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Correspondence Schools in Alaska: Enrollment and Cohort Graduation Rates, 2010-17

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ABSTRACT

The State of Alaska, by some measures the United States' most rural state, has long supported correspondence schools, a popular school choice option available to all students statewide and used primarily by homeschooled students. This paper first explores Alaska correspondence schools in historical context, and then quantifies capture rate, enrollment by race/ethnicity, grade distributions, and cohort graduation rates for the years 2010–17. Findings include a steady increase in the proportion of Alaskan students enrolled in correspondence schools between 2010 and 2017; disproportionate enrollment of Alaskan students identified as White in correspondence schools between 2010 and 2017; enrollment peaks in late high school during 2014–17; and significantly lower 4- and 5-year cohort graduation rates among students enrolled in correspondence schools compared to those enrolled in traditional public schools.

KEYWORDS

Correspondence schools; Alaska; homeschooling; graduation

Alaska has a long tradition of distance education, driven by a range of factors but perhaps most obviously by geography and low population density (Hanson, 2000). For most of its existence as a District (1867–1912), a Territory (1912–1958), and a state (1959-present), Alaska simply did not have the resources to build or operate schools for children spread out over half a million square miles (Alaska Humanities Forum, 2016; Haycox, 2006). Alaska has been, and remains, the United States' least densely populated state (McShane & Smarick, 2018; U.S. Census Bureau, 2010), and the state has long navigated challenges familiar to others in rural locales (for a good overview of what "rural" may mean in the United States, see Cromartie & Bucholtz, 2008).

Alaska's unique history shaped when and how it provided schools for young people, and its rural character remains a powerful influence over educational policy and choice today (DeFeo & Tran, 2019; Peterson, 2019). While this study focuses on programs and schools developed for rural students in Alaska, we take seriously the charge of McShane and Smarick (2018), whose recent volume on rural education in the United States cautioned against claims of cultural,

demographic, or historical homogeneity when discussing education in rural places. Alaska is rural in many ways, yet distinct from others so described. Below we outline briefly some of the threads binding Alaska's modern correspondence schools to rural schools elsewhere in the nation, and to those same correspondence programs begun years ago, often with very different purposes and students in mind. It is our hope that a brief exploration of the roots of Alaska schools will help readers contextualize the data we later present on enrollment and graduation rates in the state's correspondence schools.

Alaskan context

The United States Army was the first American authority operating in Alaska following the Alaska Purchase in 1867, and the Army in Alaska concerned itself more with the preservation of order than the development of government. Although census efforts at the time were incomplete, the U.S. Census Bureau estimated that the population of Alaska by 1880 was 33,426 - of whom 98.6% were Alaska Native peoples (Petroff, 1884). From 1867 to 1884, the U.S. Army in Alaska did nothing to provide for public schools; in this, the federal government stands out as uniquely absent in Alaska compared to the contiguous states and territories of the late nineteenth century. Elsewhere in the United States, the federal government had extensive interactions with Tribes as "domestic dependent nations" through direct treatymaking and trust relationships (Pevar, 2012).

Alaska formed its first civil government via the Organic Act of 1884; the Act delegated responsibility for operating schools in Alaska to the federal Office of the United States Secretary of the Interior (Barnhardt, 1985; Barnhardt, 2001; Goodykoontz, 1936; Haycox, 2006). The federal government began operating schools in Alaska indirectly, some as boarding schools under contract with religious organizations such as the Russian Orthodox and Presbyterian Churches. Though theoretically run for "children of all races," these early federal schools in the District of Alaska were segregated missionary schools. These schools largely focused on the Christianization of Alaska Natives, the eradication of traditional languages and beliefs, and on preventing the return of children to their home villages following their education (Darnell & Hoem, 1996; Getches, 1977; Jester, 2002). The assimilationist orientation of early missionary schools in Alaska echoed approaches taken by contemporaneous American Indian boarding schools on and off Tribal lands throughout much of the rest of the United States at the time (Dunbar-Ortiz, 2015).

