



English Language Development among American Indian English Learner Students in New Mexico

Appendix A. Data and methods

Appendix B. Supporting analyses

See <https://go.usa.gov/xu8UG> for the full report.

Appendix A. Data and methods

This appendix describes the data sources, data preparation, samples, and analysis methods.

Data sources

This study used student-level data available through the New Mexico Public Education Department's state longitudinal data system, the New Mexico Student Teacher Accountability Reporting System. The data files include unique student identifiers that can link student records across data files and school years. Student files contain school identifiers that allow students to be linked over time to the school or schools in which they are enrolled. The study team used data for two cohorts of American Indian students identified as English learner students during their initial enrollment in kindergarten during the 2013/14 and 2014/15 school years in New Mexico public schools. The study team obtained student-level data from the New Mexico Public Education Department for 2013/14 through 2018/19 to follow students in these cohorts for five years—four years after first enrolling in kindergarten—to assess English proficiency reclassification rates and grade-level readiness in English language arts and math.

The study team also used school-level administrative data contained in the bilingual multicultural education program annual reports for 2013/14 through 2018/19 to identify the public schools in New Mexico that offered bilingual multicultural education programs (BMEPs), which BMEP models the schools offered, and the American Indian heritage languages taught in heritage language BMEPs (New Mexico Public Education Department, 2014, 2015, 2016, 2017, 2018, 2019). To understand differences in the characteristics of schools that offered BMEPs and those that did not, the study team accessed publicly available data on school characteristics from the National Center for Education Statistics' Common Core of Data (U.S. Department of Education, n.d.).

Student enrollment and demographic characteristics. The study team obtained data from the New Mexico Public Education Department on American Indian student enrollment and demographic characteristics for the 2013/14 through 2018/19 school years. The study team used student enrollment records to determine in which years American Indian students attended a public school in New Mexico during the five-year study period. The files also included binary indicators of whether a student had been retained, which were used to identify American Indian students who were enrolled in kindergarten for the first time in each cohort year. The enrollment files also contained data on student characteristics, including race/ethnicity, gender, grade level, eligibility for the

National School Lunch Program (an indicator of economic disadvantage), English learner status, special education status, and school and district of enrollment.

English proficiency. The study team obtained ACCESS for ELLs (ACCESS) assessment data from the New Mexico Public Education Department for all American Indian students enrolled in a public school in New Mexico from 2013/14 through 2018/19. In 2017/18, New Mexico began using a version of ACCESS that was intended to better align with current college- and career-ready standards at each grade level. The assessments measure students' academic English language proficiency in four language domains: listening, speaking, reading, and writing (Cook & MacGregor, n.d.). Students receive scale scores and proficiency-level scores for each domain. The proficiency-level scores range from 1.0 to 6.0 (assigned to one decimal point): 1.0-1.9 (entering), 2.0-2.9 (emerging), 3.0-3.9 (developing), 4.0-4.9 (expanding), 5.0-5.9 (bridging), and 6.0 (reaching). The study used proficiency-level scores because they are easier for readers to interpret than scale scores. Students typically are identified as English proficient if they have a composite score of 5.0 or higher.

Academic proficiency in English language arts and math. The study team obtained state assessment data in English language arts and math for all American Indian English learner students in grades 3 and 4 from 2016/17 through 2018/19. From 2014/15 through 2017/18, New Mexico students in grades 3-8 took the Partnership for Assessment of Readiness for College and Careers (PARCC) assessments. In 2018/19, students in grades 3-8 took a transitional assessment, the New Mexico Standards-Based Transition Assessment of Mathematics and English Language Arts (TAMELA). Both PARCC and TAMELA have five proficiency levels: level 1-did not yet meet expectations, level 2-partially met expectations, level 3-approached expectations, level 4-met expectations, and level 5-exceeded expectations. The study team obtained PARCC data for 2016/17 and 2017/18 and TAMELA data for 2018/19. Because of the change in the English language arts and math assessments in 2018/19, the study team conducted analyses of state assessment data separately for each cohort. Since the PARCC and TAMELA were not equated, results are not comparable.

BMEP annual reports. Each year the New Mexico Public Education Department's Language and Culture Division produces a report with detailed information on student, school, and district participation in BMEPs. Each report contains an appendix table identifying the schools in each district offering a BMEP, the BMEP model offered at each school, and the languages taught in the BMEP. Based on these tables for 2013/14 through 2018/19, the study team developed analytic data tables and merged them with student-level data files using the school and district identifiers included in both sets of files.

Sample

Six tasks were conducted to prepare the data and identify the final samples for the study:

- Merging and cleaning student-level data files.
- Identifying first-time kindergarten students in public schools.
- Identifying English learner students.
- Developing school-level BMEP data files.
- Merging student- and school-level data files.
- Determining final analytic samples.

Merging and cleaning data. First, the raw student enrollment files were separated into data files for each year of enrollment (2013/14, 2014/15, 2015/16, 2016/17, 2017/18, and 2018/19). Second, the 2013/14 and 2014/15 student enrollment files were identified as the base-year cohort files, and any students not identified through the grade-level variable as being enrolled in kindergarten in these school years were removed from the files. Third, each

base-year cohort file was merged with the separate year-based student enrollment data files using a unique pseudo student identification number for each of the subsequent four school years (for example, the base-year cohort 2013/14 file was merged with the separate 2014/15, 2015/16, 2016/17, and 2017/18 student enrollment data files). This process created the cohort files. Finally, the ACCESS, PARCC, and TAMELA assessment files were merged with the cohort files using the unique pseudo student identification number.

Identifying first-time kindergarten students in public schools. The student enrollment files obtained from the New Mexico Public Education Department contained a binary indicator identifying whether a student had been retained from the prior year. Any students identified as having been retained in kindergarten the prior year were removed from the cohort data files. About 4 percent of American Indian students were removed from the 2013/14 cohort data file, and about 5 percent from the 2014/15 data file. The remaining records captured data on the American Indian students who were first-time kindergarten students in the two cohorts. These students were retained in the final cohort samples.

Identifying English learner students. The student-level enrollment files contained an indicator of students' English learner status. All students who were identified as "current EL" students in kindergarten and who either remained an English learner student or who were reclassified as English proficient one time were included in the final cohort samples (table A1).

Several students (41 in the 2013/14 kindergarten cohort and 53 in the 2014/15 kindergarten cohort) who were not identified as "current EL" students did not achieve a passing composite score on the Kindergarten ACCESS. When they took the ACCESS again in year 2 and did not achieve a passing composite score, they were then identified as "current EL" students. Because these students had similar data patterns to students identified as English learner students in kindergarten, these students also were considered to have been English learner students in kindergarten (see table A1).

Additional students were identified as English learner students later in the five-year study period. All students identified as English learner students in years 2 through 5 of the study were included in the final cohort samples if they remained an English learner student after identification or were reclassified as English proficient one time after identification as an English learner student (see table A1).

