual listings was for "high prestige" jobs, a category including financial managers, editors, and industrial engineers (New American Economy, 2017). Therefore, a biliteracy seal may signal to both colleges and employers that a student is prepared for college and careers. However, there is no empirical evidence to date on the college and career outcomes of students who pursue or earn a biliteracy seal, in New Mexico or nationwide.

To decide how to expand the biliteracy seal program, the New Mexico Public Education Department and district leaders wanted to know the characteristics and college readiness of students who earn different types of biliteracy seals and whether earning a seal improves college outcomes. In addition, they wanted to know whether students have equitable access to high schools that offer specific types of seals and the percentage of students who met some requirements for a seal but did not earn one. The Regional Educational Laboratory Southwest English Learners Research Partnership² conducted this study to provide actionable information to the New Mexico Public Education Department and district leaders that can inform decisions about how to expand access to biliteracy seals.

The study was conducted in a large urban district in New Mexico that serves a diverse student population and provides several options for students interested in earning a biliteracy seal and offers students the opportunity to fulfill requirements to earn more than one type of seal.³ In addition to the state seal,⁴ students who attend dual language schools in the district can earn a Spanish Bilingual Seal ("district seal") or a Spanish Bilingual Seal of Distinction ("district seal of distinction"). The district seal and district seal of distinction are offered only in Spanish and include several additional requirements: students must complete four credits in English language arts and four credits in Spanish language arts, complete four credits each in core courses taught in English and Spanish, enroll in an Advanced Placement course taught in Spanish, and receive a teacher recommendation.⁵ As of 2019/20, students attending any high school in the district can also earn a fourth type of seal: the Global Seal of Biliteracy ("global seal"; see box 1 for more information). The district began offering the global seal to provide another option for students to earn a seal.

Research questions

This study addressed seven research questions. The first research question focused on dual language high schools in the large urban district between 2017/18 and 2019/20, and the remaining six research questions focused on students who graduated from any high school in the large urban district between 2017/18 and 2019/20.

2. Southwest English Learners Research Partnership members include staff at the New Mexico Public Education Department and several local education agencies from various regions in New Mexico; faculty from New Mexico institutions of higher education; and staff from Dual Language Education of New Mexico, a nonprofit organization that supports dual language education programs in New Mexico.
3. The district accounted for one-third of seals granted in the state between 2017/18 and 2019/20 (New Mexico Public Education Department, 2022).
4. The study analyzes state seals in the following languages only: Spanish, Chinese, French, German, and Japanese. A large majority of the seals analyzed in this study are Spanish language seals. The district is currently establishing a process for students to earn a state seal in the Navajo and Zuni native languages, and this was not an option during the study period.
5. The district also offers a district seal in elementary and middle school to students who are promoted to grades 6 and 9, attend a dual language school, and meet other requirements, including participating in a three-hour dual language program in a state-endorsed bilingual multicultural program, completing a portfolio of work samples, and completing an interview focused on how they plan to continue to use their language skills.

School-level question

1. To what extent did high schools that offered the district seal and the district seal of distinction differ from high schools that did not offer these seals, with respect to student characteristics and achievement?

Student-level questions

2. How many and what percentage of graduates earned each type of biliteracy seal each year?
3. To what extent did the characteristics and college readiness of graduates who earned any type of biliteracy seal differ from those who did not earn a seal?
4. Among graduates of dual language high schools, to what extent did the characteristics and college readiness of graduates who earned a state seal differ from those who earned a district seal or a district seal of distinction?
5. How many graduates who partially or fully met the credit requirements and minimum grade requirements for the state seal did not earn one? Was there a difference between graduates who had ever been an English learner student and those who had never been an English learner student?

Impact questions

6. To what extent does earning any type of biliteracy seal compared with not earning a seal, and earning a district seal compared with earning a state seal, affect college enrollment within one year of high school graduation?
7. Among high school graduates who enrolled in college, to what extent does earning any type of biliteracy seal compared with not earning a seal, and earning a district seal compared with earning a state seal, affect enrollment in a college located in New Mexico, in a four-year college, and in college full time?

Definitions of key terms used in the report are in box 1. The data sources, sample, and methods used to answer the research questions are summarized in box 2 and detailed in appendix B.

Box 1. Key terms

English learner student. A New Mexico student whose primary home language is identified, through a parent survey or through the school, as other than English and who scored at or below 4.5 on the WIDA Kindergarten Screener or the WIDA Screener for Grades 1-12 (Cook & MacGregor, n.d.), both of which are language screening assessments.

Had ever been an English learner student. A New Mexico student who was identified as either a current English learner student using the New Mexico identification process for potential English learner students or a former English learner student who had been reclassified as fluent English proficient.

Graduates. Students who graduated from high school at the end of grade 12. The study did not include students who completed graduation requirements in grade 11 or who left high school without a diploma as graduates.

Global Seal of Biliteracy (global seal). A biliteracy seal option first offered in the 2019/20 school year in the large urban district in this study, the only district in the state currently offering this option. Requirements include completing three credits in English language arts or English language development in grades 9-11 and passing the Standards-based Measurement of Proficiency assessment in any non-English language. More details about the requirements for the global seal are in table A1 in appendix A. Students may earn a global seal in combination with the state and district seals. Results for the global seal are in appendix C.

State Seal of Bilingualism-Biliteracy (state seal). A biliteracy seal offered in New Mexico by a school district to recognize students who have attained proficiency in a non-English language. New Mexico school districts can grant the state seal through four pathways, but the large urban district in this study grants it through only two. Both pathways require four credits and grades of C or higher in the same non-English language. In addition, one pathway requires demonstrating proficiency on an assessment in a non-English language, and the other pathway requires submitting an alternative process portfolio in a non-English language. High schools select one of these two pathways for their students to earn a state seal. Students request that their school submit information to the district about whether they have met the requirements. There is no explicit English language proficiency requirement for the state seal; students who meet the graduation requirements are assumed to be English proficient. More details about the requirements for the state seal are in table A1 appendix A.

Spanish Bilingual Seal (district seal). A biliteracy seal offered by the large urban district in the study. It predates the state seal. To earn a district seal, students must attend a dual language high school, earn a grade point average of 2.0 or higher in English and Spanish courses, complete the required number of credits in those courses, and complete an alternative process portfolio in Spanish. District seals are granted only in dual language high schools and only in Spanish. More details about the requirements for the district seal are in table A1 in appendix A. Students who earn a district seal automatically meet the requirements for the state seal. The district also offers a biliteracy seal in elementary and middle school to students who are promoted to grades 6 and 9, attend a dual language school, and meet other requirements.