A growing influx of non-Natives during and after the Klondike Gold Rush (1896–1899), coupled with resentment over the perceived poor quality of missionary schools, produced the 1905 Nelson Act, which formalized a system of schools in Alaska segregated by race (Case & Voluck, 2012; Henderson, 1920). Following the Nelson Act, the federal Secretary of the Interior remained

responsible for the education of Alaska Natives, while incorporated towns in Alaska (with high percentages of non-Natives) became responsible for the education of "white children and children of mixed blood who live civilized lives" and who had no tribal ties (Nelson Act, §7; Alaska Territorial Legislature, 1915; Schneider, 2018). The legacy of the Nelson Act in Alaska extended beyond a blatantly racist structure to a formalized division of schooling between urban and rural Alaska that persists in many ways in the modern era.¹

When Alaska became a Territory under the Second Organic Act of 1912, the Territorial government began operating schools for White students, while the federal government continued to operate schools for Alaska Native students. In this, the Territory of Alaska began to mimic more closely the separation of governmental responsibility for schooling common across much of the rural American West and Midwest at the time, wherein states assumed responsibility for educating populations of children that were predominantly White, while the federal government bore responsibility for the educating indigenous children on or near Indian Country (Adams, 1995; Dunbar-Ortiz, 2015; Easley, C., & G. Kanaglak, 2005). In Alaska, both the Territorial and the federal school systems operated schools only in towns and villages with sufficient numbers of schoolaged children; neither provided many high schools, and all schools faced constant logistic and communication challenges - along with very high costs (Getches, 1977; Greene, 1984; Hirshberg & Sharp, 2005; Kleinfeld, 1972).

Struggling with these costs and extremely limited options for widely dispersed secondary students, in 1933 the Territorial Legislature passed a series of educational reforms, including the creation and funding of a statewide "Division of High School Correspondence," modeled after a similar program in Massachusetts (Hanson, 2000), and available to any student living more than two miles away from a public school. The intent of the program - later renamed Centralized Correspondence Study (CC/S) – was to provide a home-based schooling option for students who wanted it without spending sums of money that simply did not exist (Alaska Territorial Department of Education, 1940; Greene, 1984). Thus began a unique effort among Territorial schools: government sponsorship of what was then called "correspondence study" but would be recognized by readers today as homeschooling.² Over the next three decades, Alaska would expand its support for correspondence study to include creation of elementary-level correspondence programs, the hiring of teachers to manage correspondence work, and the provision of itinerant teachers for rural correspondence students.

The Alaska Statehood Act, which went into effect in 1959, brought many changes to Alaska - perhaps most notably the removal of the Secretary of the Interior's previous responsibility for the education of Alaska Native students (Getches, 1977). In theory, the new State of Alaska was now responsible for the education of all of its students, including Alaska Natives – a responsibility which distinguished Alaska from other rural states with substantial numbers of indigenous students, whose education often remained the responsibility of the



federal Department of the Interior, Bureau of Indian Affairs. However, even after statehood, Alaska's limited budget and the inertia of history meant that the longstanding urban/rural, State/federal divide continued with minor adjustments until the discovery of oil in Prudhoe Bay in 1968. Oil – and the resulting legislation to resolve competing land claims (especially the Alaska Native Claims Settlement Act of 1971) inserted vast revenues into the State's education system (Haycox, 2006) and allowed it to experiment with new supports for students never previously feasible.

From 1970-1975, the State Department of Education experimented with a highly centralized Alaska State-Operated School System (ASOSS), which took over operations of the State's rural schools and ran the Centralized Correspondence Study program. No other state appears to have attempted to develop a correspondence or distance education system to serve rural students as did Alaska; in building ASOSS, Alaska was an innovator in delivery of education to rural students. Yet this statewide "system" lacked local high schools, and was heavily criticized by the Alaska Federation of Natives for providing an education that was "... irrelevant to the experiences, traditions, and values of rural residents" (McDiarmid, 1984).

Political advocacy from rural areas quickly led to the passage of Alaska Senate Bill SB367 in 1975, that opened CC/S to any student in the state who wanted to enroll, and further allowed local school districts to operate their own correspondence programs for the first time (Hanson, 2000). The State of Alaska, continuing a tradition begun in 1933, provided funding to cover all costs for families who chose it - including funding directed to families for educational expenses. This arrangement was and remains unique among the states, including rural states such as Wyoming, Montana, or others whose low population density may have made consideration of such programs otherwise attractive.