Some students had English learner identifications and reclassifications that made it difficult to determine whether to consider them English learner students and, if so, when. For these students, records indicated a fluctuating pattern of English learner identification and nonidentification across school years and of transfers in and out of public schools in New Mexico. About 6 percent of students in the 2013/14 kindergarten cohort and 7 percent in the 2014/15 cohort were identified as English learner students within five years of entering kindergarten, not identified as an English learner student the following year, and identified as an English learner student again in a later year. These students did not demonstrate proficiency on the ACCESS during any of the years included in the study. About 40 percent of the changes in English learner identification occurred following a change in school; however, the remaining 60 percent occurred while students were still enrolled in the same school. Similarly, about 16 percent of students in the 2013/14 kindergarten cohort and 15 percent in the 2014/15 cohort who were identified as English learner students within five years of entering kindergarten were no longer enrolled in a public school in New Mexico at the end of the study period. Students with fluctuating English learner student designations and highly mobile students were not included in the final cohort samples (see table A1).

Table A1. Number of American Indian students identified as English learner students, by 2013/14 and 2014/15 kindergarten cohort and overall

Classification	2013/14 kindergarten cohort	2014/15 kindergarten cohort	Overall
Included in final cohort samples			
Year 1			
Identified as EL	649	632	1,281
Identified as EL based on data patterns	41	53	94
Year 2	40	36	76
Year 3	33	64	97
Year 4	51	79	130
Year 5	61	22	83
Not included in final cohort samples			
Multiple EL/non-EL designations	66	79	145
Highly mobile students	177	176	353

EL is English learner student, the official designation in the data records.

Source: Authors' analysis of data from the New Mexico Public Education Department.

Merging student- and school-level data files. The final cohort sample files were merged with the school-level BMEP data files using the school and district identifiers included in both sets of files, and the cohort sample files were stacked to form one analytic data file. The final analytic data file contained the student- and school-level data used to answer the research questions.

Determining the final analytic samples. The overall sample included 1,761 American Indian students (see table A2 for student characteristics). This included 875 unique students in the 2013/14 kindergarten cohort and 886 unique students in the 2014/15 kindergarten cohort. These students were included in analyses for research question 1. Subsets of this sample were included in analyses for other research questions. Specifically, only students who were identified as English learner students in kindergarten were included in the analyses for research questions 2-6. This included 690 unique students in the 2013/14 kindergarten cohort and 685 unique students in the 2014/15 kindergarten cohort. The analyses for research question 7 included only students who attended a public school in New Mexico with a BMEP for at least four years and those who never attended a school with a BMEP during the five years of the study. This included 233 unique students in the 2013/14 kindergarten cohort and 426 students in the 2014/15 kindergarten cohort.

Table A2. Characteristics of American Indian English learner students enrolled in New Mexico public schools, 2013/14 and 2014/15 kindergarten cohorts (percent)

Characteristic	2013/14 kindergarten cohort	2014/15 kindergarten cohort	Overall
Number of students	875	886	1,761
Gender			
Male	53	55	54
Female	47	45	46
Ethnicity			
Hispanic	3	3	3
Not Hispanic	97	97	97
Eligibility for the National School Lunch Program ^a			
Eligible	82	95	89
Not eligible	18	5	11
Special education status			
Identified for special education	22	26	24
Not identified for special education	78	74	76

a. Eligibility for the National School Lunch Program was used as an indicator of economic disadvantage.

Source: Authors' analysis of data from the New Mexico Public Education Department.

Analysis methods

This section summarizes the analyses conducted for each research question discussed in the main text of the report.

Research question 1: What percentage of American Indian students who entered kindergarten for the first time in 2013/14 or 2014/15 were identified as English learner students within five years, and among those who were identified, in which grade were they most likely to be identified?

The analysis for research question 1 focused on describing the year in which American Indian students who entered kindergarten for the first time in 2013/14 or 2014/15 were first identified as English learner students. The study team calculated the number and percentage of students who were identified as English learner students during each year of the study period of 2013/14 through 2018/19. Analyses also were conducted separately by cohort.

Research question 2: How did American Indian students who were identified as English learner students in kindergarten perform on the Kindergarten ACCESS for ELLs (ACCESS), an English language proficiency assessment?

The analyses for research question 2 focused on describing American Indian English learner students' incoming levels of English proficiency. The study team calculated American Indian English learner students' average initial English proficiency scores and the distribution of scores on the composite measure and in each of the four domains (listening, speaking, reading, and writing) on the Kindergarten ACCESS. Analyses also were conducted separately by cohort.

Research question 3: What percentage of American Indian students identified as English learner students at initial kindergarten entry were reclassified as English proficient within five years, and among those who were reclassified, what was the average time to reclassification?

For research question 3 the study team calculated the percentage of students who were reclassified as English proficient each year following kindergarten. The findings are presented in the main report as the cumulative percentage of students reclassified during the five-year study period. For students who were reclassified as English proficient, the study team also calculated the average time to reclassification and assessed whether the average time differed by students' initial English proficiency level. For this analysis, scores of 1.0-2.9 were considered low English proficiency, scores of 3.0-4.9 were considered medium English proficiency, and scores of 5.0-6.0 were considered high English proficiency. Analyses also were conducted separately by cohort.

For binary outcomes only differences between groups of 5 percentage points or greater are considered meaningful and highlighted in the narrative. For continuous outcomes only differences between groups of .25 standard deviations or greater are considered meaningful and highlighted in the narrative.

Research question 4: How did the final English proficiency scores compare for American Indian English learner students who were reclassified as English proficient within five years of entering kindergarten and for students who were not reclassified? Did final proficiency scores vary by ACCESS domain?

For research question 4 the study team calculated American Indian English learner students' final average English proficiency scores on the composite measure and in each of the four domains of the ACCESS. For students who were reclassified prior to the end of the study, the scores on the ACCESS assessment that they completed prior to being reclassified were used to establish their final English proficiency level. For students who were not reclassified during the study, the scores on the ACCESS at the end of the five-year study period were used to establish their final English proficiency level. The study team used descriptive statistics to compare the final average English proficiency scores, overall and by domain, for American Indian English learner students who were reclassified within five years of entering kindergarten and those who were not. Analyses also were conducted separately by cohort. Only differences between groups of .25 standard deviations or greater are considered meaningful and highlighted in the narrative.

Research question 5: What percentage of American Indian students identified as English learner students in kindergarten met grade-level standards on New Mexico state assessments in English language arts and math in grades 3 and 4? How did performance on these assessments compare for American Indian English learner students who were reclassified as English proficient and for those who were not reclassified?

The analyses for research question 5 focused on describing American Indian English learner students' performance on the New Mexico state assessments in English language arts and math. The study team calculated the percentage of American Indian English learner students who met grade-level standards on the assessments in grades 3 and 4 overall and by English proficiency status. The analyses were conducted separately for each cohort because students in the 2013/14 and 2014/15 cohorts did not complete the same state assessments. New Mexico stopped administering the PARCC assessments at the end of the 2017/18 school year. In the 2018/19 school year New Mexico administered the TAMELA assessment while it created a new state assessment system. Only differences between groups of 5 percentage points or greater are considered meaningful and highlighted in the narrative.