Spanish Bilingual Seal of Distinction (district seal of distinction). A biliteracy seal with requirements similar to those of the district seal except that the grade point average requirement is 3.5 in English and Spanish courses. Students who earn a district seal of distinction automatically meet the requirements for the district seal and the state seal.

Box 2. Data sources, sample, methods, and limitations

Data sources. Most student-level records data and all school characteristics data from 2017/18 through 2019/20 came from the large urban school district in New Mexico. Student-level data from the district included when a student was enrolled in the district, whether a student attended a dual language high school, whether a student earned each type of biliteracy seal, demographic characteristics, and academic characteristics (course enrollment, grade point average, end-of-course assessment scores, and college entrance exam scores), and student-level data from the National Student Clearinghouse included college enrollment records. School characteristics data included grade band, enrollment size, dual language school status, charter school status, and type of biliteracy seal offered.

The study team also obtained publicly available data on the characteristics of all colleges in the United States from the Integrated Postsecondary Education Data System (National Center for Education Statistics, n.d.). These data included two-year or four-year status, public or private status, average SAT or ACT scores, and location.

Sample. The study used data on three cohorts of students who were in grade 12 and attended one of 13 high schools in the large urban district in New Mexico in 2017/18-2019/20. The sample for research question 1, conducted at the school level, included 13 traditional, open enrollment (in grade 9) public noncharter high schools, 5 of which were dual language high schools. The sample for research questions 2, 3, and 4 was limited to the 12,184 unique students who graduated in 2017/18-2019/20. The sample for research question 5 was limited to the 2,595 unique students who graduated in 2017/18-2019/20 and completed at least two credits in a non-English language but did not earn a biliteracy seal. The sample for research question 6 was limited to students who graduated in 2017/18-2019/20. The comparison between graduates who earned any type of biliteracy seal and graduates who did not earn a seal included 6,801 unique students. The comparison between graduates who earned a district seal and graduates who earned a state seal included 351 unique students. The sample sizes for research question 7 were smaller. The comparison between graduates who earned any type of biliteracy seal and graduates who did not earn a seal included 4,861 unique students. The comparison between graduates who earned a district seal and graduates who earned a state seal included 271 unique students. The samples for research questions 6 and 7 exclude student groups in which fewer than 12 students earned a state seal over the three years in the district studied (students in special education, students in gifted education, American Indian students, Asian students, and Black students), as well as students for whom grade 8 grade point average was unavailable.

Methodology. For research question 1 the study team calculated the percentages of students with different characteristics and the average standardized achievement scores at the school level for high schools that offered district seals and for high schools that did not offer district seals. For research question 2 the study team calculated the numbers and percentages of graduates who earned each type of seal. For research question 3 and 4 the study team summarized student background characteristics by each type of seal earned. Differences between groups that are statistically significant and 5 percentage points or greater for binary characteristics are considered meaningful and are highlighted in the narrative. For continuous characteristics differences between groups that are statistically significant and 0.1 standard deviation or greater are considered meaningful and are highlighted in the narrative.

For research question 5 the study team analyzed credits completed and grades earned in a non-English language among graduates who completed at least two credits in a non-English language but did not earn a seal, overall, separately by whether graduates attended a school with the assessment or portfolio pathway, and separately by English learner status. The study team was able to obtain scores on two of the non-English language assessments that could be used to meet the requirements for a seal but could not obtain scores on the other assessments or alternative process portfolio scores, which can be among the requirements for a seal.

For research questions 6 and 7 the study team examined the effect of earning any type of biliteracy seal relative to not earning a seal by matching graduates who earned a biliteracy seal to graduates who did not earn a seal in the same year and in the same high school using student demographic characteristics and grade 8 grade point average. The study team used a similar procedure to examine the effect of earning a district seal relative to earning only a state seal.¹ By comparing the college outcomes of graduates who earned a district seal to the college outcomes of graduates who earned only a state seal, the study team was able to determine the effect of meeting the unique requirements for the district seal (which, unlike those for the state seal, include completing English language credits). The study team used regression models to compare the outcomes of the matched samples, resulting in an estimate of the effect of earning a seal on college enrollment one year after high school graduation. The study team also estimated the effects, among graduates who enrolled in college, of enrolling in a New Mexico college, enrolling in a four-year college, and enrolling in college full time one year after high school graduation. More details about the methodology are in appendix B.

Limitations. This study has five primary limitations. First, the findings may not generalize to other districts in New Mexico or to other states. The study included only one school district, which was not representative of all districts in the state with respect to student and school characteristics or the requirements to earn each type of biliteracy seal.² Second, the study had sufficient data to examine college outcomes only within one year of high school graduation and therefore could not examine how earning a seal affects longer-term outcomes such as college persistence and completion. Third, the analysis presented in research question 5 is limited because the study team was unable to obtain data on all the requirements for earning a state seal, such as scores on all eligible non-English language assessments and alternative process portfolio scores. Fourth, the COVID-19 pandemic may have impacted whether students earned a seal in 2019/20 and prevented the study team from obtaining standardized assessment data in 2019/20. Finally, the matching method for answering research questions 6 and 7 uses only available demographic characteristics and assessment scores, which may not fully account for differences, such as motivation, between graduates who earned a seal and graduates who did not.

Notes

1. Students who earn a district seal automatically meet the requirements for a state seal, but students who earn a state seal do not automatically meet the requirements for a district seal.

2. In 2018/19 the demographic characteristics of students in the large urban district were similar to the demographic characteristics of students in the state. For example, 17 percent of students in the district were English learner students compared with 16 percent in the state, 69 percent of students in the district were eligible for the National School Lunch Program (an indicator of economic disadvantage) compared with 72 percent of students in the state, and 66 percent of students in the district were Hispanic compared with 62 percent in the state (National Center for Education Statistics, 2020a, 2021a). However, the academic characteristics of students in the district differed from the academic characteristics of students in the state. In 2018/19 the four-year adjusted cohort graduation rate for students in the district was 70 percent compared with 75 percent for students in the state (National Center for Education Statistics, 2020b).

