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APPENDIXES
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Alaska Native Students as English Learner Students: Examining Patterns in Identification, Classification, Service Provision, and Reclassification

See https://go.usa.gov/xHEJu for the full report.

Appendix A. About the study

This study sought to inform Alaska stakeholders about the identification, classification, service provision, and reclassification patterns of Alaska Native English learner (EL) students. More broadly, it also sought to inform policymakers, practitioners, and researchers regarding EL policy as it affects Indigenous students.

Indigenous students, including Alaska Native, American Indian, and Native Hawaiian students, are underrepresented in EL policy research (Carjuzaa & Ruff, 2016). Much of that research focuses on immigrant-origin students—specifically, Spanish-speaking students. Although the Spanish-speaking EL population accounts for roughly 80 percent of the EL population in the United States (U.S. Department of Education, n.d.), there are many EL students with other racial/ethnic, linguistic, and national backgrounds. This gap in EL policy research is important because EL students have highly disparate outcomes that often correlate with racial/ethnic and linguistic characteristics. For example, one study found that by the end of grade 8, 53 percent of Latinx EL students had been reclassified compared with 90 percent of Chinese EL students (Umansky et al., 2020). In addition, Hispanic/Latino EL students were less likely than other EL students to be administered the English proficiency assessments required for reclassification (Reyes & Domina, 2019) and less likely to be reclassified when they meet eligibility requirements (Estrada & Wang, 2018).

Although some studies have begun to examine differences across EL outcomes by EL student group, including for students with different home languages, these studies typically cluster American Indian, Alaska Native, and Native Hawaiian students with other low-incidence groups in an "other home language" category due, in part, to small sample sizes (Burke et al., 2016; Greenberg Motamedi et al., 2016; Kieffer & Parker, 2016). As a consequence, little is known about the characteristics, needs, and outcomes of Indigenous EL students. This is concerning because federal legislation defines Indigenous EL students differently from non-Indigenous EL students (see below), and therefore Indigenous EL students are likely to have different characteristics, needs, and outcomes. Research on this important group of students is critical for education stakeholders as they work to ensure that Indigenous EL students receive high-quality, equitable, and appropriate education services and supports.

English learner student classification

EL classification in the United States emerged as a response to historical practices that placed students with low proficiency in English into English-only classrooms without accommodations, thereby diminishing their ability to

succeed academically (Lau v. Nichols, 1974). For students with limited English proficiency, EL classification formally confers specific education-related rights, including English language development instruction and accessible core content instruction. The federal Every Student Succeeds Act (ESSA) requires that states have standardized procedures for EL classification and reclassification (Every Student Succeeds Act, 2015). School districts within a state should therefore all be using the same state-defined processes for EL classification and reclassification.

ESSA further specifies which students should be classified as EL students. For non-Indigenous K–12 students, the two basic criteria are having a home or primary language other than English and having a measured English proficiency level that indicates a need for supplemental linguistic supports to access and succeed in a general instructional setting. Across the country the typical way that states and districts evaluate students' eligibility is to administer a home language survey to parents or guardians that asks about the student's home language environment. Typically, all families complete the home language survey when their child first enrolls in school. Children in families who indicate that a language other than English is spoken in the home go on to take an English proficiency assessment or screener. Those who score below a state-established threshold are classified as EL students.

Federal legislation defines the first criterion for EL eligibility (that a student has a non-English home or primary language) differently for Indigenous students, however. Indigenous students (defined as "Native American or Alaska Native, or a native resident of the outlying areas") are eligible for EL services if they are "from an environment where a language other than English has had a significant impact on the individual's level of English language proficiency" (Every Student Succeeds Act, 2015). The legislation does not define "significant impact" on English proficiency or how to assess it. The practical implication is that Indigenous students, unlike any other group of students, can be eligible for EL classification even if English is their home language and even if they are monolingual English speakers. However, almost nothing is known about how states and districts differentiate identification of Indigenous and non-Indigenous students for EL eligibility.

Alaska's state ESSA plan, which outlines many key English learner policies, does not differentiate EL identification for Indigenous and non-Indigenous students (Alaska Department of Education & Early Development, 2018a). The plan lists the EL eligibility requirements for Indigenous and non-Indigenous students, but it does not differentiate them. Rather, it states that "before a student is screened for English language proficiency, the district must determine if the student is included in one of the categories [that is, Indigenous or non-Indigenous] of students eligible to be identified as an English learner" (Alaska Department of Education & Early Development, 2018a, p. 85). The steps laid out to make this determination include the mandated home language survey and, optionally, teacher observation via a state-developed language observation checklist. However, the plan does not clarify how these steps should differ for Indigenous and non-Indigenous students or what results from either step would trigger eligibility for either group. For example, Alaska's ESSA plan requires districts to administer the state home language survey to all incoming students (Alaska Department of Education & Early Development, 2018b). The survey questions enable identification of non-English home languages but not of non-English language impacts on English development, so it is unclear how the survey would facilitate identification of eligible Indigenous students. Similarly, neither the home language survey nor the language observation checklist includes a question about race/ethnicity, making it even more difficult to differentiate processes for students by Indigenous background.

Thus, although potential EL students in Alaska can be identified through either the home language survey or the language observation checklist, there is no explicit difference in processes for Alaska Native (or other Indigenous) students and for non–Alaska Native students. Once a student is identified as a potential EL student, the student proceeds to the second EL eligibility criterion, assessment of English proficiency. Districts have discretion over which state-approved screener assessment to use, including the kindergarten WIDA ACCESS Placement Test (W-APT) and the WIDA Measure of Developing English Proficiency (MODEL) for kindergarten students, the WIDA Screener Online, WIDA Screener Paper, and WIDA MODEL for students in grades 1–12. Kindergarten students are

classified as an EL student if they score below a 29 out of 30 on the W-APT or below a 6 out of 6 on the MODEL, and students in grades 1–12 are classified as an EL student if they score below a 5 out of 6 on the WIDA Screener or MODEL (WIDA, 2019).

Research has begun to identify some of the complex factors that might be at play regarding how, why, and when EL classification and reclassification affect students. These include the extent to which students need EL services (lower-proficiency students might benefit more from English learner classification than higher-proficiency students; Callahan, 2005); the types of services EL students receive, including language of instruction (Steele et al., 2017) and course access (Umansky, 2018); characteristics of the school, such as the density of the EL student population (Callahan et al., 2008); and the proficiency level at which students are deemed eligible for reclassification, along with the match between that level and the school's supports for reclassified students (Robinson-Cimpian & Thompson, 2016). Given variation in the effects of EL classification by services and student background, it is critical to better understand how EL classification and supports affect Alaska Native and other Indigenous students—who often face marginalization, inappropriate instruction, and insufficient resources in school (Demmert et al., 2006).

Alaska Native, American Indian, and Native Hawaiian students

Although specific to Alaska and Alaska Native students, this study seeks to contribute to the broader research and policy base regarding how Indigenous students experience EL classification and services. This section steps back from EL students to highlight some of the key challenges Indigenous students face, as well as some of the key strengths of this diverse group of students.

Even though the historical, linguistic, and cultural contexts of Alaska Native students are unique, they and other Indigenous student groups in the United States may face overlapping challenges and barriers in their schooling experiences, due in part to tribes' status as political entities recognized by the federal government. Challenges and barriers are complex and dynamic and can affect students differently. However, one shared experience among Indigenous students in the United States is a schooling context that has been driven historically by assimilative practices and the suppression of heritage language use (Barnhardt, 2001; Demmert et al., 2006). In addition, Alaska Native, American Indian, and Native Hawaiian students may encounter a lack of culturally responsive instructional practices and may experience a disconnect between the dominant paradigm of standards-based education and an orientation toward education that is more community-, culture-, and place-based (CHiXapkaid et al., 2011; Demmert et al., 2006; Nelson-Barber & Trumbull, 2015). Further, many Indigenous students live in underserved communities, facing challenges related to poverty and health (Sarche & Spicer, 2008).

However, Alaska Native, American Indian, and Native Hawaiian students are not defined by the challenges they face in the education system. These students and their communities bring rich assets and strengths to their education. Alaska Native, American Indian, and Native Hawaiian communities are characterized by resilience; deep historical knowledge; a strong commitment to place, community, and culture; and heritage language knowledge (CHiXapkaid et al., 2011; Nelson-Barber & Trumbull, 2015). Additionally, their strong communities, as well as the education advocacy efforts of their communities, support students and families in the education system (Sarche & Spicer, 2008).

Alaska Native students are distinct from other Indigenous student groups in the United States, including American Indian and Native Hawaiian students (Barnhardt, 2001). The state of Alaska was established after the tribal recognition and reservation system was established in the United States, and as such, Alaska Native students did not experience the reservation system. However, they did have experiences with boarding schools as a form of cultural assimilation similar to that of American Indian youth in the continental United States (Hirshberg & Sharp, 2005). Further, although tribes' unique status as political entities is recognized in the U.S. Constitution, Alaska

Native identification comes from the Alaska Statehood Act (1958) and was further institutionalized by the Alaska Native Claims Settlement Act (1971).

Another way that Alaska Native students, and Alaska students and families more generally, differ from other groups in the United States is a heavy reliance on subsistence activities. Many Alaska Native families engage in subsistence activities to provide all or a portion of their livelihood throughout the year. Because the definition of economic disadvantage used in this study is based on a cash economy, it does not account for subsistence activities and their influence on a family's economic well-being. The federal government defines subsistence uses as "the customary and traditional uses by rural Alaska residents of wild, renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of nonedible byproducts of fish and wildlife resources taken for personal or family consumption; for barter, or sharing for personal or family consumption; and for customary trade" (Alaska National Interest Lands Conservation Act § 803). An estimated 83 percent of households in rural Alaska harvest fish, and 60 percent harvest wildlife (Alaska Department of Fish & Game Division of Subsistence, n.d.). Subsistence activities are also an important part of the cultural heritage of Alaska Native students. Some school districts incorporate subsistence activities into their curriculum. For example, the Lower Yukon school district's Yupik cultural director plans district cultural and subsistence activities, including hunting, fishing, and other food gathering activity (Alaska Department of Education & Early Development, 2020).