In Alaska, state government directly subsidized and has continued (to this day) to subsidize those who homeschool.³ The direct financing of Alaska correspondence schools clearly informs the choices families in Alaska make to remain engaged with public education. McKittrick (2016, p. 4) recently characterized the direct subsidies as modest but meaningful for families in Alaska:

"[f]or each correspondence student, a district gets 90 percent of the 'base student allocation' from the state, around \$5,300 [FY16]. Roughly \$2,000 of that goes to the families for educational expenses. That leaves a school district with more than \$3,000 per homeschooler, which serves to administer the program while bringing in extra cash."

Such an arrangement has provided financial incentives all around: the state has saved roughly 10% compared to the cost of brick-and-mortar programs, families have been provided funds that cover many expenses (including computers, internet service, books, athletic equipment, tutoring services, and other supplies), and correspondence programs have gained operational funds that can become substantial as enrollment increases. Such generous financial support has attracted a large number of families over the years and has greatly expanded the number of school districts choosing to operate correspondence programs for their own students or open to students statewide. Correspondence programs have grown in number from the single statewide program (CC/S) in 1933-34 to 30 districts and statewide programs operating by 2016-17. At this point in time, Alaska has had over 80 years of experience directly and indirectly supporting families who choose correspondence education. In a real sense, Alaska's funding mechanism for correspondence schools appears to approach voucher-system status, anticipating by decades Friedman's 1955 proposal to publicly finance privately operated schools (Friedman, 1955). Thus in examining Alaska's correspondence programs, we may be able to see glimpses of what expanded voucher programs may mean for students and educational systems elsewhere.

However, the State of Alaska did not in 1933 express (nor has it since expressed) a rationale for correspondence education grounded in school choice theory as we recognize it today. Correspondence schools were not developed as a response to government overreach or quality concerns (Berends, 2015), but as a unique mechanism for expanding public schooling despite limited funding, geography, and low population density. It has not been clear whether market(s) in Alaska public education have been influenced by the existence or structure of correspondence schools (Chubb & Moe, 1990), nor has it been clear which aspects of institutional theory could be relevant to better understanding correspondence schools (Meyer & Rowan, 1977). These are schools that have not generally replicated bureaucratic features of traditional schools (classrooms, teachers, bells, desks), and which have marketed themselves predominantly for homeschooling families while operating within the public domain.

Correspondence education and homeschooling in Alaska have proven to be unique in many ways, while being nested within a profoundly important matrix of education in rural America that has been little studied. We simply don't have a good handle on how many students enroll in correspondence schools in Alaska, nor whether they have been successful. This paper seeks to expand our knowledge base about correspondence schools in Alaska by examining the enrollment, grade distribution, race/ethnicity of students, and graduation rates among students who have enrolled in such schools. It is hoped that study of this group may prove useful to policymakers both inside Alaska, and those outside, especially in rural states or locales, who may be considering adjustments to their own homeschooling laws or regulations or exploring the idea of voucher programs. Although the state is unique geographically, we have little reason to think its students, families, or high school diplomas incomparable. And the example of Alaska's correspondence schools, populated by homeschooling families for over 80 years with longstanding public support, operating in a homeschooling-friendly legal and



regulatory climate, may serve as something of a bellwether for areas with expanding populations choosing to homeschool.

National context

Homeschooling - including correspondence or distance education - is challenging to study, in Alaska and elsewhere. We do not currently have a good grasp on how many students homeschool nationwide, and researchers still cannot determine if homeschooling is growing or cooling as a national trend (Watson, 2018). The most recent national estimate, based on 2012 National Household Education Surveys, estimated that the number of students who homeschooled at roughly 1.8 million students, or 3.4% of the school-age population in 2012 (Redford, Battle, & Bielick, 2016). Other recent estimates have suggested an American homeschooling population of over 2 million students, or more than 4% of the school-age population (Basham, Merrifield, & Hepburn, 2007; Boschee & Boschee, 2011; Kunzman & Gaither, 2013; Ray, 2017).