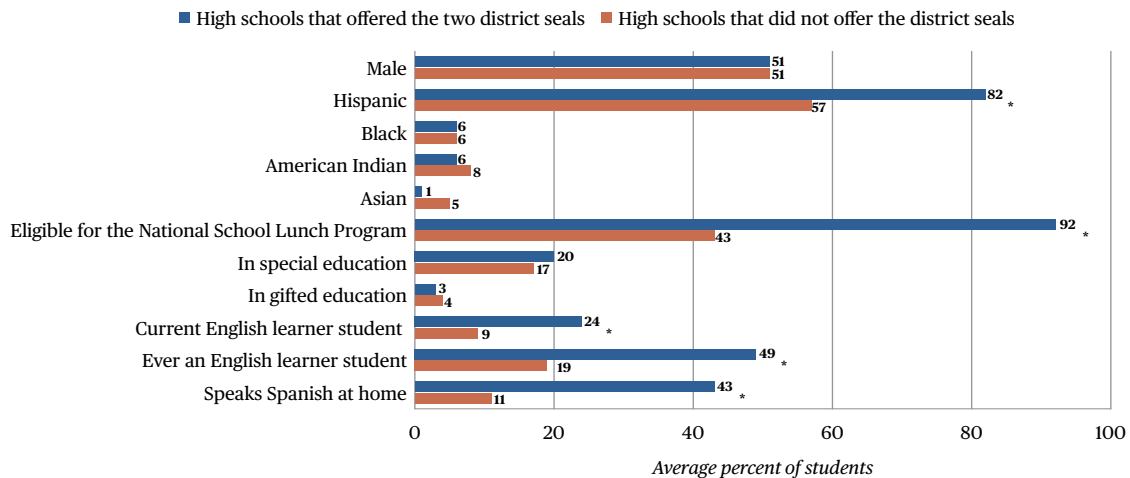
School-level findings

This section presents findings from analyses conducted at the school level. The study team conducted these analyses to provide information about the characteristics and college readiness of students who attended high schools that offer the district seal and the district seal of distinction. Over the three school years examined, five Spanish dual language high schools offered the two district seals, and eight non-dual language high schools did not.⁶

Dual language high schools—the only schools that offer district seals—had higher percentages of students who were Hispanic, who were eligible for the National School Lunch Program, who were a current English learner student, who had ever been an English learner student, and who spoke Spanish at home

Compared with other high schools, dual language high schools—the only schools that offer district seals—had higher percentages of Hispanic students (82 percent versus 57 percent) and students eligible for the National School Lunch Program (92 percent versus 43 percent; figure 1). In addition, compared with other high schools, dual language high schools had higher percentages of current English learner students (24 percent versus 9 percent), students who had ever been an English learner student in K-12 (49 percent versus 19 percent), and

Figure 1. High schools in the New Mexico district that offered the two district seals had higher percentages of students who were Hispanic, who were eligible for the National School Lunch Program, who were a current English learner student, who had ever been an English learner student, and who spoke Spanish at home than high schools that did not offer the district seals, 2017/18-2019/20



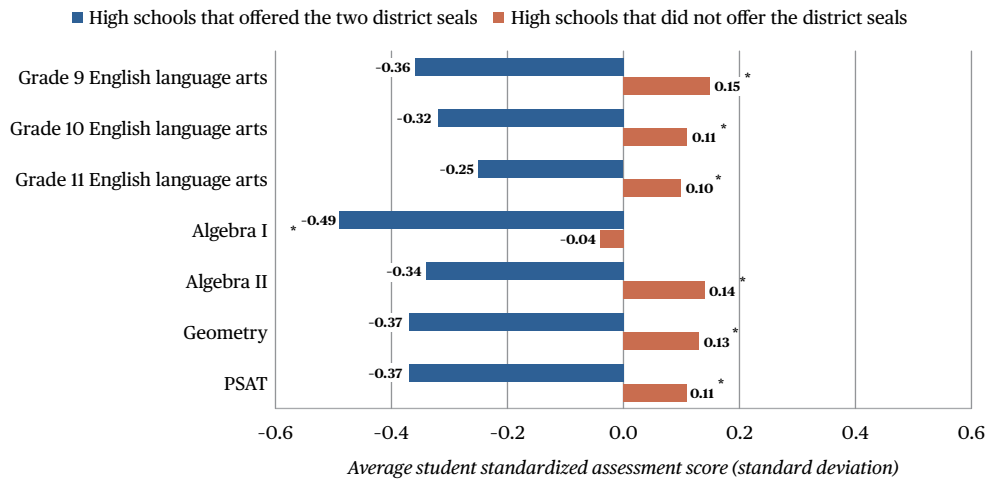
* Difference is considered meaningful (statistically significant at $p < .05$ and 5 percentage points or greater).

Note: The sample included five high schools that offered the district seal and the district seal of distinction and eight high schools that did not offer these seals. The average annual enrollment from 2017/18 to 2019/20 was 1,429 in dual language high schools and 1,061 in non-dual language high schools. High schools that were not traditional public schools were dropped from the analysis. Statistical significance was calculated using Pearson's chi-squared test. Percentages are school-level averages across 2017/18-2019/20.

Source: Authors' analysis of data provided by a large urban school district in New Mexico.

6. Of the five dual language high schools in the district, one has offered a dual language program since at least 2013/14, when the New Mexico Public Education Department began publicly reporting program participation, and the other four have offered a program since 2015/16. To become certified as a dual language high school, schools must apply to the state and be approved. However, to offer dual language programs, schools must have sufficient staffing at each grade level to offer the required hours of coursework in the non-English language. Any student can opt into a dual language high school in grade 9. After grade 9, students who want to attend a dual language high school must apply for a transfer. Not all students who attend dual language high schools participate in the dual language program, nor do students in these high schools necessarily earn the district seal or the district seal of distinction.

Figure 2. Students who attended high schools in the New Mexico district that offered the two district seals had lower average performance on all assessments than students who attended high schools that did not offer the district seals, 2017/18-2018/19



* Difference is considered meaningful (statistically significant at $p < .05$ and 0.1 standard deviation or greater).

PSAT is Preliminary Scholastic Achievement Test.

Note: The sample included five high schools that offered the district seal and the district seal of distinction and eight high schools that did not offer these seals. The average annual enrollment from 2017/18 to 2019/20 was 1,429 in dual language high schools and 1,061 in non-dual language high schools. Standardized scores are school-level averages across 2017/18-2018/19 (assessment scores were not available for 2019/20). Students took the Partnership for Assessment of College and Career Readiness assessment in 2017/18 and the New Mexico Standards-Based Transition Assessment of Mathematics and English Language Arts in 2018/19. Assessment scores were standardized within school year and grade using scores from all available students in the district and then aggregated to the school level; therefore, a 0 represents the average score for all students in the district. High schools that were not traditional public schools were dropped from the analysis. Statistical significance was calculated using t tests.

Source: Authors' analysis of data provided by a large urban school district in New Mexico.

students who spoke Spanish at home (43 percent versus 11 percent). Dual language high schools had similar percentages of male students, Black students, American Indian students, Asian students, students in special education, and students in gifted education as other high schools.