Research question 6: What percentage of American Indian students identified as English learner students in kindergarten attended a school with a bilingual multicultural education program (BMEP)? What percentage attended a school with an American Indian heritage language BMEP?

For research question 6 the study team calculated the percentage of students who attended a school with a BMEP at any time during the five-year study period. The study team also calculated the percentage of students who attended a school with each BMEP model (heritage language, enrichment, dual language immersion, maintenance, and transitional; see box 1 in main report for model details) at any time during the five-year study period. Finally, the study team calculated the percentage of students who attended each type of heritage language program. Analyses also were conducted separately by cohort.

Research question 7: Were American Indian English learner students who attended a school with a BMEP for at least four years more likely than students who never attended a school with a BMEP to be reclassified as English proficient or to meet grade-level standards on New Mexico state assessments in English language arts and math?

For research question 7 the study team first compared the characteristics of American Indian English learner students who had attended a school with a BMEP for at least four years and students who had not attended a school with a BMEP at any time during the five-year study period and found that the two groups of students had similar characteristics (see table B4 in appendix B). Next, the study team assessed differences between these two groups of students in rates of being reclassified as English proficient and meeting grade-level standards on the New Mexico state assessments in English language arts and math in grades 3 and 4. These analyses were conducted separately for each cohort because students in the 2013/14 and 2014/15 cohorts did not complete the same state assessments. Only differences between groups of 5 percentage points or greater are considered meaningful and highlighted in the narrative.

References

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Appendix B. Supporting analyses

This appendix describes supporting analyses and findings, including the results of analyses conducted separately by cohort.

Table B1 shows, by cohort, the characteristics of schools that offered bilingual multicultural education programs (BMEPs) and those of schools that did not, and the characteristics of schools that offered an American Indian heritage language BMEP and those of schools that did not. Schools that offered BMEPs differ from schools that did not on characteristics that are observed in the data: schools that offered BMEPs were more likely than schools that did not to serve students eligible for the National School Lunch Program (an indicator of economic disadvantage), students who are American Indian, or students who live in rural areas. Similarly, schools that offered American Indian heritage language BMEPs differ from schools that did not: schools that offered American Indian heritage language BMEPs are more likely than schools that did not to serve students eligible for the National School Lunch Program, students who are American Indian, or students who live in towns or rural areas.

Table B1. Characteristics of schools attended by American Indian English learner students in the 2013/14 and 2014/15 kindergarten cohorts that offered a bilingual multicultural education program or that offered a bilingual multicultural education program with an American Indian heritage language program, by cohort

School characteristic	Offered bilingual multicultural education program (BMEP)	Did not offer BMEP	Offered American Indian heritage language BMEP	Did not offer American Indian heritage language BMEP	All schools
2013/14 kindergarten cohort					
School average percent of students eligible for the National School Lunch Program ^a	95.5*	79.0	98.1*	83.9	89.1
School average percent of American Indian students	40.8*	27.9	59.9*	21.5	35.5
<i>School locale (percent)</i>					
City	36.4*	50.0	22.0*	53.5	42.0
Suburban area	10.6*	2.2	2.4*	9.9	7.1
Towns	18.2	17.4	26.8*	12.7	17.9
Rural area	34.8*	30.4	48.8*	23.9	33.0
2014/15 kindergarten cohort					
School average percent of students eligible for the National School Lunch Program ^a	91.9*	76.7	93.9*	80.0	84.9
School average percent of American Indian students	42.5*	25.0	64.6*	20.4	34.4
<i>School locale (percent)</i>					
City	35.8*	47.4	20.5*	50.6	41.1
Suburban area	7.5	5.3	2.6*	8.2	6.5
Towns	20.9*	26.3	25.6*	22.4	23.4
Rural area	35.8*	21.1	51.3*	18.8	29.0

*Denotes difference of 5 percentage points or greater between schools that offered a BMEP and schools that did not or between schools that offered an American Indian heritage language BMEP and schools that did not, which is considered a meaningful difference.

Note: The schools included in the analysis were those attended by sample students in year 5 of the study (2017/18 for the 2013/14 kindergarten cohort and 2018/19 for the 2014/15 kindergarten cohort). For the 2013/14 kindergarten cohort the sample included 107 schools for the analysis of student eligibility for the National School Lunch Program (64 schools that offered a BMEP, 43 schools that did not; 39 schools that offered an American Indian heritage language BMEP, 68 schools that did not) and 112 schools for the analysis of American Indian race/ethnicity and school locale (66 schools that offered a BMEP, 46 schools that did not; 41 schools that offered an American Indian heritage language BMEP, 71 schools that did not). For the 2014/15 kindergarten cohort the sample included 124 schools for the analysis of student eligibility for the National School Lunch Program and school locale (67 schools that offered a BMEP, 57 schools that did not; 39 schools that offered an American Indian heritage language BMEP, 85 schools that did not), and 123 schools for the analysis of American Indian race/ethnicity (66 schools that offered a BMEP, 57 schools that did not; 39 schools that offered an American Indian heritage language BMEP, 84 schools that did not). BMEPs in New Mexico provide core content and instruction in English and in a student's home language.

a. Eligibility for the National School Lunch Program was used as an indicator of economic disadvantage.

Source: Authors' analysis of data from the New Mexico Public Education Department and the U.S. Department of Education's Common Core of Data.

Table B2 shows, by cohort, the year that American Indian students were identified as English learner students. About 78 percent of American Indian students who were identified as English learner students within five years of entering kindergarten in New Mexico public schools for the first time in the 2013/14 and 2014/15 school years were identified as English learner students in kindergarten. The remaining students were identified in later years.

Table B2. Percentage of American Indian students in the 2013/14 and 2014/15 kindergarten cohorts who were identified as English learner students, by year identified and cohort (percent)