Given such high (though frustratingly inexact) estimates, serious scholarly and public-policy interest has started to focus on homeschooling, especially the academic performance of students who homeschool (Gloecker & Jones, 2013; Wilkens, Wade, Sonnert, & Sadler, 2015). Belfield (2005) characterized the overarching research interests of the field as including both "the absolute performance of homeschoolers [and] the treatment effect of homeschooling (170)." At the moment, we know little about either. For a good review of recent research on homeschooling at the national level, see Kunzman and Gaither (2013).

Correspondence, home, and online schooling in Alaska

A word on terminology - as readers may be unfamiliar with the distinctions between correspondence, home, and online schooling in the Alaska context. The term "correspondence school" is not well known or widely used nationally and may mislead. In Alaska, the perhaps archaic-seeming term is written into state law and regulation. Correspondence schools are operated by public school districts in Alaska, with oversight by the Alaska Department of Education and Early Development. Correspondence schools enroll students, provide distance-delivered courses of study, materials, and compliance monitoring of individual learning plans, and are expected to meet state and district teaching and learning standards. Perhaps confusingly, "correspondence schools" in Alaska support activities many would recognize as homeschooling elsewhere - such as at-home lesson completion, work with a private tutor or a homeschooling group, and completion of online or college courses for credit. Most correspondence schools in Alaska explicitly describe themselves as service providers for homeschooled students; for example, the largest correspondence school in Alaska - Interior Distance Education of Alaska, describes itself as "created by homeschoolers for homeschoolers." On a national level, students enrolled in correspondence schools may not be classified as homeschooling by individual families or US homeschool organizations. Therefore, comparing data on homeschooling from the continental United States to correspondence school may mislead more than inform.

The term "homeschooling" as used in Alaska is a broadly inclusive term, one which may be unique nationally. Not all homeschoolers in Alaska are enrolled in correspondence schools. This is because some students or families may wish to pursue homeschooling without oversight from a public district, or because they wish to include content or curriculum beyond that or prohibited by correspondence schools. For example, a homeschooling family not enrolled in a correspondence school may pursue religious instruction prohibited by correspondence schools, or may choose experiential approaches that do not conform to state standards. What defines "homeschooling" in Alaska (and elsewhere) is that students doing it largely bypass traditional brick-and-mortar public school settings.

Importantly, the absolute number and typology of homeschoolers in Alaska is at present unknown and unknowable. In 1997, the state formally exempted students "being educated in the child's home by a parent or legal guardian (AS 14.30.010[b])" from the state's compulsory education law. This adjustment to state law has meant uncertainty in terms of cataloging those who homeschool in Alaska. Though the number of students enrolled in correspondence schools has steadily climbed in the two decades following deregulation, the number of other homeschoolers in the state cannot be determined (Alaska Department of Education & Early Development, 2016b). This study, then, will be limited to an examination of only those students who enroll in district-based correspondence schools in Alaska - and represents something of a lower-bounds or conservative estimate of the number of homeschoolers in Alaska between 2010 and 2017.

Research questions

- (1) What percentage of K-12 public school students in Alaska were enrolled in correspondence schools (including those classified as "Statewide" or "District") for the school years 2010–17?
- (2) What was the ethnic/racial distribution of K-12 public school students in Alaska enrolled in traditional and correspondence schools for the school years 2010-17?
- (3) What percentage of K-12 public school students in Alaska were enrolled in correspondence schools at each grade level, K-12, for the most recently available school year, 2016-17?
- (4) What percentage of students entering 9th grade in Alaska correspondence schools during the 2010–11through 2013-14 school years were



identified as having successfully graduated from high school 4- and 5-years later?