Dual language high schools served students who, on average, were lower-performing than students in other high schools. On all standardized assessments in grades 9-11, which are used in this study as measures of college readiness, students who attended dual language high schools had lower scores on average than students who attended other high schools (figure 2). These assessments included end-of-course exams in English language arts, algebra I, algebra II, and geometry, as well as the Preliminary Scholastic Achievement Test (PSAT).

Student-level findings

This section presents findings from analyses conducted at the student level. The study team conducted these analyses to provide information about the characteristics and college readiness of students who earned different types of biliteracy seals. The study team also examined the number of graduates who completed credits in a non-English language and met grade requirements but did not earn a seal.

A growing number of graduates earned biliteracy seals across 2017/18-2019/20, with a particularly large increase in 2019/20, due partly to the introduction of the global biliteracy seal

Over the course of the three years studied, 891 graduates (7 percent of all graduates) earned any type of biliteracy seal. Between 2017/18 and 2018/19 the number of graduates who earned a seal rose from 222 to 246 (6 percent of graduates in both school years; table 1). The increase was driven by a rise in the number of graduates who

Table 1. Number and percentage of unique students who earned biliteracy seals in the New Mexico district, by type of seal earned, 2017/18–2019/20

Type of seal earned	2017/18 (n = 3,995)		2018/19 (n = 4,063)		2019/20 (n = 4,126)	
	Number	Percent	Number	Percent	Number	Percent
State seal only	56	25	116	47	51	12
District seal and state seal	98	44	68	28	15	4
District seal of distinction, district seal, and state seal	68	31	62	25	3	1
Global seal only	na	na	na	na	93	22
State seal and global seal	na	na	na	na	82	19
District seal, state seal, and global seal	na	na	na	na	97	23
District seal of distinction, district seal, state seal, and global seal	na	na	na	na	82	19
Students who earned at least one seal	222	100	246	100	423	100

na is not applicable.

Note: Graduates can earn multiple types of seals. Graduates who earned a district seal automatically earned a state seal. Graduates who earned a district seal of distinction automatically earned a state seal and district seal. Requirements for the global seal, introduced in 2019/20, were independent of those for the other seals. In 2017/18 and 2018/19, 6 percent of all graduates earned any seal. In 2019/20, 11 percent of all graduates earned any seal.

Source: Authors' analysis of data provided by a large urban school district in New Mexico.

earned only a state seal (from 56 to 116), which more than offset the drop in the number of graduates who also earned a district seal (from 98 to 68) or a district seal of distinction (from 68 to 62).

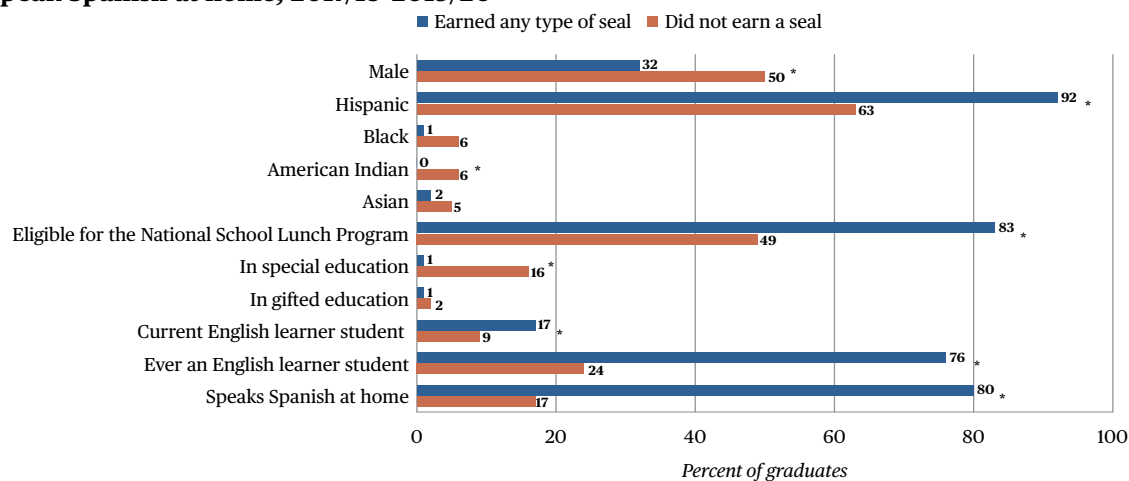
Between 2018/19 and 2019/20 the number of graduates who earned any type of seal rose from 246 to 423 (11 percent of graduates; see table 1). This increase was driven by the introduction of the global seal in 2019/20, which raised students' access to biliteracy seals in the district. In this year 93 graduates earned only a global seal; 82 graduates earned a state seal and a global seal; 97 graduates earned a district seal, a state seal, and a global seal; and 82 graduates earned a district seal of distinction, a district seal, a state seal, and a global seal. These increases offset a decrease in the number of graduates who earned a state seal, a district seal, or a district seal of distinction not in combination with a global seal.

Graduates who earned any type of biliteracy seal were more likely than graduates who did not earn a seal to be Hispanic, to be eligible for the National School Lunch Program, to be a current English learner student, to have ever been an English learner student, and to speak Spanish at home and performed better on the grade 10 and 11 English language arts assessments and the algebra I assessment

The demographic characteristics of graduates who earned any type of biliteracy seal differed from those of graduates who did not earn a seal (figure 3). Graduates who earned a seal were more likely than graduates who did not to be Hispanic (92 percent versus 63 percent), to be eligible for the National School Lunch Program (83 percent versus 49 percent), to be a current English learner student (17 percent versus 9 percent), to have ever been an English learner student (76 percent versus 24 percent), and to speak Spanish at home (80 percent versus 17 percent). In contrast, graduates who earned a seal were less likely than graduates who did not to be male (32 percent versus 50 percent), American Indian (0 percent versus 6 percent), and in special education (1 percent versus 16 percent).