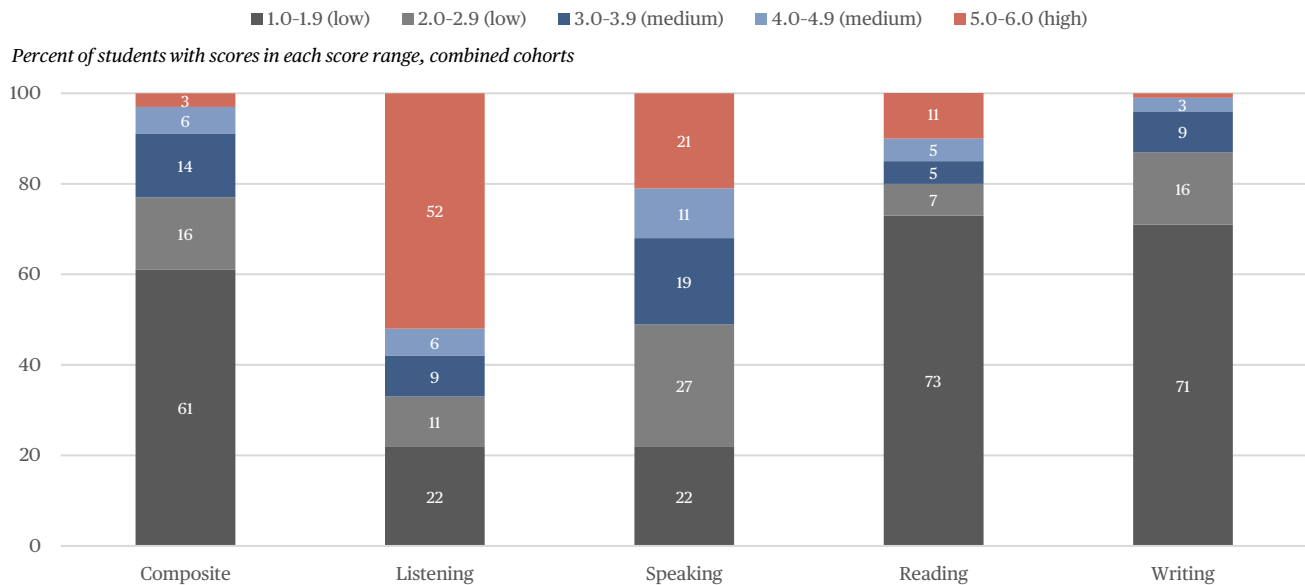
Year identified as an English learner student	2013/14 kindergarten cohort (n = 875)	2014/15 kindergarten cohort (n = 886)	Overall (n = 1,761)
Year 1 (kindergarten)	79	77	78
Year 2	5	4	4
Year 3	4	7	6
Year 4	6	9	7
Year 5	7	2	5

Note: Percentages might not sum to 100 because of rounding.

Source: Authors' analysis of data from the New Mexico Public Education Department.

Figure B1 shows, for the combined cohorts, the distribution of initial English proficiency scores for American Indian English learner students on the Kindergarten ACCESS for ELLs (ACCESS) composite and domains. A majority (at least 77 percent) of American Indian English learner students scored in the low range (1.0-2.9) overall and on the reading and writing domains of the Kindergarten ACCESS, while scores were more varied on the listening and speaking domains.

Figure B1. Most American Indian English learner students in the 2013/14 and 2014/15 kindergarten cohorts scored in the low range overall and on the reading and writing domains of the Kindergarten ACCESS for ELLs, but scores varied more for the listening and speaking domains

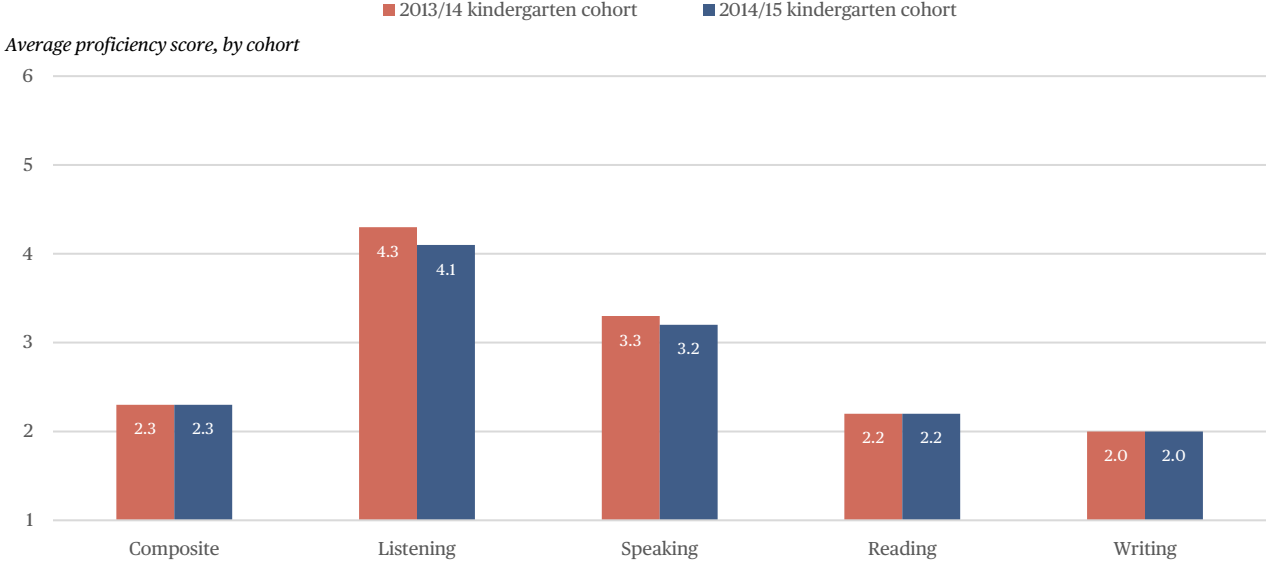


Note: The sample included 1,281 American Indian students who were identified as English learner students at initial kindergarten entry in 2013/14 or 2014/15. Kindergarten ACCESS for ELLs data are missing for 94 American Indian students who were identified as English learner students in kindergarten in 2013/14 or 2014/15.

Source: Authors' analysis of data from the New Mexico Public Education Department.

Figure B2 shows, by cohort, initial English proficiency scores for American Indian English learner students on the Kindergarten ACCESS composite and domains. On average, American Indian students who were identified as English learner students in kindergarten in 2013/14 or 2014/15 scored below 3.0 on the Kindergarten ACCESS. American Indian English learner students had the highest proficiency levels on the listening and speaking domains and the lowest proficiency levels on the reading and writing domains. The findings were similar for each cohort. Figure 1 in the main report displays this information for combined cohorts.

Figure B2. On average, American Indian English learner students in the 2013/14 and 2014/15 kindergarten cohorts earned a proficiency score below 3.0 overall and on the reading and writing domains of the Kindergarten ACCESS for ELLs, and results were consistent across cohorts