Data

Data included in the analysis below include three separate publicly available school-level datasets provided by the Alaska Department of Education & Early Development, including 511 schools (N = 941,555 total student observations) during the school years 2010–11 through 2016–17. These data include:

- Public school classification and enrollment, 2010–17;
- Student enrollment by school, race/ethnicity, and grade level, 2010–17; &
- Four-year cohort graduation rates (students entering 9th grade for the first time in 2011-12) and five-year cohort graduation rates (students entering 9th grade for the first time in 2010–11).4

Methods

For the purposes of this study, K-12 student enrollment data for public schools in Alaska during the school years 2010-11 through 2016-17 (N = 941,555 student observations) were classified into three school-type bins – "Traditional public," "Statewide correspondence," and "District correspondence." The category "Traditional public" included both traditional district-operated public schools and brick-and-mortar charter schools, which in Alaska operate as dependent schools within districts. Student enrollment and cohort membership are established in Alaska on October 1 of each school year.

Excluded from analysis were observations from public schools exclusively operated for students with disabilities (n = 2); public schools operated in youth correctional facilities (n = 8); and correspondence schools that either closed or had zero students enrolled during the study period (n = 6). The distinction between "Statewide correspondence" (n = 16) and "District correspondence" (n = 15) schools is of particular interest to Alaska policymakers; the difference being that "Statewide correspondence" schools are allowed to enroll students from any district in the state - while "District correspondence" schools serve only those students who reside within district boundaries.

For graduation rate analyses, 3 years of 4- and 5- year cohort graduation data (for students entering the 9th grade for the first time in 2010–11, 2011–12, 2012–13, and 2013–14; N = 271 schools with gradespans including 9–12) were sorted into the same three school-type bins - "Traditional public," "Statewide correspondence," and "District correspondence" as above. 5-year cohorts entered 9th grade in 2010-11, 2011-12, and 2012-13, while 4-year cohorts entered 9th grade in 2011-12, 2012-13, and 2013-14. A high school "graduate"

was defined by the Alaska Department of Education & Early Development during the period of this study as a student who has received a regular diploma from a state- or district- approved education program, as evidenced by receipt of a secondary school diploma from school authorities. The rosters of those listed as "graduates" did not include students who only received a "certificate of completion" under Alaska's implementation of the Individuals with Disabilities Education Act or students who were awarded General Education Development (GED) certificates.

Findings

Figure 1 shows that the proportion of public K-12 students in Alaska enrolled in "All correspondence" schools during the years 2010–17 (N = 941,555) ranged from 8.1% to 9.5%, with a trend of steady increase during the same period. Figure 1 also shows that the proportionate increases within "All correspondence" schools were driven by enrollment gains in "Statewide correspondence" schools only, which grew from 6.2% to 7.5% of public K-12 enrollment from 2010-17, while enrollment in "District correspondence" schools remained essentially flat at 2.0% during the same period.

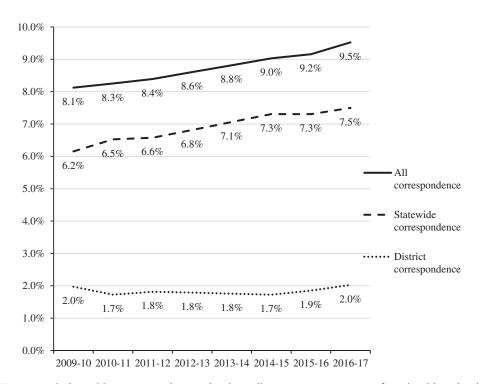


Figure 1. Alaska public correspondence school enrollment as a percentage of total public school enrollment, grades K-12, 2010–2017 (N = 941,555).

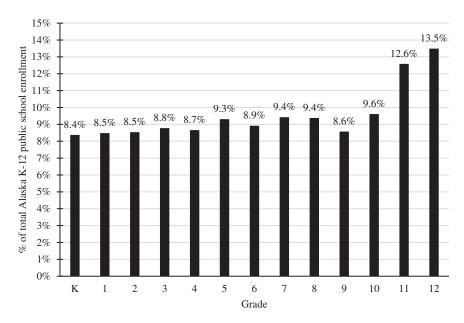


Figure 2. Alaska public correspondence school enrollment as a percentage of total public school enrollment by grade level, 2016–2017 (n = 129,836).