Indigenous students and language

Many Indigenous EL students differ from non-Indigenous EL students in that they speak English as their primary language (Carjuzza & Ruff, 2016). There are many English varieties, and the English spoken in many Indigenous communities differs from Standard American English (Devereaux & Palmer, 2019). Many people in Indigenous communities have developed "fluency in ancestral language-based varieties of English" (Leap, 2012, p. 147), English varieties influenced by their Indigenous languages. These English varieties are whole and complete language proficiencies, not a marker of language deficiency or partial language proficiency, despite a widespread academic orientation that privileges Standard American English over other English varieties (Ahler, 2007; Devereaux & Palmer, 2019; Lippi-Green, 1994). English learner policies that use standardized assessments of English language proficiency and classifications of dominant languages can frame some students, especially students who use both their heritage language and an English variety, as experiencing "languagelessness"—having proficiency neither in their heritage language nor in the standard variety of English (Flores et al., 2020). Such framings, made even more visible by formal EL classifications, overlook students' fluent use of multiple languages and their ability to navigate social spaces as multilingual students (Flores et al., 2020).

Studies of Indigenous language endangerment in North America have found that a majority of Indigenous languages are spoken only by older generations (Krauss, 1974). In Alaska many communities are experiencing acute language shift from their Indigenous languages to English as youth become more likely to speak English, despite strong commitments to language preservation and revitalization from community members (Wyman et al., 2010).

The differences between the linguistic profiles of Indigenous EL students and non-Indigenous EL students might have important implications for education. Standard American English instructional practices may need to be differentiated for students who are fluent speakers of another variety of English and for students whose primary language is other than English (Devereaux & Palmer, 2019; Smith, 2016). Further, the EL classification, which implies that a student is not a fluent English speaker, might be problematic in that it does not recognize the English variety spoken by Indigenous students (Ahler, 2007).

In recognition of Indigenous students' challenges and strengths, this study explored how EL policies and practices influence the education of Indigenous students in Alaska. In particular, the study recognizes the critical role that

language plays in identity for Indigenous communities (Dementi-Leonard & Gilmore, 1999; McCarty & Watahomigie, 1998; Norton, 2010) and, therefore, the importance of better understanding how a language-based classification of "English learner" affects Indigenous students. Although this study focuses on Alaska Native EL students, a more complete understanding of EL policy as experienced by Indigenous students could inform stakeholders across the United States who work with Alaska Native, American Indian, and Native Hawaiian EL students. In addition, the study can contribute to policy and practice decisions regarding EL student identification, classification, services, and reclassification. At a minimum this study can spark future work on how EL classification serves and affects—and can be improved for—Indigenous students.

References

Ahler, J. G. (2007). The impact of immigration on bilingualism among Indigenous American peoples. *Forum on Public Policy 2007*(1), 1–22. https://eric.ed.gov/?id=EJ1098469.

Alaska Department of Education & Early Development. (2018a). *Revised state template for the consolidated state plan: The Elementary and Secondary Education Act of 1965, as amended by the Every Student Succeeds Act: Alaska final submission*. U.S. Department of Education. Retrieved June 18, 2020, from https://education.alaska.gov/akessa/stateplan.

Alaska Department of Education & Early Development. (2018b). *Home language survey*. Retrieved July 27, 2020, from https://education.alaska.gov/esea/TitleIII-A.

Alaska Department of Education & Early Development. (2020). *DEED spotlight on learning through subsistence, Lower Yukon School District.* Retrieved January 26, 2021, from https://education.alaska.gov/information-exchange-blog/deed-spotlight-on-learning-through-subsistence-lower-yukon-school-district.

Alaska Department of Fish & Game, Division of Subsistence. (n.d.). *Alaska's economies and subsistence.* https://www.adfg.alaska.gov/static/home/library/pdfs/subsistence/ak_economies_subsistence.pdf.

Alaska National Interest Lands Conservation Act of 1980. (1980). Pub L. No. 96-487, 94 Stat. 2371.

Alaska Native Claims Settlement Act. (1971). Pub. L. No. 92-203, 85 Stat. 688.

Alaska Statehood Act. (1958). 72 Stat. 339, Public Law 85-508, 85th Congress, H. R. 7999.

Barnhardt, C. (2001). A history of schooling for Alaska Native people. *Journal of American Indian Education*, *40*(1), 1–30. https://eric.ed.gov/?id=EJ633464.

Burke, A. M., Morita-Mullaney, T., & Singh, M. (2016). Indiana emergent bilingual student time to reclassification: A survival analysis. *American Educational Research Journal*, *53*(5), 1310–1342. https://eric.ed.gov/?id=EJ1116486.

Callahan, R. M. (2005). Tracking and high school English learners: Limiting opportunity to learn. *American Educational Research Journal, 42*(2), 305–328. http://eric.ed.gov/?id=EJ737124.

Callahan, R., Wilkinson, L., & Muller, C. (2008). School context and the effect of ESL placement on Mexican-origin adolescents' achievement. *Social Science Quarterly, 89*(1), 177–198. https://www.semanticscholar.org/paper/School-Context-and-the-Effect-ESL-Placement-on-Callahan-Wilkinson/a434064af2faeaae676af5229e93623a05d613b9.

Carjuzaa, J., & Ruff, W. G. (2016). American Indian English language learners: Misunderstood and under-served. *Cogent Education*, *3*(1), 1–11. https://eric.ed.gov/?id=EJ1138210.

ChiXapkaid, Inglebret, E., & Krebill-Prather, R. L. (2011). *Views and perspectives of Native educational success: A national survey of American Indians, Alaska Natives, Native Hawaiians and others associated with Indian education.* Colorín Colorado. Retrieved June 18, 2020, from https://www.colorincolorado.org/research/views-and-perspectives-native-educational-success-national-survey-american-indians-alaska.

Dementi-Leonard, B., & Gilmore, P. (1999). Language revitalization and identity in social context: A community-based Athabascan language preservation project in western interior Alaska. *Anthropology & Education Quarterly*, *30*(1), 37–55. https://www.researchgate.net/publication/249486887_Language_Revitalization_and_Identity_in_Social_Context_A_Community-Based_Athabascan_Language_Preservation_Project_in_Western_Interior_Alaska.

Demmert, W. G., Grissmer, D., & Towner, J. (2006). A review and analysis of the research on Native American students. *Journal of American Indian Education*, *45*(3) 5–23. https://jaie.asu.edu/sites/default/files/453_2006_2_demmert_et_al.pdf.

Devereaux, M. D., & Palmer, C. C. (Eds.). (2019). *Teaching language variation in the classroom: Strategies and models from teachers and linguists*. Routledge.

Estrada, P., & Wang, H. (2018). Making English learner reclassification to fluent English proficient attainable or elusive: When meeting criteria is and is not enough. *American Educational Research Journal*, *55*(2), 207–242. https://eric.ed.gov/?id=EJ1173075.

Every Student Succeeds Act of 2015. (2015). Pub. L. No. 114–95, 114 Stat. 1177. https://www.congress.gov/bill/114th-congress/senate-bill/1177.

Flores, N., Phuong, J., & Venegas, K. M. (2020). "Technically an EL": The production of raciolinguistic categories in a dual language school. *TESOL Quarterly*, *54*(3), 629–651. https://eric.ed.gov/?id=EJ1262824.

Greenberg Motamedi, J., Singh, M., & Thompson, K. D. (2016). *English learner student characteristics and time to reclassification: An example from Washington State* (REL 2016–128). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northwest. https://eric.ed.gov/?id=ED565624.

Hirshberg, D., & Sharp, S. (2005). *Thirty years later: The long-term effect of boarding schools on Alaska Natives and their communities*. University of Alaska Anchorage, Institute of Social and Economic Research. https://scholarworks.alaska.edu/handle/11122/8972.

Kieffer, M. J., & Parker, C. E. (2016). *Patterns of English learner student reclassification in New York City Public Schools* (REL 2017–200). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northeast & Islands. https://eric.ed.gov/?id=ED569344.

Krauss, M. E. (1974). *Native peoples and languages of Alaska* (Map). Alaska Native Language Center.

Lau v. Nichols. (1974). 414 U.S. 563. https://www.loc.gov/item/usrep414563/.

Leap, W. (2012). *American Indian English.* University of Utah Press.

Lippi-Green, R. (1994). Accent, standard language ideology, and discriminatory pretext in the courts. *Language in Society, 23*(2), 163–198.

McCarty, T. L., & Watahomigie, L. J. (1998). Indigenous community-based language education in the USA. *Language Culture and Curriculum*, *11*(3), 309–324. https://eric.ed.gov/?id=EJ586035.

Nelson-Barber, S., & Trumbull, E. (2015). *The Common Core initiative, education outcomes, and American Indian/Alaska Native students: Observations and recommendations*. Center on Standards and Assessments Implementation. http://eric.ed.gov/?id=ED570362.

Norton, B. (2010). Language and identity. *Sociolinguistics and Language Education*, *23*(3), 349–369.

Reyes, M., & Domina, T. (2019). A mixed-methods study: Districts' implementation of language classification policies and the implications for male, Hispanic, and low-income middle school students. *Education Policy Analysis Archives*, *27*(30), 1–31. https://eric.ed.gov/?id=EJ1210346.