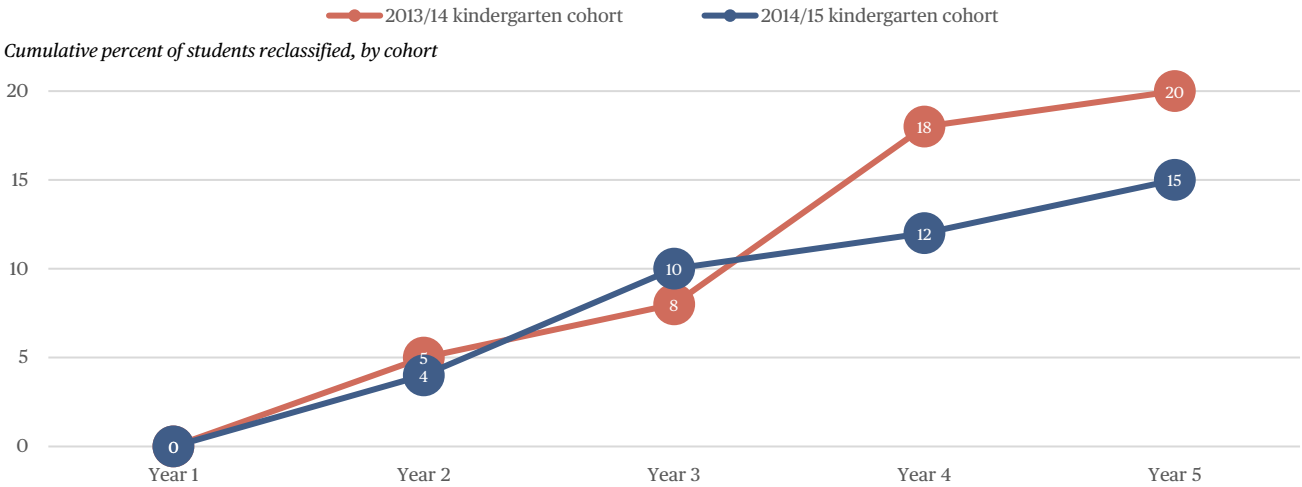


Note: The sample included 649 American Indian students who were identified as English learner students at initial kindergarten entry in 2013/14 and 632 who were identified at initial kindergarten entry in 2014/15. Kindergarten ACCESS for ELLs data are missing for 94 American Indian students who were identified as English learner students at initial kindergarten entry in 2013/14 or 2014/15. Potential scores range from 1.0 to 6.0. See figure 1 in the main report for results combined across both cohorts.

Source: Author’s analysis of data from the New Mexico Public Education Department.

Figure B3 shows, by cohort, the cumulative percentage of American Indian English learner students who were reclassified as English proficient during the five-year study period. In 2017/18 New Mexico began using a version of ACCESS that was intended to align better with college- and career-ready standards. That was year 4 for the 2014/15 kindergarten cohort and year 5 for the 2013/14 kindergarten cohort. Reclassification rates were similar for the two cohorts in years 1-3 but began to diverge in year 4. By year 4, 18 percent of American Indian English learner students who entered kindergarten in 2013/14 were reclassified compared with only 12 percent of American Indian English learner students who entered kindergarten in 2014/15. By year 5 there was a 5 percentage point gap between the reclassification rates of these cohorts (20 percent for the 2013/14 cohort and 15 percent for the 2014/15 cohort), which suggests that the new assessment may have been more challenging for students. Figure 2 in the main report displays this information for combined cohorts.

Figure B3. Low percentages of American Indian English learner students in the 2013/14 and 2014/15 kindergarten cohorts were reclassified as English proficient within five years of entering kindergarten, and reclassification rates for the cohorts diverged beginning in year 4



Note: The sample included 690 American Indian students who were identified as English learner students at initial kindergarten entry in 2013/14 (year 1) and 685 who were identified at initial kindergarten entry in 2014/15 (year 1). In 2017/18 New Mexico began using a version of ACCESS for ELLs that was intended to better align with college- and career-ready standards, which was year 4 for the 2014/15 kindergarten cohort and year 5 for the 2013/14 cohort. Scores from this assessment factor into decisions about reclassification. See figure 2 in the main report for results combined across both cohorts.

Source: Authors' analysis of data from the New Mexico Public Education Department.

Table B3 shows, for the combined cohorts and separately for each cohort, ACCESS composite and domain standardized mean differences between the scores of American Indian English learner students who were reclassified as English proficient and those who were not. For both the combined cohorts and for each cohort, standardized mean differences were .25 standard deviations or greater for the ACCESS composite and speaking and reading domains, which was considered a meaningful difference.

Table B3. Mean ACCESS for ELLs composite and domain scores for American Indian English learner students in the 2013/14 and 2014/15 kindergarten cohorts who were reclassified as English proficient and those who were not, by combined and separate cohorts

ACCESS for ELLs domain	Reclassified as English proficient (mean)	Not reclassified as English proficient (mean)	Pooled standard deviation	Standardized mean difference
Combined cohorts				
Composite	4.97	3.79	0.73	1.61*
Listening	5.72	5.55	0.90	0.19
Speaking	5.09	3.14	0.85	2.31*
Reading	5.56	3.72	1.27	1.45*
Writing	3.64	3.63	0.61	0.02
2013/14 cohort				
Composite	4.99	3.76	0.76	1.62*
Listening	5.68	5.49	0.98	0.19
Speaking	5.38	3.07	0.85	2.69*
Reading	5.51	3.72	1.27	1.41*
Writing	3.61	3.59	0.61	0.03
2014/15 cohort				
Composite	4.92	3.83	0.70	1.57*
Listening	5.79	5.61	0.81	0.22
Speaking	4.64	3.22	0.87	1.74*
Reading	5.64	3.71	1.28	1.50*
Writing	3.69	3.67	0.60	0.03

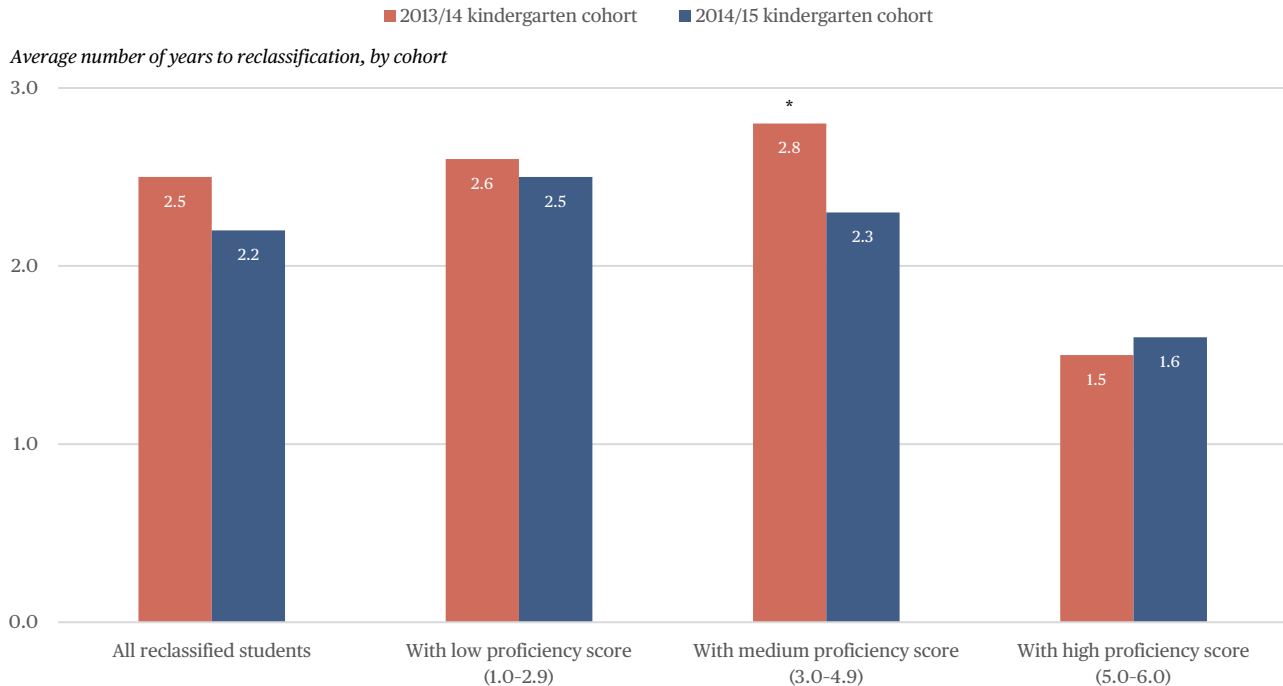
*Denotes a difference of .25 standard deviations or greater between American Indian English learner students who were reclassified and those who were not, which is considered a meaningful difference.