Graduates who earned any type of biliteracy seal had either similar or higher achievement on average on state standardized assessments in high school than graduates who did not earn a seal (figure 4). Specifically, graduates who earned a seal performed better on average than those who did not on the grade 10 and 11 English

Figure 3. Graduates who earned any type of biliteracy seal in the New Mexico district were on average more likely than graduates who did not earn a seal to be Hispanic, to be eligible for the National School Lunch Program, to be a current English learner student, to have ever been an English learner student, and to speak Spanish at home, 2017/18-2019/20

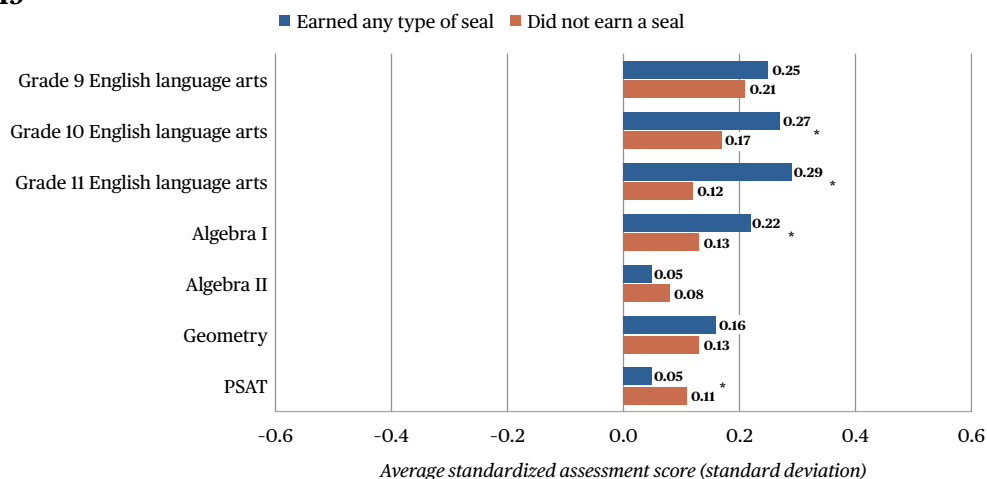


* Difference is considered meaningful (statistically significant at $p < .05$ and 5 percentage points or greater).

Note: The sample included 891 graduates who earned any type of seal and 11,293 graduates who did not earn a seal in 2017/18-2019/20. Statistical significance was calculated using Pearson's chi-squared test. The unrounded difference for Black graduates is 4.4 percentage points (1.2 percent of graduates who earned a seal were Black and 5.6 percent of graduates who did not earn a seal were Black), which does not meet the 5 percentage point threshold for a meaningful difference.

Source: Authors' analysis of data provided by a large urban school district in New Mexico.

Figure 4. Graduates who earned any type of biliteracy seal in the New Mexico district performed better on average on the grade 10 and 11 English language arts assessments and the algebra I assessment than graduates who did not earn a seal but performed worse on the Preliminary Scholastic Achievement Test, 2017/18-2018/19



* Difference is considered meaningful (statistically significant at $p < .05$ and 0.1 standard deviation or greater).

PSAT is Preliminary Scholastic Achievement Test.

Note: The samples for each assessment are as follows. Grade 9 English language arts: 807 students who earned any type of seal and 9,569 students who did not earn a seal. Grade 10 English language arts: 842 students who earned any type of seal and 10,087 who did not earn a seal. Grade 11 English language arts: 848 students who earned any type of seal and 10,541 students who did not earn a seal. Algebra II: 854 students who earned any type of seal and 10,312 students who did not earn a seal. Algebra I, 759 students who earned any type of seal and 8,949 who did not earn a seal. Geometry: 834 students who earned any type of seal and 9,874 students who did not earn a seal. PSAT: 834 students who earned any type of seal and 9,529 students who did not earn a seal. Students took the Partnership for Assessment of College and Career Readiness assessment in 2017/18 and the New Mexico Standards-Based Transition Assessment of Mathematics and English Language Arts in 2018/19. Assessment scores were not available for 2019/20. Assessment scores were standardized within school year and grade in the district at the student level; therefore, a 0 represents the average score for all students in the district. Statistical significance was calculated using t tests.

Source: Authors' analysis of data provided by a large urban school district in New Mexico.

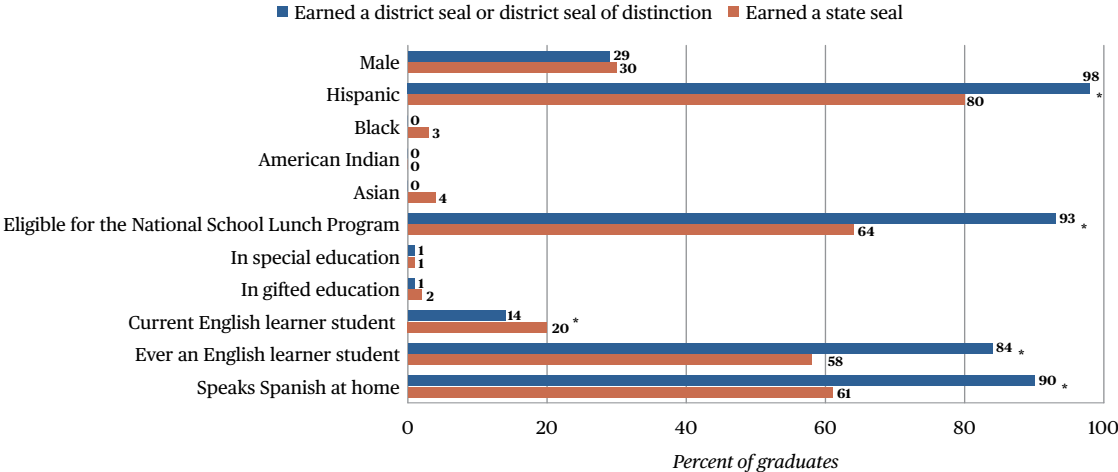
language arts assessments and the algebra I assessment and had achievement on the grade 9 English language arts assessment, algebra II assessment, and geometry assessment that was similar on average to that of graduates who did not earn a seal. Graduates who earned a seal performed worse on average on the PSAT.⁷

Consistent with the demographic composition of dual language high schools, graduates who earned a district seal were more likely than graduates who earned only a state seal to be Hispanic, to be eligible for the National School Lunch Program, to have ever been an English learner student, and to speak Spanish at home

The demographic characteristics of graduates who earned a district seal or a district seal of distinction differed from those of graduates who earned only a state seal (figure 5). Graduates who earned one of the two district seals were more likely than graduates who earned only a state seal to be Hispanic (98 percent versus 80 percent), to be eligible for the National School Lunch Program (93 percent versus 64 percent), to have ever been an English learner student (84 percent versus 58 percent), and to speak Spanish at home (90 percent versus 61 percent). In contrast, graduates who earned one of the two district seals were less likely than graduates who earned a state seal to be a current English learner student (14 percent versus 20 percent).

Consistent with the average academic performance of students who attended dual language high schools, graduates who earned a district seal or a district seal of distinction performed worse on all standardized assessments than those who earned only a state seal. Graduates who earned one of the two district seals had lower achievement on all state standardized assessments taken in high school as well as on the PSAT than graduates who earned only a state seal (figure 6). This finding may be explained by differences in the characteristics of graduates who earned one of the two district seals and graduates who earned only a state seal, described above.