Robinson-Cimpian, J. P., & Thompson, K. D. (2016). The effects of changing test-based policies for reclassifying English learners. *Journal of Policy Analysis and Management, 35*(2), 279–305. https://eric.ed.gov/?id=EJ1093297.

Sarche, M., & Spicer, P. (2008). Poverty and health disparities for American Indian and Alaska Native children: Current knowledge and future prospects. *Annals of the New York Academy of Sciences, 1136*(1), 126–136. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2567901/

Smith, P. (2016). A distinctly American opportunity: Exploring nonstandardized English(es) in literacy policy and practice. *Policy Insights from the Behavioral and Brain Sciences*, *3*(2), 194–202.

Steele, J. L., Slater, R. O., Zamarro, G., Miller, T., Li, J., Burkhauser, S., et al. (2017). Effects of dual-language immersion programs on student achievement: Evidence from lottery data. *American Educational Research Journal, 54*(1), 282S–306S. http://eric.ed.gov/?id=EJ1155308.

Umansky, I. M. (2018). According to plan? Examining the intended and unintended treatment effects of EL classification in early elementary and the transition to middle school. *Journal of Research on Educational Effectiveness, 11*(4), 588–621. https://eric.ed.gov/?id=EJ1202581.

Umansky, I. M., Callahan, R. M., & Lee, J. C. (2020). Making the invisible visible: Identifying and interrogating ethnic differences in English learner reclassification. *American Journal of Education, 126*(3), 335–388. https://eric.ed.gov/?id=EJ1254441.

U.S. Department of Education. (n.d.). *Our nation's English learners*. Retrieved June 18, 2020, from https://www2.ed.gov/datastory/el-characteristics/index.html.

WIDA. (2019). *Alaska English language learner identification and placement guidance document.* University of Wisconsin-Madison. https://wida.wisc.edu/sites/default/files/id-placement/AK-ID-Placement-Guidance.pdf.

Wyman, L., Marlow, P., Andrew, F. C., Miller, G. S., Nicholai, R. C., & Rearden, N. Y. (2010). Focusing on long-term language goals in challenging times: A Yup'ik example. *Journal of American Indian Education, 49*(1), 28–49.

Appendix B. Methods

This appendix contains detailed information on the methods used to answer the study's four research questions. It includes information on the data collection and preparation process, details on the analytic sample, and an explanation of the analytic approaches used to answer each research question.

Data

Quantitative data. The primary data for this study were student administrative records from 2011/12 to 2018/19, obtained through a data-sharing agreement with the Alaska Department of Education & Early Development (DEED). These data included student demographic characteristics, such as academic year, grade level, school, gender, reported home language (for English learner [EL] students only), EL status, and whether a student ever received special education services (had an individualized education program). The data are longitudinal panel data in which each row of data corresponds to one student in one academic year. Thus, students generally have one observation or row per academic year during which they are included in the data. If a given student entered kindergarten in 2011/12 and stayed in public schools in Alaska through at least 2018/19 (the last year of data), that student would have eight observations or rows, one for each year from 2011/12 through 2018/19.

If a student had more than one observation for a given academic year (which could occur if a student switched schools midyear), the study team used the observation for which the student spent the longest portion of that year. For example, if a student started 2016/17 in school X in September but moved to school Y in November and thus had two observations for that academic year—one for school X and one for school Y—only the observation for school Y would be retained because the student spent the majority of 2016/17 in school Y. All students in the data were matched to both a school and a district.

During the study period 503 schools served about 130,000 students in kindergarten through grade 12 each year across Alaska's 54 school districts. Of these students, 21 percent identified as Alaska Native—the largest group of students of color in the state. The Alaska Native population is diverse, with four distinct language families and 20 Indigenous languages (Holton et al., 2011). Alaska's K–12 population also includes 47 percent White students, 12 percent multiracial students, 7 percent Hispanic/Latino students, and 6 percent Asian students, with other racial/ethnic groups accounting for less than 5 percent each. Further, 15 percent of the state's students were identified as EL students when they first entered an Alaska school. The analyses for this study focused on the state's Alaska Native and EL populations, particularly students who were classified as both Alaska Native and EL students.

The study team defined three variables in the analyses—economically disadvantaged, received special education services, and Alaska Native—as time-invariant variables that capture whether a student was ever identified as such at any point in the data. Students in more recent cohorts have fewer observations in the data and therefore may be underrepresented as ever having been identified as economically disadvantaged, receiving special education services, or Alaska Native. No observations were missing for any of these three variables.

Students were identified as economically disadvantaged if they were eligible for the national school lunch program or met other criteria as defined by Alaska guidelines, which define eligibility in response to a family's income (Alaska Department of Education & Early Development, 2019). Students were identified as having received special education services if they had an individualized education program on file or received special education services.

The "ever" categorization was used in identifying Alaska Native students in response to concerns that Indigenous students could be undercounted (Demmert et al., 2006). However, because of how racial/ethnic data are collected, the possibility remains that Alaska Native students are underrepresented in the data. Student race/ethnicity is denoted by a singular value in the data per year, and options are White, Black, Hispanic or Latino,

Asian, American Indian, Alaska Native, Native Hawaiian or Pacific Islander, and two or more races/not Hispanic. Therefore, students who identified as multiracial but are also Alaska Native would be counted as Alaska Native only if, at some point, their racial identity was coded as only Alaska Native. The study team used a student's modal reported home language (for EL students) and modal gender, both of which had no missingness.

Students were defined as initially classified as an EL student if they were identified as an EL student for the first time in kindergarten or grade 1. Students who were not identified in kindergarten but were identified in grade 1 were included as "initially classified" because there is some flexibility in the Alaska EL guidelines regarding the timing of screening for students who arrive later in the kindergarten school year.

Alaska Developmental Profile kindergarten readiness scores were merged with demographic data. The Alaska Developmental Profile is an observational tool used by kindergarten teachers in the beginning of the school year to assess students on 13 goals in five domains such as approaches to learning and social and emotional development. In addition to the continuous measure (0–13), this study used a measure of kindergarten readiness developed by DEED that indicates whether a student was rated as meeting 11 of the 13 goals (Alaska Department of Education & Early Development, 2020). As with other assessment data, a student's highest score was retained if the data contained more than one score on a given assessment in a given year. Overall, 9 percent of students in the analytic sample for research question 1 were missing kindergarten readiness scores, and 8 percent of students in the analytic sample for research question 4 were missing kindergarten readiness scores. The study team used listwise deletion to account for this missingness. For research question 1, students were deleted from the analytic sample only for the analysis that focused on kindergarten readiness scores and retained for the other descriptive analyses that did not look at kindergarten readiness.

The demographic and kindergarten readiness data were also merged with students' annual English language proficiency scores for three years of data (2016/17–2018/19). EL students in Alaska were assessed using the Assessing Comprehension and Communication in English State-to-State (ACCESS) assessment, which was administered in the spring of each academic year to all classified EL students to evaluate their English language development and eligibility for reclassification. Students took four domain subtests—reading, writing, speaking, and listening—and received five scores, one for each domain subtest and one overall composite score. Possible ACCESS scores range from 1.0 to 6.0 (WIDA, 2019).

Across grades and available years, EL students in the analytic sample for research question 1 were missing an ACCESS score in a given domain between 11 percent of the time (listening score) and 13 percent of the time (overall score). In the analytic sample for research question 4, EL students were missing an ACCESS score in a given domain between 5 percent of the time (listening score) and 7 percent of the time (overall score). The study team used listwise deletion to account for this missingness. For research question 1, students were deleted from the analytic sample only for the analysis that focused on ACCESS scores and retained for the other descriptive analyses that did not look at ACCESS scores. DEED had planned to provide the study team with ACCESS scores from prior years but was unable to do so because of the COVID-19 pandemic.

Although students took the annual ACCESS test to determine eligibility for reclassification from EL status, they took a different test to determine initial classification as an EL student when they first entered a school district. These initial classification tests, called screeners, were shorter than the ACCESS test. Alaska school districts typically use one of three screeners—the Measure of Developing English Language (MODEL), the WIDA screener, or the WIDA-ACCESS Placement Test (W-APT)—all of which are produced by the WIDA Consortium, which also produces the ACCESS assessment. Students' scores on the screener determine whether they should be classified as EL students, following state-established thresholds for each screener.

However, DEED does not collect screener data, including the test used, the score, or the test date. Therefore, the study team requested screener data directly from school districts. The team emailed 19 districts and asked if they would participate in the study by providing student-level screener data. These districts were sent a letter of

support template and asked to submit the letter if they agreed to share their data. These 19 districts were selected because they have relatively high percentage of EL students. Although nine districts submitted initial letters of support to provide screener data, ultimately only four districts were able to do so. There were many reasons why districts were unable to provide data, including the burden of synthesizing the screener data for the study team, a lack of personnel to facilitate data sharing, and other commitments. Although the districts that ultimately were able to participate are not representative of the entire state, they do represent a diversity of Alaska contexts. For example, one district comprises primarily rural remote schools, one comprises primarily urban fringe and rural hub/fringe schools, and the third and fourth are predominantly urban. Further, Alaska Native students make up more than 75 percent of one district's student population and about 10–20 percent of students in the other three districts. More precise characteristics are not provided in order to protect anonymity.

These four Alaska school districts voluntarily shared student-level data that contained initial English language proficiency screener results, which were linked to the statewide master dataset using unique student identifiers. Overall, 9 percent of students who had screener scores did not merge with the state data; of these, 88 percent were screened in 2018/19. These students were excluded from all analyses. Like the ACCESS assessment, all three screeners resulted in an overall composite English language proficiency score and four domain subtest scores in reading, writing, speaking, and listening. The MODEL and the W-APT were both kindergarten-specific screeners, and the WIDA screener was used for students entering in later grades. Two districts used only the W-APT, one used both the MODEL and W-APT, and the fourth used the MODEL exclusively. The study team received three years of data (2016/17–2018/19) from one district and seven years of data (2012/13–2018/19) from the other three districts.