Note: The sample included 1,108 American Indian students who were identified as English learner students at initial kindergarten entry in 2013/14 or 2014/15.

Source: Authors' analysis of data from the New Mexico Public Education Department.

Figure B4 shows, by initial English proficiency score and cohort, the average time to reclassification for American Indian English learner students who were reclassified as English proficient during the five-year study period. Analyses by cohort yield similar results to the analyses by combined cohorts, except for students who earned medium proficiency scores. American Indian English learner students in the 2014/15 cohort who scored in the medium range were reclassified one-half year earlier, on average, than students in the 2013/14 cohort who scored in the medium range. Figure 3 in the main report displays this information for combined cohorts.

Figure B4. On average, American Indian English learner students in the in 2013/14 and 2014/15 kindergarten cohorts who earned high proficiency scores on the Kindergarten ACCESS for ELLs were reclassified as English proficient about one year earlier than students who earned low or medium proficiency scores, and time to reclassification was slightly lower for the 2014/15 kindergarten cohort



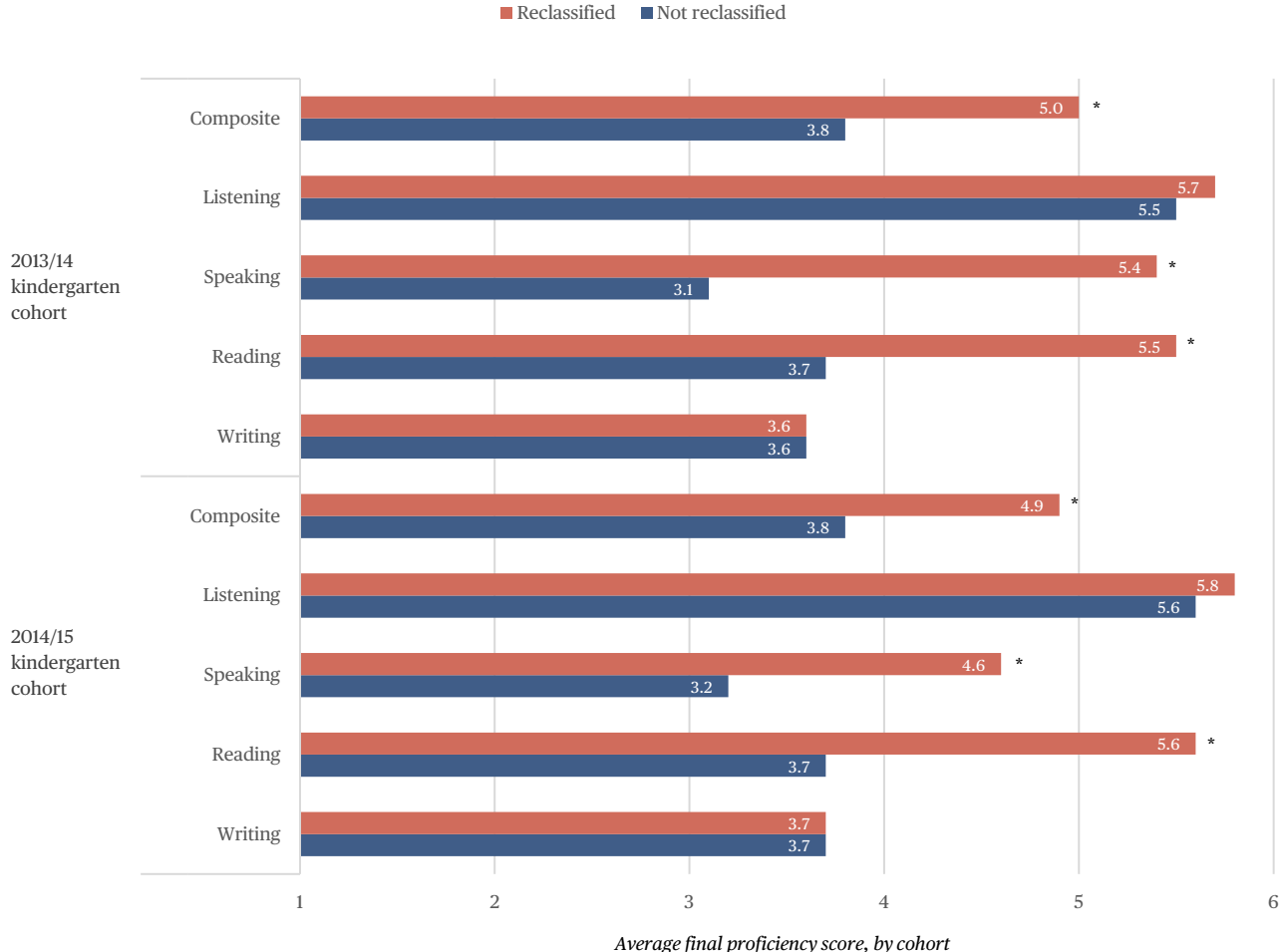
*Denotes a difference of .25 standard deviations or greater between American Indian English learner students in the 2013/14 kindergarten cohort and American Indian English learner students in the 2014/15 kindergarten cohort, which is considered a meaningful difference.

Note: The sample included 127 American Indian students who were identified as English learner students at initial kindergarten entry in 2013/14 and who were later reclassified as English proficient and 94 who were identified at initial kindergarten entry in 2014/15 and who were later reclassified. The number of American Indian English learner students with low proficiency scores was 51 for the 2013/14 cohort and 41 for the 2014/15 cohort. The number with medium proficiency scores was 48 for the 2013/14 cohort and 29 for the 2014/15 cohort. The number with high proficiency scores was 28 for the 2013/14 cohort and 24 for the 2014/15 cohort. ACCESS for ELLs scores were not available for 27 reclassified students. Potential scores range from 1.0 to 6.0. See figure 3 in the main report for results combined across both cohorts.

Source: Authors' analysis of data from the New Mexico Public Education Department.

Figure B5 shows, by cohort, the final English proficiency scores overall and for each domain for American Indian English learner students who were reclassified as English proficient during the five-year study period and those who were not. For each cohort the pattern of results was similar to that for the combined cohort: American Indian English learner students who were reclassified as English proficient within five years of entering kindergarten had higher final English proficiency scores on the ACCESS overall and on the reading and speaking domains than students who were not reclassified, but scores on the listening and writing domains did not differ. Figure 4 in the main report displays this information for combined cohorts.