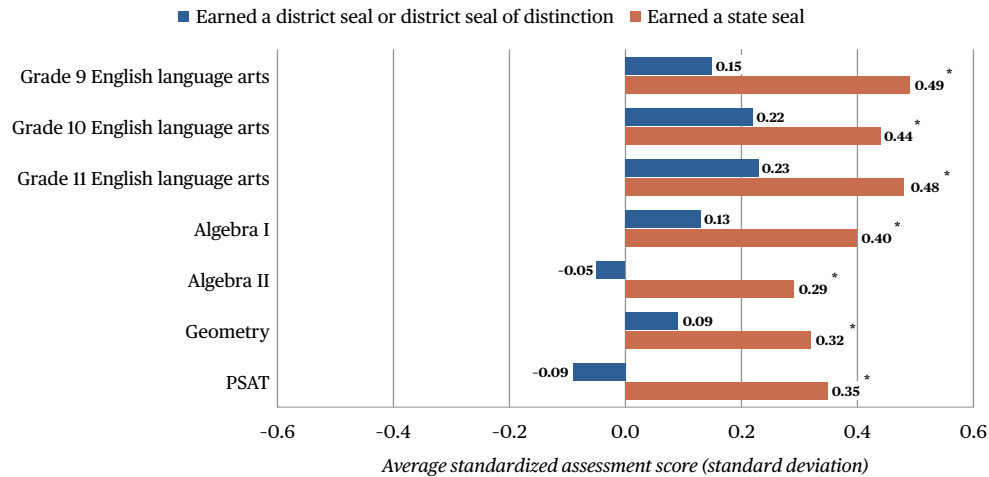
Figure 5. Graduates who earned one of the two district seals in the New Mexico district were more likely than graduates who earned only a state seal to be Hispanic, to be eligible for the National School Lunch Program, to have ever been an English learner student, and to speak Spanish at home, 2017/18-2019/20



* Difference is considered meaningful (statistically significant at $p < .05$ and 5 percentage points or greater).
 Note: The sample included 493 graduates who earned a district seal or a district seal of distinction and 305 graduates who earned only a state seal in 2017/18-2019/20. Statistical significance was calculated using Pearson’s chi-squared test.
 Source: Authors’ analysis of data provided by a large urban school district in New Mexico.

7. The algebra I assessment had an 80 percent response rate, and the PSAT had an 84 percent response rate, both lower than the 85 percent response rate required for such analysis. Results from the nonresponse bias analysis show no systematic differences between students who took these assessments and students who did not (see tables B5 and B6 in appendix B).

Figure 6. Graduates who earned one of the two district seals in the New Mexico district performed worse on all standardized assessments than graduates who earned only a state seal, 2017/18–2018/19



* Difference is considered meaningful (statistically significant at $p < .05$ and 0.1 standard deviation or greater).

PSAT is Preliminary Scholastic Achievement Test.

Note: The samples for each assessment are as follows. Grade 9 English language arts: 459 students who earned a district seal or a district seal of distinction and 269 students who earned a state seal. Grade 10 English language arts: 474 students who earned a district seal or a district seal of distinction and 286 students who earned a state seal. Grade 11 English language arts: 470 students who earned a district seal or a district seal of distinction and 291 students who earned a state seal. Algebra I: 430 students who earned a district seal or a district seal of distinction and 247 students who earned a state seal. Algebra II: 475 students who earned a district seal or a district seal of distinction and 292 students who earned a state seal. Geometry: 469 students who earned a district seal or a district seal of distinction and 284 students who earned a state seal. PSAT: 473 students who earned a district seal or a district seal of distinction and 279 students who earned a state seal. Students took the Partnership for Assessment of College and Career Readiness assessment in 2017/18 and the New Mexico Standards-Based Transition Assessment of Mathematics and English Language Arts in 2018/19. Assessment scores were not available for 2019/20. Assessment scores were standardized within school year and grade in the district at the student level; therefore, a 0 represents the average score for all students in the district. Statistical significance was calculated using t tests.

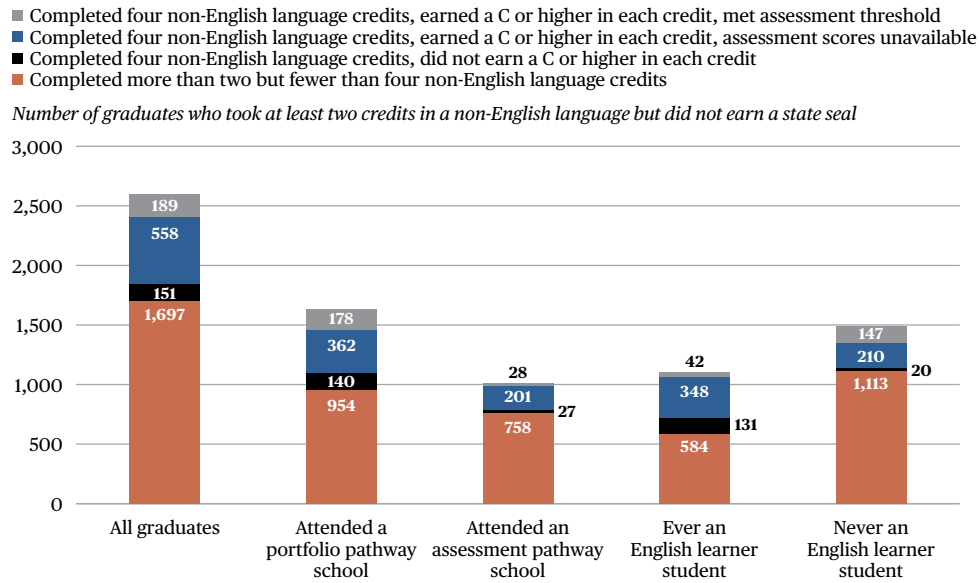
Source: Authors' analysis of data provided by a large urban school district in New Mexico.

There are opportunities for the district to improve how students are awarded state biliteracy seals, since some graduates met the requirements but did not earn a state seal

To be eligible for a state biliteracy seal, students must complete four credits in the same non-English language and earn a C or higher for each credit. In addition, students must complete one of two requirements, selected by the high school they attend: demonstrate proficiency on a New Mexico-approved standardized assessment in a non-English language (assessment pathway) or submit a portfolio consisting of an oral presentation to demonstrate language proficiency, a written sample of their work, and an interview with a panel (portfolio pathway). The most common reason graduates did not earn a state seal after taking at least two credits in a non-English language was not completing enough credits in a non-English language. A total of 1,697 graduates who completed at least two credits in a non-English language but did not earn a state seal completed fewer than four credits in a non-English language, and 151 graduates completed four credits in a non-English language but did not earn a C or higher for each credit (figure 7).