Finally, school-level data collected from public sources by the Regional Educational Laboratory (REL) Northwest were merged with the state administrative data. These data included school locale and whether a school served preschoolers from 2011/12 to 2018/19, as well as a school-level staffing variable indicating the number of full-time equivalent (FTE) teachers of English as a second language (ESL) from 2012/13 to 2018/19. The school locale variable was developed through collaboration between the REL Northwest and Alaska stakeholders to better reflect the state's geographic context (Vazquez Cano et al., 2019). Schools were categorized as one of four locales: urban, urban fringe, rural-hub/fringe, or rural remote. Urban fringe schools are distinct from urban schools in that they are located in on- and off-road communities near an urban locale or commercial air access. Rural-hub/fringe schools are located in rural communities that may be on- or off-road systems. Rural remote schools are in small, off-road communities accessible only by small plane or boat. No observations were missing for locale values or whether schools offered preschool, but 4 percent of observations were missing ESL teacher data.

Qualitative data. After districts provided a letter of support for sharing screener data, they were asked in a follow-up email if their EL director would participate in an interview. All EL directors from the four districts that shared screener data agreed to participate. The interview protocol is shown below. The interview questions and probes focused on EL practices and policies, including differences in EL practices and policies for Alaska Native and non–Alaska Native EL students. Interviewers specifically asked about EL identification, classification, service provision, and reclassification practices, as well as district- or school-level variation in these practices. All interviews were recorded via Zoom and then transcribed by a third-party service.

EL Plans of Service. As a final data source, DEED provided the study team with districts' most recent EL Plans of Service. All districts in Alaska that have at least one school that serves eight or more EL students are required to submit an EL Plan of Service. This document is based on a standard form with specific questions. DEED provided access to EL Plans of Service from all 26 districts that were required to submit them. These 26 districts represent about half the districts in the state—but they serve 92 percent of Alaska's K–12 population, 99 percent of Alaska's EL students, and 99 percent of the state's Alaska Native EL students. In completing EL Plans of Service, districts are instructed to report on various elements of how they serve EL students. Plans are valid for up to five years;

the majority of plans were from 2018 and are in place until 2023, although some plans were from an earlier year, and one plan was from 2019. This study focused on questions in the plans about EL service provision, as well as family and community outreach.

Box B1. Interview protocol for district English language program directors

This protocol was used to interview EL directors in four districts. The interview focused on two overarching themes—the processes and procedures for screening students, as well as available services and supports for EL students.

Processes and procedures for screening students

1. To begin, please describe the process your district uses to determine whether a student will be assessed for English learner identification.
    a. (Probe: Is this process the same across schools? What are differences, if any? *If not, continue probing about differences across schools throughout the interview.*)
2. Does your district have extra questions on the home language survey, besides the minimum questions required by the state?
    a. Would you expect those questions to contribute to differences in whether students are ultimately screened?
3. Are any processes or procedures in place for American Indian and Alaska Native (AIAN) students in particular?
    a. (Probe: Are AIAN students screened if they identify their home language as English?)
    b. (Probe: In what instances do you use the language observation tool for identifying AIAN students for screening? How often would you say this happens? Is this any different for non-AIAN students?)
    c. (Probe: Do teachers receive any training on identifying AIAN students as potential English learner students? Do they receive training on identifying non-AIAN students?)
4. Which WIDA screeners do you use to screen for English learner identification?
    a. Kindergarten
    b. Grades 1–12
5. Why did your district decide to use these particular screeners?
    a. Have there been any major shifts in the screeners you use?
6. Are students ever not identified as English learner students if they score below the screener cut point? (If yes) What is the process for this to happen?
    a. (Probe: How often does this happen?)
7. How do you think English learner identification processes are working in your district? For AIAN English learner students? For non-AIAN English learner students?
8. How could English learner identification processes for AIAN students be improved in your district?
9. What criteria do students need to meet in your district to be reclassified out of English learner status?
    a. Are there any differences in these reclassification processes or criteria—either in policy or practice—between AIAN English learner students and non-AIAN English learner students?

Available services and supports for English learner students

10. How are English learner students served in your district?
    a. Does your district provide English language development (ELD) to English learner students? If yes, how (e.g., push-in, pull-out)?
        i. Do AIAN English learner students receive ELD in the same way as non-AIAN English learner students? If no, how does it differ?
    b. Does your district offer accessible core content to English learner students? If yes, how (e.g., sheltered instruction, general ed)?
        i. Do AIAN English learner students receive core content in the same way as non-AIAN English learner students? If no, how does it differ?
    c. What, if any, other services do English learner students receive in your district?
        i. Do AIAN English learner students receive these services in the same way as non-AIAN English learner students? If no, how do they differ?
11. What English learner program models are offered in your district (e.g., sheltered English instruction, pull-out, immersion, bilingual)?
    a. (Probe: Does your district offer dual-language or immersion programs? If so, in what language or languages?)

12. (If the district has an immersion program in an AIAN Native language) Please describe how your district supports AIAN students in both learning their heritage language and developing academic English.
    a. What differences exist in how your district supports AIAN students who are not English learner students and those who are English learner students?
13. Are there staff members in the district who speak AIAN students' first language? What is their role, if any, in the process of identifying students as English learners or in the process of deciding whether students are ready to be reclassified?
    a. Do those staff members play any role in determining whether a student may have a disability, if this is ever a concern?
14. What other resources are available in your district to support English learner students?
    a. (Probe: Professional development for teachers, English learner specialists, point person to engage AIAN communities?)
15. Has your district adopted any of Alaska's cultural standards?
16. Does your district have a Native language advisory board, a Native education parent committee, or any other similar groups in place?
    a. (Probe: Please tell me about who the members are, what their tasks are, and what their authority is.)
17. How do you think supports for AIAN English learner students are working in your district?
18. How do you think supports for AIAN English learner students could be improved?
    a. (Probe: Staff, instructional resources, programmatic offerings, guidance from DEED?)

Analytic sample

The study's primary data source included information on eight student cohorts consisting of 85,044 students who entered kindergarten between 2011/12 and 2018/19, 19,468 of whom were ever identified as Alaska Native students (table B1). Thus, the 2011/12 cohort was in the data for the longest duration, for eight years (for most students, kindergarten–grade 7; table B2). Cohort size ranged from 10,113 to 10,979 students. This study excludes all students who were first observed in the data after kindergarten, including students who started school before 2011/12 (when the data start), as well as students who transferred from outside the state education data system and immigrant students. The focus of this study is on kindergarten cohorts for two main reasons. First, Alaska Native students are evaluated for EL classification in kindergarten because Alaska Native students immigrate to Alaska from out of state or country only rarely. Second, focusing on kindergarten cohorts facilitates following students over time, for example, in the reclassification analyses.

Table B1. Statewide analytic sample, by kindergarten cohort (entry year), 2011/12–2018/19

Kindergarten cohort	Number of students in sample	Percent of total sample
2011/12	10,979	12.91
2012/13	10,887	12.80
2013/14	10,885	12.80
2014/15	10,800	12.70
2015/16	10,610	12.48
2016/17	10,416	12.25
2017/18	10,354	12.17
2018/19	10,113	11.89
Total	85,044	100.00

Source: Authors' analysis of Alaska Department of Education & Early Development data for 2011/12–2018/19.

For research question 2, quantitative analyses focused on a smaller subsample of students, using student-level data from four districts that shared English proficiency screener scores for students screened in kindergarten or grade 1. These students were considered to be "initially screened," regardless of whether they were screened in kindergarten or grade 1, as long as they were present in the dataset in kindergarten. This was because, in some

cases, students might be screened late, especially if they entered kindergarten later in the school year. In total, the district analytic sample consisted of 13,331 kindergarten students, of whom 2,277 were screened.

Table B2. Statewide analytic sample, shown longitudinally across grades, by kindergarten cohort (entry year), 2011/12–2018/19

Kindergarten cohort	K	1	2	3	4	5	6	7	8	9	10	11	Total
2011/12	11,327	10,386	9,667	9,087	8,722	8,520	8,298	7,555	63	2	1	0	73,628
2012/13	11,219	10,286	9,587	9,060	8,744	8,392	7,661	37	0	0	0	0	64,986
2013/14	11,203	10,322	9,593	9,097	8,706	7,974	32	0	0	0	0	0	56,927
2014/15	11,100	10,272	9,589	9,052	8,242	38	0	0	0	0	1	1	48,295
2015/16	10,915	10,088	9,367	8,399	24	0	0	0	0	0	0	0	38,793
2016/17	10,653	9,793	8,774	11	0	0	0	0	0	0	0	1	29,232
2017/18	10,592	9,375	12	0	0	1	0	0	0	0	0	0	19,980
2018/19	10,113	0	0	0	0	0	0	0	0	0	0	0	10,113

Note: The numbers of students in the sample do not align with the cohort numbers in table B1 because some students in each cohort repeated grades. This explains why, for example, there are more observations in 2011/12 in kindergarten (*n* = 11,327) than there are in the cohort that entered kindergarten in 2011/12 (*n* = 10,979).
Source: Authors' analysis of Alaska Department of Education & Early Development data for 2011/12–2018/19.

Methodology

Research question 1. The study team calculated descriptive statistics, primarily overall percentages or average percentages, to address research question 1. The study team compared the overall percentage of Alaska Native kindergarten students initially classified as EL students with the overall percentage of non–Alaska Native kindergarten students initially classified as EL students, as well as the percentages by year. The study team further examined variation in the percentage of Alaska Native kindergarten students initially classified as EL students by district and school, reporting the range, mean, and median percentages for 2011/12–2018/19.