Figure B5. American Indian English learner students in the 2013/14 and 2014/15 kindergarten cohorts who were reclassified as English proficient and those who were not had similar scores on the writing and listening domains of the ACCESS for ELLs



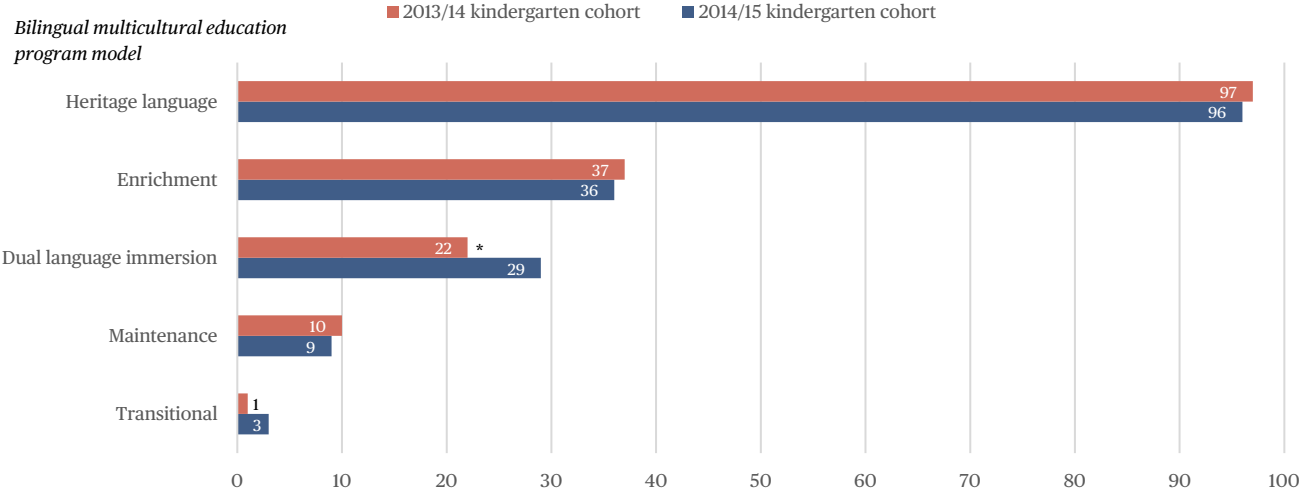
*Denotes a difference of .25 standard deviations or greater between American Indian English learner students who were reclassified and those who were not, which is considered a meaningful difference.

Note: The sample included 589 American Indian students who were identified as English learner students at initial kindergarten entry in 2013/14 and 519 who were identified at initial kindergarten entry in 2014/15 and who were either reclassified as English proficient or not reclassified as proficient within five years of kindergarten entry. Final ACCESS for ELLs data were not available for 267 American Indian English learner students for whom Kindergarten ACCESS for ELLs data were available. Average proficiency scores on the ACCESS for ELLs represent the average of students' final scores up to five years after entering kindergarten. Potential scores range from 1.0 to 6.0. See figure 4 in the main report for results combined across both cohorts.

Source: Authors' analysis of data from the New Mexico Public Education Department.

Figure B6 shows, by cohort, the percentage of American Indian English learner students who attended a school with each BMEP model at any time during the five-year study period. Similar percentages of students in the two cohorts attended a school with each BMEP model, except for the dual language immersion model (22 percent of students in the 2013/14 kindergarten cohort attended a school with a dual language immersion model, compared with 29 percent of students in the 2014/15 kindergarten cohort). Figure 6 in the main report displays this information for combined cohorts.

Figure B6. Most American Indian English learner students in the 2013/14 and 2014/15 kindergarten cohorts who attended a school with a bilingual multicultural education program attended a school with a heritage language program, and the distribution across program models was similar for the two cohorts, except for dual language immersion programs



Percent of students who attended a school with the listed bilingual multicultural education program model, by cohort

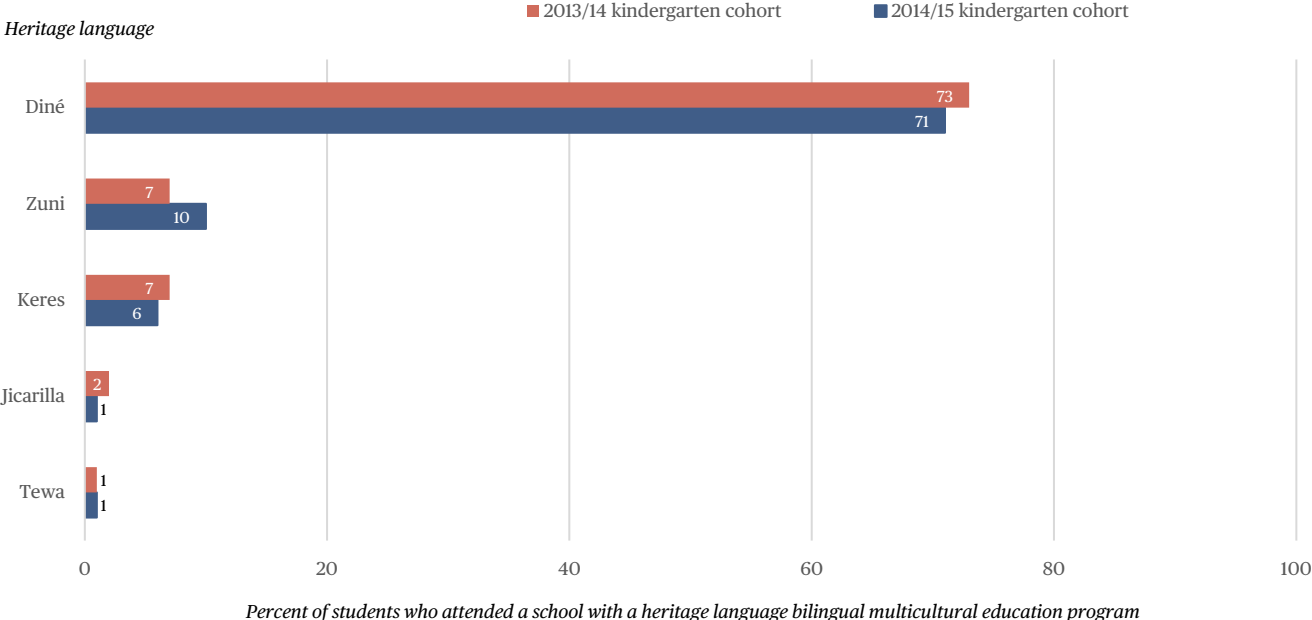
*Denotes a difference of 5 percentage points or greater between American Indian English learner students in the 2013/14 kindergarten cohort and American Indian English learner students in the 2014/15 kindergarten cohort, which is considered a meaningful difference.