New Mexico accepts many non-English language assessments to meet the assessment requirement for the state biliteracy seal, and the study team obtained scores for two commonly used assessments (the Spanish Advanced Placement exam and the Standards-based Measurement of Proficiency assessment). Assessment scores were unavailable for 558 graduates who completed four credits in a non-English language and earned a C or higher in each course but did not earn a state seal. An additional 189 graduates who did not earn a state seal completed the required four credits, met the grade requirements, and met the non-English language assessment requirement. To understand why these graduates did not earn a state seal, the study team separated graduates into two

Figure 7. A substantial number of graduates met some but not all of the requirements for the state biliteracy seal in the New Mexico district, and many graduates met both the credit and grade requirements but did not earn a state seal



Note: The study team obtained scores for two eligible assessments: the non-English language Advanced Placement exam and the Standards-based Measurement of Proficiency assessment. Of the 747 graduates who completed four language credits and earned a C or higher for each credit, 222 took one of these two assessments. The values in the second and third bars do not sum to those in the first bar because one school offered both a portfolio pathway and an assessment pathway (a rare exception to the norm), and the graduates who attended this school are counted in both bars.

Source: Authors' analysis of data provided by a large urban school district in New Mexico.

groups based on the pathway through which the state seal was offered in their high school. Of the 189 graduates who met the credit requirements, grade requirements, and non-English language assessment requirement, 178 attended high schools that selected the portfolio pathway for the state seal, and therefore their assessment scores did not count toward the state seal requirement.

The findings suggest that graduates who had ever been an English learner student and graduates who had never been an English learner student generally encountered different barriers to earning a state biliteracy seal but that English learner students were not disadvantaged through the process. Fewer graduates who had ever been an English learner student did not complete four credits in a non-English language compared with graduates who had never been an English learner student (584 versus 1,113; see figure 7). More graduates who had ever been an English learner student completed at least four non-English language credits but did not earn a C or higher for each credit compared with graduates who had never been an English learner student (131 versus 20). In addition, graduates who had ever been an English learner student were more likely than graduates who had never been an English learner student to have met both the credit and grade requirements but to have had unavailable assessment scores (348 versus 210). Finally, of the 189 graduates who met the credit requirements, grade requirements, and non-English language assessment requirement but did not earn a state seal, 42 had ever been an English learner student, while 147 had never been an English learner student.

Impact findings

Finally, the study team compared the effect of earning a biliteracy seal on college enrollment for two sets of groups: graduates who earned any type of biliteracy seal versus similar graduates who did not earn a seal and graduates who earned a district seal versus similar graduates who earned only a state seal. Among graduates who enrolled in college, the study team examined the effect of earning a state or district seal on three outcomes:

enrolling in a New Mexico college, enrolling in a four-year college, and enrolling in college full time (see appendix C for additional information).

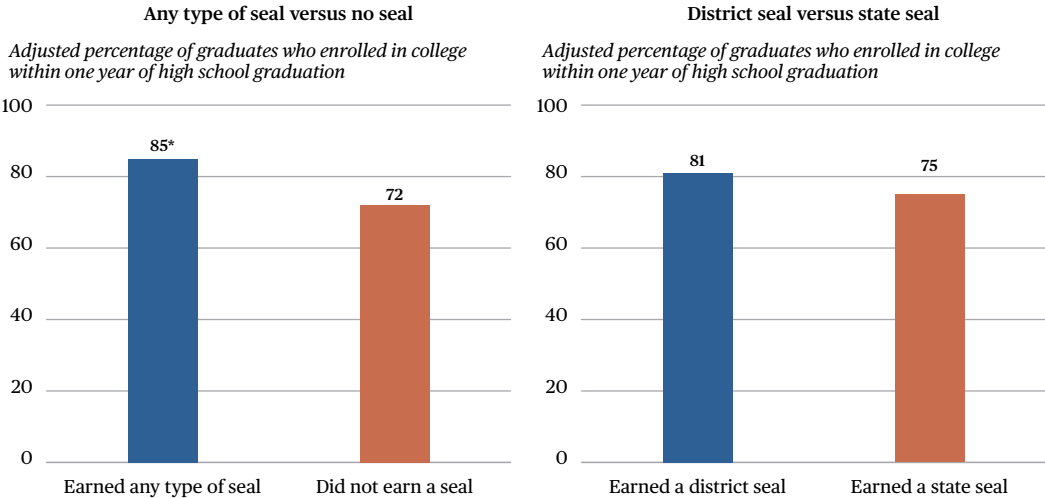
Earning a biliteracy seal appears to benefit graduates with respect to college enrollment, but there is no additional benefit of earning a district seal compared with earning only a state seal

After demographic characteristics, high school attended, and college readiness were adjusted for, 85 percent of graduates who earned any type of biliteracy seal enrolled in college within one year of high school graduation compared with 72 percent of similar graduates who did not earn a seal (figure 8). The difference in college enrollment between graduates who earned a district seal and similar graduates who earned a state seal was not statistically significant.⁸

Among graduates who enrolled in college, graduates who earned any type of biliteracy seal were more likely than similar graduates who did not earn a seal to enroll in a four-year college and to enroll full time

Among graduates who enrolled in college within one year of high school graduation, 61 percent of those who earned any type of biliteracy seal enrolled in a four-year college compared with 54 percent of those who did not earn a seal, after prior differences in students’ demographic characteristics and college readiness were adjusted for (figure 9). Likewise, among these college-going graduates, 84 percent of those who earned a biliteracy seal enrolled in college full time compared with 68 percent of those who did not earn a seal, after prior differences were adjusted for. There were no statistically significant differences in enrollment in a New Mexico public college between graduates who earned a biliteracy seal and those who did not, and there were no statistically

Figure 8. After other factors were adjusted for, graduates who earned any type of biliteracy seal in the New Mexico district were more likely than similar graduates who did not earn a seal to enroll in college within one year of high school graduation, 2017/18-2019/20