The study team also calculated the average percentage of Alaska Native students classified as EL students by school locale, percentage of students ever economically disadvantaged, whether the school offered preschool for 2011/12–2018/19, and the number of FTE ESL teachers for 2012/13–2018/19 (data were not available for 2011/12). Schools were categorized by locale using locale definitions developed specifically for the Alaska context, as described above. Four categories were created for schools for percentage of students ever economically disadvantaged: fewer than 25 percent of students ever economically disadvantaged, 25–49 percent, 50–74 percent, and schools with 75 percent or more. Schools were also categorized by the reported number of FTE equivalent ESL teachers, creating bins of 0 FTE, less than 1 FTE, 1 FTE, and more than 1 FTE.

Research question 2. Research question 2 drew on interviews with four district EL directors and student-level screener records from four districts. The study team analyzed interviews to identify elements of the EL identification process, as well as service provision. Screener records were analyzed to reveal identification, scoring, and compliance patterns.

*Interview data***.** Qualitative analyses were used to identify common themes across the four interviews. Interviews were transcribed and coded using Dedoose Version 8. The codebook was constructed before the coding and designed to answer the specific research questions, as well as to identify any perceived challenges and strengths in district practices regarding Alaska Native EL student education. The coding included, as parent codes, Alaska Native student services, EL student classification, EL student reclassification, EL student services, potential EL student identification, student subgroup descriptions, and student subgroup differences in EL policies and practice. The code definitions were broad, typically capturing any mention of the topic by the interviewee. Each

parent code had a series of child codes that probed into specific policy or practice elements, key differences for Alaska Native students, and challenges or strong practices.

One interview was independently coded by two researchers. Inter-rater reliability was then calculated by recording instances of overlap or divergence in code application to a text excerpt. Inter-rater reliability was above the recommended threshold of 80 percent. After any discrepant coding was discussed and code definitions were modified to be more explicit, one researcher then coded the remaining three interviews independently. One interviewee had been interviewed by the REL Northwest for a similar project and gave verbal permission to use the previous interview notes to further inform this study. For that interviewee the study team used a shortened protocol that excluded questions that had already been asked in the interview for the related project. Interview-coded excerpts were reviewed by one researcher to identify key themes, which were synthesized in an analytic memo and then written up for the study.

Screener data from districts. Descriptive statistics were used to explore district-level screener data. First, descriptive statistics were used to explore patterns of screening. The percentage of all kindergarten students who were administered a screener was calculated by whether they were Alaska Native. Next, the study team calculated the percentage of screened students who were subsequently classified as EL students. A variable was generated for students who had screener scores to indicate whether they had met or exceeded the screener threshold. This was used to calculate the percentage of kindergarten students who met the EL threshold and to determine compliance with state threshold policies. Compliance was determined by recording the percentage of students who were appropriately classified according to state threshold policies: students who scored within the EL range and were classified as EL students and students who exceeded the EL range and were not classified as EL students.

Of note, 10 percent of EL classified kindergarten students in the four districts that provided screener data did not have recorded screener scores. In the analysis of the percentage of kindergarten students initially screened and classified, students who did not have a screener score but who had been identified as EL students were considered screened. This is because it is unlikely that they were classified without being screened. However, these students were considered to have missing data and were excluded from any analysis of compliance.

Research question 3. Research question 3 drew primarily on 26 districts' EL Plans of Service to identify supports that were specific to Alaska Native EL students. EL Plans of Service were coded for multiple elements. This study reported on the following elements: whether the district offered a bilingual or heritage language program, and if so, what languages it offered; what programs were used to provide EL students with English language instruction and content access; and whether the plan specifically mentioned family or community outreach efforts for Alaska Native EL students. Illustrative examples were then selected from the plans for inclusion in the study. Two researchers coded three randomly selected plans independently and then reviewed them for inter-rater reliability (above 80 percent) and resolved any discrepancies. After that, one researcher coded the remaining plans independently, after which another researcher again randomly selected three plans and coded them and then calculated inter-rater reliability, which again exceeded the target threshold of 80 percent.

Research question 4. For research question 4 the study team drew on the master dataset of statewide data from 2011/12 to 2018/19. The team employed hazard modeling, an analytic strategy that answers the question: What is the probability that a given student is reclassified in a given academic year, contingent on not having been reclassified earlier (Reardon et al., 2002; Singer & Willett, 2003)? Results from these analyses provide information about observed patterns of reclassification among Alaska Native and non–Alaska Native EL students in Alaska, as well as an assessment of the relationship of a set of student, school, and district characteristics to reclassification outcomes.

The study team used a logistic regression model in which the outcome variable was a student-level time-varying binary variable taking the value 0 when a student was classified as an EL student and 1 when a student was reclassified as fluent English proficient. Students were considered to be EL students if their EL status variable from

DEED was "L1" (first year of identification as an EL student), "LP" (continuing EL student), or "LT" (was an EL student that year but has met the criteria to exit after that academic year) as guided by DEED, and students were considered to be reclassified if their EL status variable took the values "M1" (first year post-reclassification), "M2" (second year post-reclassification), or "M3" (third year post-reclassification); again, as instructed by DEED. Students were not considered to have been reclassified if their EL status changed from EL student to "X." In DEED data "X" indicates that a student was never an EL student and (as clarified by DEED) was also used to reassign students who were determined to have been inaccurately or mistakenly classified as EL students. Students who went from EL to "X" status were dropped from the timing-to-reclassification analyses (*N* = 1,059). This is the only difference between the samples used for research question 1 and research question 4.[1]

Because the study team was interested in learning how long a student takes to be reclassified, observations of students were dropped from the analytic sample once students were observed as having been reclassified. The baseline hazard model is presented in equation B1:

(B1) $$\text{logit } h(t_{ij}) = \left[\alpha_1 D_{1ij} + \alpha_2 D_{2ij} + \cdots + \alpha_J D_{Jij}\right] + \beta_1 AN_i + \beta_2 (AN_i * TIME_{ij}) + \Delta_y + e_i$$

where $h(t_{ij})$ represents the hazard of student *i* being reclassified in year *j*, conditional on not having been reclassified earlier. The discrete time hazard model expresses the logit of $h(t_{ij})$ as a function of time, measured in academic years, *D*, from 2 to 8 (equivalent to grade 1 through grade 7 for most students), plus additional variables. In the baseline analyses the key variable of interest was whether a given EL student was Alaska Native (*AN*) or non–Alaska Native. The Alaska Native indicator was included on its own and interacted with a continuous time variable. The model also included cohort fixed effects, Δ_y, which accounted for changes in reclassification patterns across cohorts. The coefficients of interest, β_1 and β_2, represent differences in predicted reclassification probability between Alaska Native and non–Alaska Native EL students in grade 1 (because the study team defined the sample by selecting students who were classified as EL students in kindergarten) and for each subsequent year, respectively. The results of this model were used to plot a baseline figure of estimated cumulative reclassification rates for Alaska Native and non–Alaska Native EL students.

To examine factors that explain disparities in reclassification patterns between Alaska Native and non–Alaska Native students, the study team included three sets of variables in the model: student, school, and district characteristics (Singer & Willett, 2003). The study team first ran three separate models: one with only student-level variables, one with only school-level variables, and one with only district-level variables. The team then ran a combined final model (shown in equation B2), which included all variables that the three prior models found to be statistically significantly predictive of reclassification timing. Therefore, this final model included student, school, and district characteristics.

Final student-level variables included gender, an indicator of ever having been identified as economically disadvantaged, an indicator of ever receiving special education services based on having an individualized education program, and a continuous measure of kindergarten readiness provided by DEED (measured 0–13). School-level variables included school locale (urban, urban fringe, rural hub/fringe, and rural remote, as defined in Vazquez Cano et al., 2019); school size (as measured by enrollment); the proportion of students classified as EL students; and the proportion of students who were economically disadvantaged. District-level variables included district size (as measured by enrollment); the proportion of students classified as EL students, economically disadvantaged, Alaska Native or American Indian, Hispanic/Latino, White, or other racial/ethnic groups (one variable for each in this list); whether the district had an Alaska Native bilingual program; whether the district had

[1] Because research question 1 asks about the characteristics of ELs in kindergarten, the study team left the 1,059 students in the sample, since they were classified as EL students in kindergarten. In contrast, research question 4 asks about timing to reclassification. Because when and if these 1,059 students would have been reclassified cannot be known, the study team omitted them from the analytic sample.

a non–Alaska Native bilingual program; and the last two variables each interacted with a continuous time variable (Umansky & Reardon, 2014). The final full model is shown in equation B2:

(B2) $\text{logit } h(t_{ij}) = \left[\alpha_1 D_{1ij} + \alpha_2 D_{2ij} + \cdots + \alpha_J D_{Jij}\right] + \beta_1 \text{AN}_i + \beta_2(AN_i * TIME_{ij}) + \beta_X \boldsymbol{X}_i + \beta_Z \boldsymbol{Z}_i + \beta_P \mathbf{P}_i + \Delta_y + \text{e}_i$

where variables are as defined in equation B1 with the additions of ***X***, which is a vector of student-level variables; ***Z***, which is a vector of school-level variables; and ***P***, which is a vector of district-level variables. The significance and magnitude of the coefficients for each of the variables within each vector indicate the extent to which each is correlated with reclassification. For ease of interpretation the results of the hazard analyses are presented as odds ratios. An odds ratio represents the odds that an event (in this study, reclassification) will occur for one group in relation to another group. An odds ratio less than 1 shows lower odds of occurring in relation to another group, and an odds ratio greater than 1 shows higher odds. The study team also used the results of this model to calculate and plot estimated cumulative reclassification rates of Alaska Native and non–Alaska Native EL students, holding constant all the variables in the model (set to overall sample means).