Note: The samples included 549 American Indian English learner students who were identified as English learner students at initial kindergarten entry in 2013/14 and attended a school with a bilingual multicultural education program (BMEP) at any time during the five-year study period and 570 who were identified as English learner students at initial kindergarten entry in 2014/15 and attended a school with a BMEP at any time during the five-year study period. Of the 2013/14 kindergarten cohort, 85 percent of American Indian English learner students attended a school with a BMEP during the five-year study period. Of the 2014/15 kindergarten cohort, 90 percent attended a school with a BMEP during the five-year study period. Percentages sum to more than 100 percent because students could attend schools with different BMEP models throughout the five-year study period. BMEPs in New Mexico provide core content and instruction in English and in a student’s home language. See figure 6 in the main report for results combined across both cohorts.

Source: Authors’ analysis of data from the New Mexico Public Education Department.

Figure B7 shows, by cohort, the percentage of American Indian English learner students who attended a school with a BMEP offering each type of American Indian heritage language program. There were no meaningful differences between the two cohorts. Figure 7 in the main report displays this information for combined cohorts.

Figure B7. Most American Indian English learner students in the 2013/14 and 2014/15 kindergarten cohorts who attended a school with a heritage language bilingual multicultural education program attended a school that taught Diné, and there were no meaningful differences between cohorts in the percentage of students who attended schools that focused on each heritage language



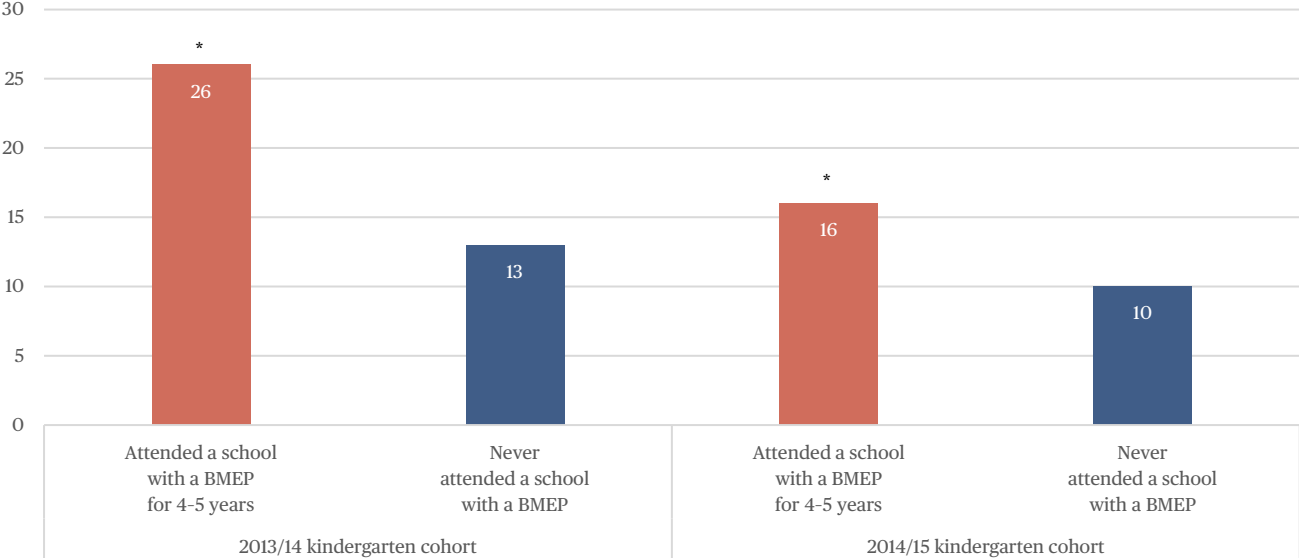
Note: The sample included 496 American Indian students who were identified as English learner students at initial kindergarten entry in 2013/14 and attended a school with a heritage language bilingual multicultural education program (BMEP) at any time during the five-year study period and 507 who were identified as English learner students at initial kindergarten entry in 2014/15 and attended a school with a heritage language BMEP at any time during the five-year study period. BMEPs in New Mexico provide core content and instruction in English and in a student’s home language. See figure 7 in the main report for results combined across both cohorts.

Source: Authors’ analysis of data from the New Mexico Public Education Department.

Figure B8 shows, by cohort, the differences in rates of reclassification as English proficient between American Indian English learner students who attended a school with a BMEP for at least four years and American Indian English learner students who never attended a school with a BMEP during the five-year study period. Overall, American Indian English learner students who attended a school with a BMEP for at least four years were reclassified as English proficient at higher rates than American Indian English learner students who never attended a school with a BMEP during the five-year study period. The pattern of results was similar for each cohort, but the gap was larger for students in the 2013/14 kindergarten cohort (13 percentage points) than for students in the 2014/15 cohort (6 percentage points). Figure 8 in the main report displays this information for combined cohorts.

Figure B8. American Indian English learner students in the 2013/14 and 2014/15 kindergarten cohorts who attended a school with a bilingual multicultural education program for at least four years were more likely to be reclassified as English proficient than students who never attended a school with such a program, but students in the 2014/15 cohort were less likely to be reclassified regardless of whether they attended a school with a bilingual multicultural education program

Percent of students reclassified as English proficient, by cohort and whether attended a school with a BMEP



*Denotes a difference of 5 percentage points or greater between American Indian English learner students who attended a school with a BMEP for at least four years during the five-year study period and American Indian English learner students who never attended a school with a BMEP, which is considered a meaningful difference.

BMEP is bilingual multicultural education program.

Note: The samples included American Indian students who were identified as English learner students at initial kindergarten entry in 2013/14 or 2014/15. For the 2013/14 kindergarten cohort the sample included 92 students who attended a school with a BMEP for at least four years during the five-year study period and 141 who never attended a school with a BMEP during the five-year study period. For the 2014/15 cohort the sample included 311 students who attended a school with a BMEP for at least four years and 115 who never attended a school with a BMEP during the five-year study period. BMEPs in New Mexico provide core content and instruction in English and in a student’s home language. See figure 8 in the main report for results combined across both cohorts.

Source: Authors’ analysis of data from the New Mexico Department of Education.

Table B4 shows the characteristics of American Indian English learner students who attended a school with a BMEP for at least four years and those of American Indian English learner students who never attended a school with a BMEP during the five-year study period. There were no meaningful differences between these groups.

Table B4. Characteristics of American Indian English learner students in the 2013/14 and 2014/15 kindergarten cohorts who attended a school with a bilingual multicultural education program for at least four years and students who never attended a school with such a program (percent)

Characteristic	Never attended a school with a BMEP (n = 256)	Attended a school with a BMEP for at least four years (n = 403)
Female	44	46
Hispanic	4	4
Eligible for the National School Lunch Program ^a	90	91
Received special education services	22	26
Kindergarten ACCESS for ELLs proficiency score		
Low (1.0-2.9)	68	64
Medium (3.0-4.9)	21	24
High (5.0-6.0)	2	6

BMEP is bilingual multicultural education program.

Note: The samples included American Indian students who were identified as English learner students at initial kindergarten entry in 2013/14 or 2014/15. BMEPs in New Mexico provide core content and instruction in English and in a student's home language.

a. Eligibility for the National School Lunch Program was used as an indicator of economic disadvantage.

Source: Authors' analysis of data from the New Mexico Public Education Department.