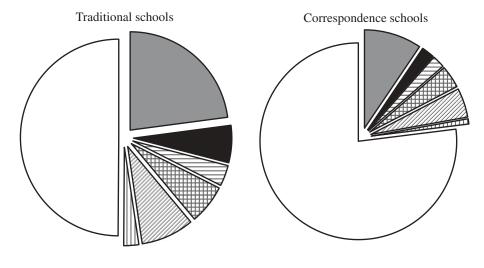
Figure 2 shows that the proportion of public K-12 students in Alaska enrolled in "All correspondence" schools during the 2016-17 academic year (n = 129,836) varied from 8.4% to 13.5%, with an overall mean enrollment in "All correspondence" schools across the gradespan of 9.5%. Grades K-9 demonstrated below-mean enrollment in correspondence schools, while grades 10-12 demonstrated above-mean enrollment in correspondence schools. A Chi-square test of independence (Ho: Alaskan public school students sorted into traditional and correspondence schools independently across grade levels) was performed to examine the relationship between enrollment of in "All correspondence" schools and grade level; the relationship between these variables was significant ($\chi^2 = 322.9$ [df = 1], p < .001) and the null hypothesis rejected. Most of the contribution to the Chi-square statistic (79.9%) came from above-mean enrollment in grades 11 and 12. Students in Alaska do not appear to be sorting into traditional and correspondence schools independently by grade level - disproportionately choosing to enroll in correspondence schools during junior and senior years in high school.

Table 1 provides a breakdown of grade-level enrollment across public school types for the academic year 2016-17. Table 1 shows that enrollment in correspondence schools varied as a proportion of total Alaska public school enrollment, from a low of 8.4% in grade KG to a high of 13.5% in grade 12.

Figure 3 shows the average percent enrollment in Alaska traditional and correspondence schools, by race/ethnicity (as categorized by the Alaska

Table 1. Alaska public school enrollment by school type and
grade level, $2016-17$ ($n = 129,836$).

Grade	Traditional public (% of grade level)	All correspondence (% of grade level)	
K	9,422 (8.0%)	861 (8.4%)	
1	9,559 (8.1%)	886 (8.5%)	
2	9,640 (8.2%)	900 (8.5%)	
3	9,569 (8.2%)	921 (8.8%)	
4	9,440 (8.0%)	895 (8.7%)	
5	9,190 (7.8%)	943 (9.3%)	
6	8,856 (7.5%)	867 (8.9%)	
7	8,717 (7.4%)	907 (9.4%)	
8	8,521 (7.25%)	882 (9.4%)	
9	8,840 (7.5%)	829 (8.6%)	
10	8,709 (7.4%)	926 (9.6%)	
11	8,516 (7.3%)	1,226 (12.6%)	
12	8,490 (7.2%)	1,324 (13.5%)	
Totals	117,469	12,367	



	Traditional Schools	Correspondence Schools
Alaska Native & American Indian	22.9%	9.5%
Asian	6.1%	2.1%
Black	3.4%	2.1%
Hispanic	6.5%	3.7%
Two or more races	8.7%	4.8%
Native Hawaiian & Pacific Islander	2.5%	0.9%
White	49.9%	77.0%

Figure 3. Average percent enrollment, Alaska public schools, by ethnicity 2010–2017 (N = 903,780).

Department of Education & Early Development) from 2010-17. It shows that over the study period, less than 50% of the students enrolled in traditional Alaska public schools were identified as White - but for correspondence schools, more than 75% of the students enrolled were identified as White.

Table 2. Alaska correspondence school enrollment by school type and grade level, 2016-17 (n = 12,367).

	Statewide correspondence District correspondence		
Grade	(% of grade level)	(% of grade level)	
K	683 (6.6%)	178 (1.7%)	
1	695 (6.7%)	191 (1.8%)	
2	723 (6.9%)	177 (1.7%)	
3	752 (7.2%)	169 (1.6%)	
4	723 (7.0%)	172 (1.7%)	
5	752 (7.4%)	191 (1.9%)	
6	696 (7.2%)	171 (1.8%)	
7	716 (7.4%)	191 (2.0%)	
8	699 (7.4%)	183 (1.9%)	
9	619 (6.4%)	210 (2.2%)	
10	697 (7.2%)	229 (2.4%)	
11	971 (10.0%)	255 (2.6%)	
12	1,010 (10.3%) 314 (3.2%)		
Totals	9,736	2,631	

Table 2 presents the distribution of enrollment across Alaska correspondence schools by type and grade level for the academic year 2016-17. It shows that the vast majority (≥75%) of K-12 students in Alaska enrolled in correspondence schools chose "Statewide correspondence" schools at each grade level during academic year 2016–17.