To explore differences in reclassification probability and timing among Alaska Native EL students, the study team also ran models that limited the sample to Alaska Native students who were EL students in kindergarten, including in each model one key variable of interest. At the student level the variables included were gender, ever having been identified as economically disadvantaged, kindergarten readiness, home language, and ever receiving special education services based on an individualized education program. At the school level the variables were whether a school offered preschool or prekindergarten and school locale (as defined above). At the district level the variable was whether the district offered an Alaska Native bilingual program (the team did not have an indicator of this variable at the student or school level). In each case the team ran the model in equation B3, which included the variable of interest and the variable interacted with a continuous time variable.

(B3) $\text{logit } h(t_{ij}) = \left[\alpha_1 D_{1ij} + \alpha_2 D_{2ij} + \cdots + \alpha_J D_{Jij}\right] + \beta_1 \text{X}_i + \beta_2(\text{X}_i * \text{TIME}_{ij}) + \text{e}_i$

where variables are defined as explained above, and *X* is the variable of interest (for example, gender). The coefficients β_1 and β_2 help explain the relationship of the variable of interest in predicting Alaska Native EL students' reclassification probability in grade 1 and for each subsequent grade thereafter, respectively. The study team used these results to calculate and plot estimated cumulative reclassification rates, by grade, for Alaska Native students with and those without the characteristic (variable) of interest (for example, female students versus male students).

References

Alaska Department of Education & Early Development. (2019). *OASIS Online Alaska School Information System: Fall 2019 OASIS data handbook for schools and districts* (Form No. 05-20-001). Retrieved June 19, 2020, from https://education.alaska.gov/forms.

Alaska Department of Education & Early Development. (2020). *Alaska Developmental Profile (ADP).* Retrieved June 18, 2020, from https://education.alaska.gov/assessments/developmental.

Demmert, W. G., Grissmer, D., & Towner, J. (2006). A review and analysis of the research on Native American students. *Journal of American Indian Education*, *45*(3) 5–23. https://jaie.asu.edu/sites/default/files/453_2006_2_demmert_et_al.pdf.

Holton, G., Kerr, J., & West, C. (2011). *Indigenous peoples and languages of Alaska* (Map). Alaska Native Language Center. Retrieved January 26, 2021, from http://www.alaskool.org/language/languagemap/index.html.

Reardon, S. F., Brennan, R. T., & Buka, S. L. (2002). Estimating multi-level discrete-time hazard models using cross-sectional data: Neighborhood effects on the onset of adolescent cigarette use. *Multivariate Behavioral Research*, *37*(3), 297–330. https://eric.ed.gov/?id=EJ660254.

Singer, J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence* (1st ed.). Oxford University Press.

Umansky, I. M., & Reardon, S. F. (2014). Reclassification patterns among Latino English learner students in bilingual, dual immersion, and English immersion classrooms. *American Educational Research Journal, 51*(5), 879–912. https://eric.ed.gov/?id=EJ1041160.

Vazquez Cano, M., Bel Hadj Amor, H., & Pierson, A. (2019). *Educator retention and turnover under the midnight sun: Examining trends and relationships in teacher, principal, and superintendent movement in Alaska*. U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northwest. http://eric.ed.gov/?id=ED598351.

WIDA. (2019). *Alaska English language learner identification and placement guidance document.* University of Wisconsin-Madison. https://wida.wisc.edu/sites/default/files/id-placement/AK-ID-Placement-Guidance.pdf.

Appendix C. Supporting analysis

This appendix includes additional findings to support the analysis discussed in the main report. The additional findings include a more detailed description of English learner (EL) program models, supporting tables for in-text figures, additional quantitative analyses, and supporting figures for in-text analyses.

Additional findings on district English learner program models

Twenty-six districts were required by the Alaska Department of Education & Early Development (DEED) to submit EL Plans of Service[2] outlining key elements of their district's policies and practices for EL students in response to a series of prompts on the EL Plan of Service form. In response to a question on what program models were used to support EL students' core content instruction, 23 of the 26 districts reported that their schools used sheltered English instruction (see table C7). Further, 14 of the 23 districts that reported using sheltered English instruction as a program model did not describe any specific approach within the broad category of sheltered instruction, while 7 districts reported employing the Sheltered Instruction Observational Protocol, defined by DEED on its EL Plan of Service form as "a fully developed prototype of [sheltered English instruction]." Two districts noted that their schools used Specifically Designed Academic Instruction in English, which DEED defines as "a specific prototype" of sheltered English instruction.

Districts were also asked to report what program models they used to support EL students' English language development. Five districts reported that their schools used push-in English as a second language (ESL), also known as content-based ESL, which is defined on the EL Plan of Service form as a program that serves students "in a mainstream classroom, receiving instruction in English with some native language support if needed. The ESL teacher or an instructional aide provides clarification, translation if needed, and uses ESL strategies." Eight districts reported using pull-out ESL, defined on the Plan of Service form as "ELL students leave mainstream classroom part of the day to receive ESL instruction, often focused on grammar, vocabulary, and communication skills, not academic content. There typically is no support for students' home languages." Nine districts reported using structured English immersion, defined as a program whose "goal is fluency in English, usually serving only English language learners in the classroom. All instruction is in English, adjusted to the proficiency level of students so subject matter is comprehensible. Teachers should have some receptive skills in the students' home language(s) and generally use sheltered instructional techniques."

Six districts reported that schools in their districts employed bilingual education programs to support EL language and content learning. Because some of these districts offered multiple programs, a total of nine bilingual program models were reported, four of which were heritage or Indigenous language programs. While the plans varied in the level of detail used to describe these programs, some districts provided detail on instruction. For example, one plan noted that the length of time spent teaching the heritage language, in this case Yupik, varied by grade band from 30 to 50 minutes a day, while core content was taught primarily in English. In another district, the Cup'ik immersion program maximized exposure to Cup'ik in grades K–2, followed by a gradual transition toward more English instruction through high school. In high school the program transitioned to delivering Cup'ik instruction primarily through electives such as Cup'ik culture, Cup'ik language, and Cup'ik arts. Another district described that Inupiaq language instruction took place in a cultural language/arts classroom, although it was a district priority moving forward to focus on improving students' English and Inupiaq proficiency. Another district described using a very structured dual language model for Yugtun, attending carefully to professional

[2] Plans are valid for up to five years; the majority of plans were from 2018 and are in place until 2023, although some plans were from an earlier year, and one plan was from 2019.

development and supports while developing instructional materials that were not only presented in Yugtun, but also developed to be localized and relevant.

A number of districts reported programs for either core content instruction or English language development instruction without using the specific definitions and titles provided in the EL Plans of Service form. Some examples of "other" programs that districts reported included Cognitive Academic Language Learning Approach, Quality Teaching for English Learners, newcomer academies or courses specifically designed to support recently arrived immigrant EL students, the use of differentiated instruction to meet EL needs in the classroom, direct instruction, and response to intervention models that focused on developing individual student language plans and adapting them to student needs. Other districts described specific curricula used, such as Reading Mastery, Read-180, and McGraw-Hill Reading Wonders curriculum with built in WonderWorks EL supports.

Additional data to support main report analyses

The following tables and figures present additional data and findings to support the analysis discussed in the main report.

Table C1. Percentage of kindergarten students who were Alaska Native English learner students, by school characteristic, 2011/12–2018/19

School characteristic	Percent
Locale (*n* = 3,150 school-year observations)	
Urban	1
Urban fringe	< 1
Rural hub/fringe	6
Rural remote	23
Percent ever identified as economically disadvantaged[a] (*n* = 3,150 school-year observations)	
Less than 25	1
25–49	1
50–74	6
75 or more	27
English as a second language teacher (full-time equivalent; *n* = 2,583 school-year observations)[b]	
0	11
Less than 1	1
1	3
More than 1	1
Serves preschool students (*n* = 3,150 school-year observations)	
Yes	11
No	8

Note: School-year observation means that *n* represents the total number of data points—one for each school in each year of the data. The table includes only schools that enrolled at least one Alaska Native student. The ESL teacher variable is derived from the full-time equivalent (FTE) employment status reported for ESL teachers. Less than 1 FTE is interpreted as a part-time ESL teacher, and more than 1 FTE is considered more than one ESL teacher.
a. Determined by student eligibility for the national school lunch program, as defined in a cash-based economy. This may not align with economic well-being as understood from a subsistence economy perspective.
b. Teacher data are for 2012/13–2018/19.
Source: Authors' analysis of Alaska state enrollment data for 2011/12–2018/19 and 2012/13–2018/19 data for ESL teachers and publicly available data on the Alaska education system.

Table C2. Percentage of Alaska Native kindergarten students classified as English learner students, by school characteristic, 2011/12–2018/19

School characteristic	Percent
Locale (*n* = 3,150 school-year observations)	
Rural remote	24
Urban	7
Rural hub/fringe	8
Urban fringe	2
Percent ever identified as economically disadvantaged[a] (*n* = 3,150 school-year observations)	
Less than 25	4
25–49	3
50–74	9
75 or more	29
English as a second language teacher (full-time equivalent; *n* = 2,583 school-year observations)[b]	
0	13
Less than 1	9
1	10
More than 1	4
Serves preschool students (*n* = 3,150 school-year observations)	
Yes	14
No	10

Note: School-year observation means that *n* represents the total number of data points—one for each school in each year of the data. The table includes only schools that enrolled at least one Alaska Native student. The ESL teacher variable is derived from the full-time equivalent (FTE) employment status reported for ESL teachers. Less than 1 FTE is interpreted as a part-time ESL teacher, and more than 1 FTE is considered more than one ESL teacher.
a. Determined by student eligibility for the national school lunch program, as defined in a cash-based economy. This may not align with economic well-being as understood from a subsistence economy perspective.
b. Teacher data are for 2012/13–2018/19.
Source: Authors' analysis of Alaska state enrollment data for 2011/12–2018/19 and 2012/13–2018/19 data for ESL teachers and publicly available data on the Alaska education system.