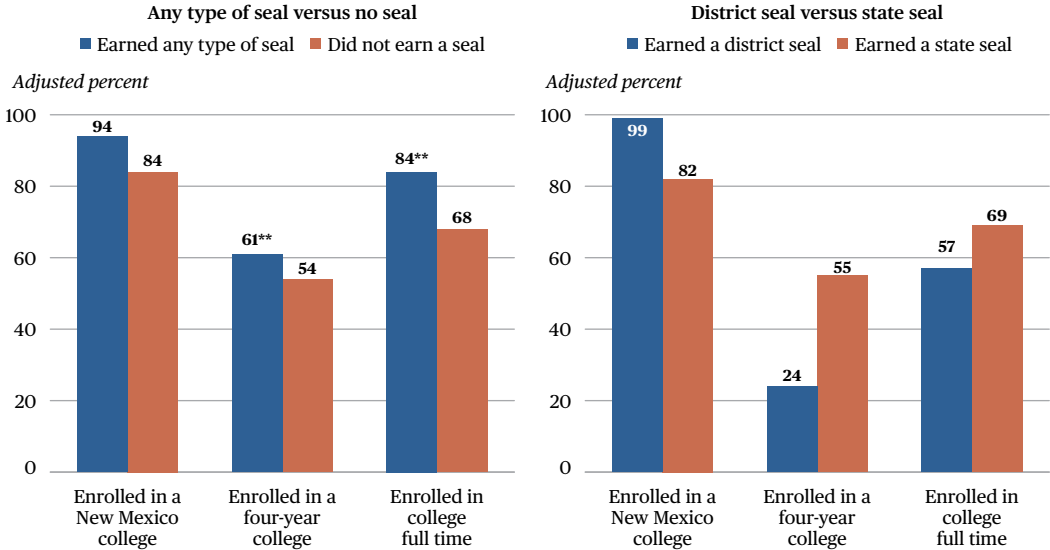
* Difference is significant at $p < .05$.

Note: Data are based on administrative records and National Student Clearinghouse records and were therefore available for graduates who attended in-state public colleges as well as graduates who attended private colleges and out-of-state colleges. College enrollment rates are based on all years of data available for each cohort of graduates and were generated using regression models that adjusted for the background characteristics of graduates and their high schools. See appendix B for more details.

Source: Authors’ analysis of data provided by a large urban school district in New Mexico.

8. Exploratory analyses did not indicate differential effects by pathway type (assessment versus portfolio).

Figure 9. Among graduates from the New Mexico district who enrolled in college, those who earned a biliteracy seal were more likely than those who did not earn a seal to enroll in a four-year college within one year of graduation and to enroll full time, after other factors were adjusted for, 2018/19-2019/20



** Difference is significant at $p < .01$.

Note: Data are based on administrative records and National Student Clearinghouse records and were therefore available for graduates who attended in-state public colleges as well as graduates who attended private colleges and out-of-state colleges. College enrollment rates are based on all years of data available for each cohort of graduates and were generated using regression models that adjusted for the background characteristics of graduates and their high schools. See appendix B for more details.

Source: Authors' analysis of data provided by a large urban school district in New Mexico.

significant differences in any college enrollment outcomes between graduates who earned a district seal and those who earned a state seal.

Implications

Leaders at the New Mexico Public Education Department and New Mexico school districts could consider expanding access to biliteracy seals. The study found that biliteracy seals have a positive effect on enrolling in college within one year of high school graduation and, among graduates who enrolled in college, on enrolling in a four-year college and enrolling full time. After other factors were adjusted for, 85 percent of graduates who earned any type of biliteracy seal went on to enroll in college compared with 72 percent of similar graduates who did not earn a seal. However, only 7 percent of graduates earned any type of seal from 2017/18 to 2019/20, suggesting that expanding access to district and state seals could lead to better college outcomes for more students.

Leaders at the New Mexico Public Education Department and New Mexico school districts might consider focusing on expanding access to biliteracy seals for English learner students and students who are economically disadvantaged. Although the study found that graduates who earned any type of biliteracy seal were more likely than graduates who did not earn a seal to be eligible for the National School Lunch Program, to be a current English learner student, or to have ever been an English learner student, there is room to expand access for these student groups. The ruling in *Martinez/Yazzie v. State of New Mexico* (2019) found that the state failed to provide an adequate education for these student groups (as well as American Indian students and students with disabilities). In response to the ruling, education leaders in New Mexico created a strategic plan that provides access to asset-based support, culturally and linguistically responsive education, and support to increase college and career readiness (New Mexico Public Education Department, 2022). Increasing access to

biliteracy seals, particularly among the student groups identified in *Martinez/Yazzie*, could further support the priorities in the state's strategic plan.⁹

There are several approaches that the New Mexico Public Education Department and New Mexico school districts might consider for increasing the number of students who earn state biliteracy seals, given that 2,595 graduates across the three years completed at least two credits in a non-English language but did not earn a state seal. First, they might consider widely publicizing the potential benefits of earning a state seal. Discussions with school district leaders and teachers conducted by Regional Educational Laboratory Southwest in 2019 as part of a technical assistance project found that students are informed of biliteracy seals in grade 8 and at the beginning of grade 9, as well as multiple times over the course of high school, particularly in non-English language classes (Regional Educational Laboratory Southwest, 2020). Incorporating evidence of the positive effect of biliteracy seals on college enrollment in these informational campaigns might encourage additional students to apply for a seal. However, an important limitation for education leaders to consider is that the effect of earning a biliteracy seal found in this study may not generalize to other school districts or to larger populations with characteristics different from those of the district studied. Another limitation is that the matching method used to examine the impact on college enrollment incorporates available demographic characteristics and assessment scores that may not fully account for differences in underlying characteristics, such as motivation, between graduates who earned a biliteracy seal and graduates who did not earn a seal.

Second, the large urban school district might consider revisions to their policies for awarding the state biliteracy seal. The study found that 189 graduates met the requirements for the state seal by completing at least four credits, earning a C or higher for each of those credits, and demonstrating proficiency on a non-English language assessment but did not earn a state seal.¹⁰ Most of these graduates attended high schools that chose the portfolio pathway for earning a state seal, so their assessment scores did not count toward the requirements. Rather than restricting schools to choosing one pathway, the district could expand access by allowing schools to offer multiple pathways, including the assessment or portfolio pathway.

Third, the New Mexico Public Education Department and New Mexico school districts might consider developing an automated process for identifying students who are on the path to earning a biliteracy seal. One reason graduates who met the requirements for the state seal might not have earned one is not completing the required paperwork. Currently, the district requires students to opt into the process for earning a seal. Instead, district staff could use the district's student information system and the analysis code developed for this study to identify students who are on the path to earning a seal and notify them of their progress. Once notified, students could be informed of the remaining requirements for earning a seal and be encouraged to meet those requirements. In addition, an automated process would reduce the burden on district and school staff to determine whether students have met the requirements. Currently, school staff must review each student's records manually to determine whether the student has met the requirements for earning a seal, which is burdensome. An automated process would also ensure that all eligible graduates are awarded biliteracy seals.

9. Only seven students in special education earned any type of biliteracy seal during the study period, so the report does not highlight findings for this student group.

10. This is likely an undercount of the number of graduates who met the requirements for the state seal and did not earn one, because for an additional 558 graduates the study team was unable to access assessment scores.

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