Table 2 also indicates some variability in enrollment across grade levels by correspondence school type. "Statewide correspondence" schools, for example, enrolled below- or near-mean percentages of students in grades K-10, and substantially above-mean percentages of students in grades 11 and 12. A Chisquare test of independence was performed to examine the relationship between enrollment in "Statewide correspondence" schools and grade level (Ho: Alaskan public school students sorted independently into "Statewide correspondence" schools by grade level); the relationship between these variables was significant $(\chi^2 = 243.2 [df = 2], p < .001)$. Most of the contribution to the Chi-square statistic (79.2%) came from above-mean enrollment in grades 11 and 12. Table 2 also shows that "District correspondence" schools enrolled below- or near-mean percentages of students in grades K-8 and above-mean percentages of students in grades 9–12. A Chi-square test of independence was performed to examine the relationship between enrollment in "All correspondence" schools and grade level (H_o: Alaskan public school students sorted independently into "District correspondence" schools by grade level); the relationship between these variables was significant ($\chi^2 = 138.4$ [df = 2], p < .001). Most of the contribution to the Chi-square statistic (69.9%) came from above-mean enrollment in grades 11 and 12. Students in Alaska do not appear to be sorting into "Statewide correspondence" or "District correspondence" schools independently by grade level – in both cases, students disproportionately enroll in correspondence schools during junior and senior years in high school.

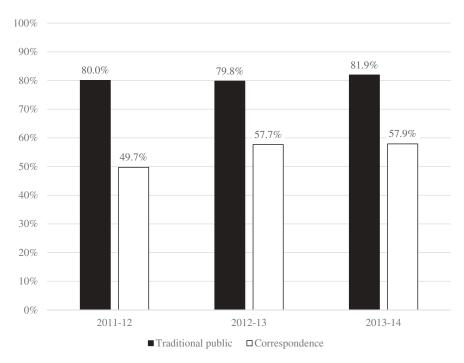


Figure 4. Alaska traditional public and correspondence school 4-year cohort graduation rates for students entering 9th grade in the 2011–12 (n = 9,596), 2012–13 (n = 9,519), and 2013–14 (n = 9,607)academic years.

Figure 4 shows 4-year cohort graduation rates for students entering 9th grade in Alaska during the 2011–12, 2012–13, and 2013–14 academic years, and shows that of those entering "Traditional public" schools, 79.8-81.9% graduated within 4 years. The 4-year cohort graduation rate for students in correspondence schools during the same timeframe was 49.7-57.9%. Chi-square tests of independence were performed to test the null hypothesis (H_o) of independence between school type for each 4-year cohort; the relationship between these variables was found to be significant in each year, 2010–11 ($\chi^2 = 157.4$ [df = 2], p < .001), 2011–12 $(\chi^2 = 145.8 \ [df = 2], p < .001), \text{ and } 2012-13 \ (\chi^2 = 159.7 \ [df = 2], p < .001).$ Therefore, we reject H_o for all cohort years. Alaskan students entering 9th grade between 2011 and 2013 who attended traditional public schools demonstrated significantly higher 4-year cohort graduation rates (24-30% higher) than their peers enrolled in correspondence schools.