Table C3. Percentage of students ever reported as economically disadvantaged, ever received special education services, and kindergarten ready at kindergarten entrance, by Alaska Native and English learner student identification, 2011/12–2018/19

Student group	Ever identified as economically disadvantaged[a] (*n* = 87,122 student-year observations)	Ever received special education services[b] (*n* = 87,122 student-year observations)	Kindergarten ready[c] (*n* = 79,067 student-year observations)
Alaska Native English learner students	92	20	16
Non–Alaska Native English learner students	82	18	16
Alaska Native non–English learner students	79	27	25
Non–Alaska Native non–English learner students	50	21	34

Note: Student-year observation means that *n* represents the total number of data points—one for each student in each year of the data.
a. Determined by student eligibility for the national school lunch program, as defined in a cash-based economy. This may not align with economic well-being as understood from a subsistence economy perspective.
b. Students who ever had an individualized education program.
c. Consistently meeting a goal on 11 of 13 Alaska Developmental Profile goals on kindergarten entry.
Source: Authors' analysis of Alaska state enrollment data for 2011/12–2018/19.

Table C4. Percentage of Alaska Native English learner students speaking the most prevalent home languages, 2011/12–2018/19

Home language	Percent
Yupik	80
Inupiaq	9
Other[a]	7
Athabascan	2
Spanish	1

Note: *n*= 4,491 students. Only the top four languages (by percentage) are listed.
a. All other languages listed. Each of these 19 languages was reported by fewer than 1 percent of the Alaska Native English learner student population.
Source: Authors' analysis of Alaska state enrollment data for 2011/12–2018/19.

Table C5. Percentage of non–Alaska Native English learner students speaking the most prevalent home languages, 2011/12–2018/19

Home language	Percent
Spanish	24
Filipino (Tagalog)	17
Hmong	14
Samoan	14
Russian	8

Note: *n* = 7,826 students. Only the top five languages (by percentage) are listed, while all other languages are collapsed into "other" (not shown), which consists of 30 languages, each reported by fewer than 5 percent of the non–Alaska Native English learner population.
Source: Authors' analysis of Alaska state enrollment data for 2011/12–2018/19.

Table C6. District identification (screening) and classification patterns for Alaska Native and non–Alaska Native students, 2012/13–2018/19 (Districts 1, 2, and 4) and 2016/17–2018/19 (District 3) (percent)

District and student group	Students screened	Within the English learner student classification range	Classified as English learner student	Compliance[a]
District 1				
Alaska Native	82	95	95	99
Non–Alaska Native	26	46	62	92
District 2				
Alaska Native	5	60	83	87
Non–Alaska Native	4	76	90	86
District 3				
Alaska Native	[b]	[b]	[b]	100
Non–Alaska Native	4	74	86	91
District 4				
Alaska Native	3	[b]	[b]	100
Non–Alaska Native	8	[b]	[b]	100

Note: *n* = 13,331 students. EL students who did not have screener scores in the data were considered "screened" and "classified" and are included in those analyses but are not included in analyses on the percentage meeting the threshold for compliance.
a. The percentage of students who were appropriately classified according to state threshold policies.
b. Data are suppressed to protect anonymity, due to small sample sizes.
Source: Authors' analysis of four districts' English language proficiency screener data for kindergarten and grade 1 students for 2012/13–2018/19 for districts 1, 2, and 4 and for 2016/17–2018/19 for district 3 (the only years of data the district was able to provide).

Table C7. Number and percentage of districts that reported offering different language programs in their English learner Plans of Service, 2018/19–2019/20

Language instruction educational programs	Number	Percent
Core content instruction program		
Sheltered English instruction	23	88
Sheltered English instruction with no specific approach described	14	54
Sheltered English instruction using Sheltered Instruction Observational Protocol	7	27
Sheltered English instruction using Specifically Designed Academic Instruction in English	2	8
English language development program		
Push-in English as a second language[a]	5	19
Pull-out English as a second language[b]	8	31
Structured English immersion	9	35
Other core content instruction or English language development program	11	42
Bilingual education program		
Two-way immersion/bilingual program	2	8
Heritage language program/Indigenous language program	4	15
Developmental bilingual program	2	8
Transitional bilingual program	1	4

Note: *n* = 26 districts. Although the year that plans were submitted differed, all were active for 2018/19 and 2019/20. Plans are valid for up to five years. Districts were asked to report on their language programs in their English learner Plans of Service in response to the following prompt: "Describe the effective programs and activities, including language instruction educational programs (LIEPs) the district is implementing that will help English learner (EL) students increase their English language proficiency and meet the challenging State academic standards …." Some districts offered more than one program model in a given category or more than one type of program in a model. For example, a district might have employed both push-in and pull-out English as a second language or might have used both sheltered English instruction and another type of program. A district can be counted multiple times in the overarching categories of core content instruction model, English language development program model, and bilingual education program model. For example, a district might have offered both a heritage language program and a transitional bilingual program. However, a district was counted only once per row if it had multiple programs in a specific model. For example, if a district offered multiple two-way immersion programs in different languages, it was counted only once in the two-way immersion/bilingual program row.

a. An English as a second language teacher or aide joins a general education class to provide English language development instruction to at least one EL student in the general education setting.

b. An English as a second language teacher or aide pulls at least one EL student out of the student's general education setting for English language development instruction in a separate setting.

Source: Authors' analysis of Alaska Department of Education & Early Development district EL Plans of Service for 2018/19.

Table C8. Observed and estimated cumulative reclassification rates for Alaska Native and non–Alaska Native students for baseline model and full model, by grade, 2011/12–2018/19

	Observed cumulative reclassification rate (base model)		Estimated cumulative reclassification rate (full model)[a]	
Grade	Alaska Native	Non–Alaska Native	Alaska Native	Non–Alaska Native
K	0	0	0	0
1	0	3	1	2
2	0	4	1	3
3	0	5	2	4
4	3	16	11	19
5	9	28	18	28
6	10	29	19	30
7	11	30	20	31

Note: *n* = 42,704. The base model contains variables for each academic year, an indicator variable for Alaska Native identification, and an interaction term between Alaska Native identification and a continuous time variable. The full model contains all variables in the base model plus student variables (modal gender, ever received special education services, ever identified as economically disadvantaged, continuous measure of kindergarten readiness); school variables (locale indicators, enrollment, proportion of English learner students, proportion of economically disadvantaged students); and district variables (enrollment, proportion of English learner students, proportion of American Indian or Alaska Native students, proportion of Hispanic/Latino students, proportion of White students, proportion of other race/ethnicity students, proportion of economically disadvantaged students, non–Alaska Native bilingual program offering, Alaska Native bilingual program offering, and interactions of the last two variables with a continuous time variable measured in academic years).

a. Accounting for student, school, and district characteristics.

Source: Authors' analysis of Alaska Department of Education & Early Development statewide student-level data for 2011/12–2018/19.

Table C9. Compliance with eligibility requirements for classifying English learner students and reclassifying ever English learner students as fluent English proficient, 2016/17–2018/19

Compliance	Count	Percent
Compliant[a]		
Reclassification as fluent English proficient student	228	1.6
Classification as English learner student	14,261	98.3
Noncompliant[b]		
Reclassification as fluent English proficient student[c]	< 10	< 0.1
Classification as English learner student	12	0.1

a. Indicates that a student was appropriately classified as an English learner student or reclassified as fluent English proficient based on eligibility requirements.

b. Indicates that a student was classified as an English learner student but had met eligibility requirements for being reclassified as fluent English proficient the year before or was reclassified as fluent English proficient but did not meet eligibility requirements the year before.

c. Precise count and percentage are suppressed to protect student privacy.

Source: Authors' analysis of Alaska Department of Education & Early Development data and Assessing Comprehension and Communication in English State-to-State (ACCESS) assessment scores for 2016/17–2018/19.

Table C10. Percentage of all English learner students who met reclassification criteria, by assessment domain, 2016/17–2018/19

Assessment domain	Percent
Listening	70.67
Speaking	9.36
Reading	30.84
Writing	21.07
Overall	10.30
All criteria	2.63

Note: These data represent scores on the Assessing Comprehension and Communication in English State-to-State (ACCESS) assessment for Alaska Native and non–Alaska Native students combined. The overall score is an average of the four subtest (domain) scores. The "all criteria" row indicates the percentage of students who met all state reclassification criteria in a given year. This figure takes into account changes in reclassification criteria that went into effect in 2017/18. In 2016/17 students had to score at least 4.0 on each domain subtest and at least 5.0 overall to be eligible for reclassification. Starting in 2017/18 students had to score at least 4.0 on domain subtests except writing (which had a threshold of 3.8), along with at least 4.5 overall. The statewide data include ACCESS subtest scores only for 2016/17–2018/19 (*n* = 26,315 of observations in the sample of students who were ever English learner students).
Source: Authors' analysis of Alaska Department of Education & Early Development data and ACCESS scores for 2016/17–2018/19.

Table C11. Odds ratios of the relationship of student, school, and district characteristics to the probability of reclassification, 2011/12–2018/19

Variable	Odds ratio	Standard error
Student variables		
Alaska Native	0.379**	(0.139)
Alaska Native * time	1.050	(0.070)
Male	0.717***	(0.045)
Ever identified as economically disadvantaged	0.540***	(0.050)
Ever received special education services	0.296***	(0.033)
Kindergarten readiness (0–13)	1.127***	(0.008)
School variables		
Urban fringe	0.507***	(0.080)
Rural hub/fringe	0.379***	(0.079)
Rural remote	0.095***	(0.024)
School enrollment/size	1.000	(0.000)
Percentage of English learner students	0.636	(0.213)
Percentage of economically disadvantaged students	0.516***	(0.096)
District variables		
District enrollment/size	1.000*	(0.000)
Percentage of English learner students in district	3.414*	(2.055)
Percentage of Alaska Native or American Indian students	0.000***	(0.000)
Percent of Hispanic/Latino students	110.741	(443.444)
Percentage of White students	0.001***	(0.000)
Percent of other race/ethnicity students	0.000***	(0.000)
Percentage of economically disadvantaged students	2.012	(1.081)
District has a non–Alaska Native bilingual program	0.758	(0.202)
District has an Alaska Native bilingual program	1.169	(0.359)
Non–Alaska Native program * time	0.910	(0.045)
Alaska Native program * time	1.953	(1.145)
Indicator variables for grade	Yes	
Entry year fixed effects	Yes	
Number of observations	42,704	

* Significant at $p < .05$, ** significant at $p < .01$, *** significant at $p < .001$.

Note: The table presents odds ratios of the relationship of student, school, and district characteristics to the probability of reclassification (full model results). The full model contains all variables in the base model plus student variables (modal gender, ever received special education services, ever identified as economically disadvantaged, continuous measure of kindergarten readiness); school variables (locale indicators, enrollment, proportion of English learner students, proportion of economically disadvantaged students); and district variables (enrollment, proportion of English learner students, proportion of American Indian or Alaska Native students, proportion of Hispanic/Latino students, proportion of White students, proportion of other race/ethnicity students, proportion of economically disadvantaged students, non–Alaska Native bilingual program offering, Alaska Native bilingual program offering, and interactions of the last two variables with a continuous time variable measured in academic years).

Source: Authors' analysis of Alaska Department of Education & Early Development statewide student-level data for 2011/12–2018/19.

Table C12. Odds ratios of the relationship of reclassification eligibility to the probability of reclassification among Alaska Native and non–Alaska Native English learner students, 2011/12–2018/19

Variable	Odds ratio	Standard error
Key variables		
Alaska Native	1.670	(3.026)
Alaska Native * time	1.056	(0.347)
Met all reclassification criteria	21.528***	(18.809)
Alaska Native * met all reclassification criteria	0.701	(0.976)
Other variables		
Indicator variable for grade	Yes	
Entry year fixed effects	Yes	

Note: *n* = 16,102. The table presents odds ratios of the relationship of meeting reclassification criteria to the probability of reclassification for Alaska Native and non–Alaska Native English learner students. Reclassification eligibility is defined as meeting all required test scores on the WIDA Assessing Comprehension and Communication in English State-to-State (ACCESS) test (adjusted for changes in criteria by academic year).
Source: Authors' analysis of Alaska Department of Education & Early Development statewide student-level data for 2011/12–2018/19.

Table C13. Cumulative reclassification rates among Alaska Native English learner students, by student and school characteristics, 2011/12–2018/19

Student characteristics

Gender (percent)		
Grade	**Male**	**Female**
K	0	0
1	0	1
2	0	2
3	0	2
4	0	2
5	2	10
6	7	15
7	9	16

Economic disadvantage (percent)		
Grade	**Yes**	**No**
K	0	0
1	0	7
2	0	14
3	0	15
4	0	15
5	5	23
6	10	25
7	11	25

Meets kindergarten readiness benchmark (percent)		
Grade	**Yes**	**No**
K	0	0
1	0	1
2	0	1
3	0	1
4	0	1
5	5	6
6	16	10
7	19	11

Home language (percent)			
Grade	**Yupik**	**Inupiaq**	**Other**
K	0	0	0
1	1	0	0
2	1	0	0
3	1	0	0
4	1	0	0
5	6	4	9
6	10	13	25
7	10	15	29

Special education status (percent)		
Grade	**Ever received special education services**	**Never received special education services**
K	0	0
1	0	1
2	0	1
3	0	1
4	0	1
5	1	7
6	3	13
7	4	14

School characteristics

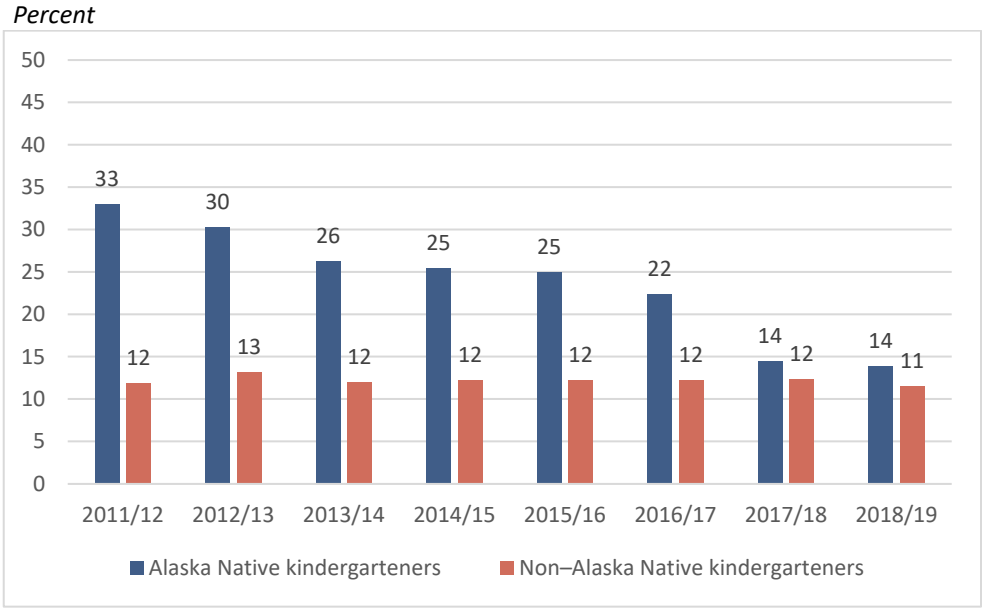
School serves preschoolers (percent)		
Grade	**Has preschool**	**Does not have preschool**
K	0	0
1	0	2
2	0	3
3	0	3
4	0	3
5	5	8
6	12	10
7	13	10

School locale (percent)				
Grade	**Urban**	**Urban fringe**	**Rural hub/fringe**	**Rural remote**
K	0	0	0	0
1	5	0	0	0
2	9	1	0	0
3	10	1	0	0
4	10	1	0	0
5	23	12	7	3
6	29	22	18	7
7	29	23	21	7

Has district heritage language program (percent)		
Grade	**Yes**	**No**
K	0	0
1	0	1
2	0	3
3	0	3
4	0	3
5	4	9
6	11	12
7	12	13

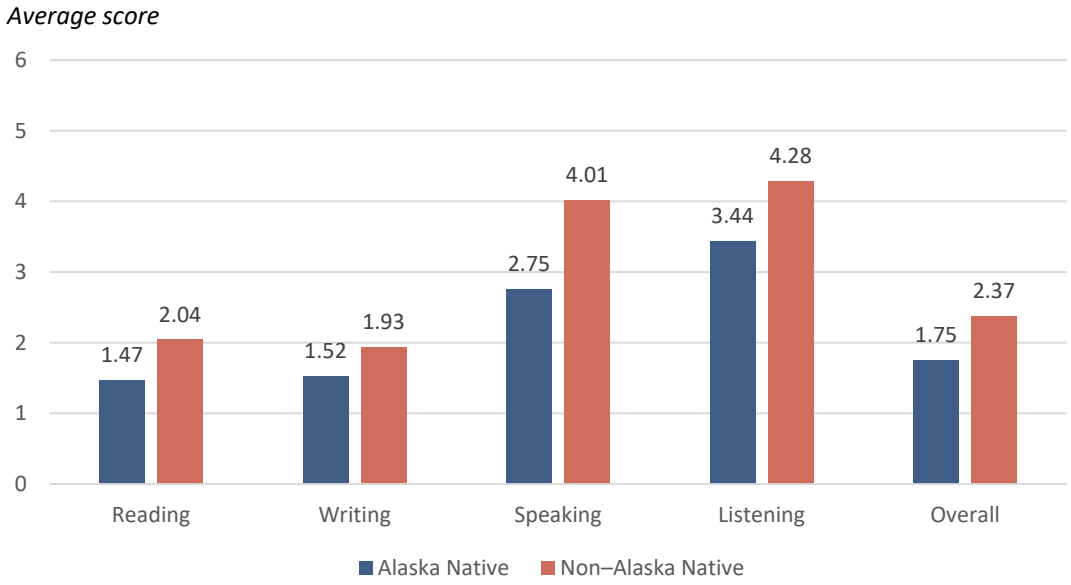
Note: *n* = 18,280. Values in the table are derived from logistic regression models that include indicator variables for each grade, the characteristic of interest (for example, gender), and an interaction of the characteristic of interest with a continuous time variable. The models account for changes in the number of students in each grade level across time.
Source: Authors' analysis of Alaska statewide student-level data for 2011/12–2018/19.

Figure C1. The percentage of Alaska Native kindergarten students initially classified as English learner students has declined over time, 2011/12–2018/19



Note: *n* = 87,122 student-year observations. Student-year observation means that *n* represents the total number of data points—one for each student in each year of the data. The data reported in this figure are for spring of the academic year.
Source: Authors' analysis Alaska Department of Education & Early Development data for 2011/12–2018/19.

Figure C2. Alaska Native English learner students had lower average domain and overall scores on the kindergarten English language proficiency assessment, 2016/17–2018/19



Note: *n* = 4,011 students. Scores are from the spring-administration of the Assessing Comprehension and Communication in English State-to-State (ACCESS) assessment for kindergarten English learner students.
Source: Authors' analysis of Alaska Department of Education & Early Development data and ACCESS scores for 2016/17–2018/19.