Figure 5 shows 5-year cohort graduation rates for students entering 9th grade in Alaska during the 2010–11, 2011–12, and 2012–13 academic years, and shows that of those entering "Traditional public" schools, 81.9-85.6% graduated within 4 years. The 5-year cohort graduation rate for students in correspondence schools during the same timeframe was 56.5-62.5%. Chi-square tests of independence were performed to test the null hypothesis (H_o) of independence between school type for each 5-year cohort; the relationship between these variables was found to

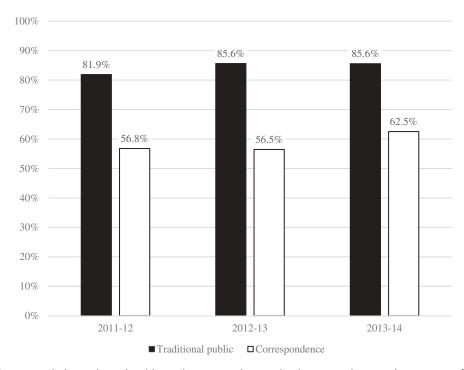


Figure 5. Alaska traditional public and correspondence school 5-year cohort graduation rates for students entering 9th grade in the 2010–11 (n = 9,728), 2011–12 (n = 9,558), and 2012–13 (n = 9,510) academic years.

be significant in each year, 2010–11 ($\chi^2=101.8$ [df=2], p<.001), 2011–12 ($\chi^2=218.7$ [df=2], p<.001), and 2012–13 ($\chi^2=159.6$ [df=2], p<.001). Therefore, we reject H_o for all cohort years. Alaskan students entering 9th grade between 2010 and 2012 who attended traditional public schools demonstrated significantly higher 5-year cohort graduation rates (23–29% higher) than their peers enrolled in correspondence schools.

Table 3 shows that the 4-year cohort graduation rates for those enrolled in "Statewide correspondence" schools were lower than for those enrolled in "District correspondence" schools in each cohort year. Chi-square tests of independence were performed to test the null hypothesis (H_o) of independence between correspondence school type for each 4-year 9th grade cohort;

Table 3. Alaska "Statewide" and "District" correspondence school 4-year cohort graduation rates for students entering 9th grade in the 2011–12, 2012–13, and 2013–14 academic years (n = 3,869).

School year School type		<i>n</i> in cohort	4-year cohort graduates (%)
2011–12 Statewide correspondence		940	444 (47.2%)
2011–12	2011–12 District correspondence		178 <i>(57.2%)</i>
2012-13	Statewide correspondence	1,001	560 <i>(55.9%)</i>
2012-13	2012–13 District correspondence		194 <i>(63.4%)</i>
2013–14 Statewide correspondence		948	539 <i>(56.9%)</i>
2013–14	District correspondence	363	220 (60.6%)

Table 4. Alaska traditional public and correspondence school 5-year cohort graduation rates for
students entering 9th grade in the 2010–11, 2011–12, and 2012–13 academic years ($n = 4,079$).

School year School type		n in cohort	5-year cohort graduates (%)
2010-11	2010–11 Statewide correspondence		536 (53.4%)
2010-11	0–11 District correspondence		214 <i>(67.3%)</i>
2011-12	Statewide correspondence	1,035	562 <i>(54.3%)</i>
2011-12	2011–12 District correspondence		198 <i>(63.7%)</i>
2012–13 Statewide correspondence		1,024	622 (60.7%)
2012–13	District correspondence	388	261 (67.3%)

the relationship between these variables was found to be significant for the 2011–12 cohort ($\chi^2 = 4.70 \ [df = 1], p < .05$), but not for the 2012–13 entering cohort ($\chi^2 = 3.80 \ [df = 1], p < .1$) nor the 2013–14 entering cohort ($\chi^2 = .64$ [df = 1], p < .2) or 2013–14 ($\chi^2 = 1.92$ [df = 1], p < .2). Therefore, we find inconclusive evidence that 4-year cohort graduation rates varied significantly across correspondence school types. The differences shown by correspondence school type may be due to chance; continued examination of graduation rates by school type may be useful in answering whether there are detectable differences in cohort graduation rates between "Statewide correspondence" and "District correspondence" correspondence schools in Alaska.

Table 4 shows that the 5-year cohort graduation rates for those enrolled in "Statewide correspondence" schools were lower than for those enrolled in "District correspondence" schools in each cohort year. Chi-square tests of independence were performed to test the null hypothesis (H_o) of independence between correspondence school type for each 5-year 9th grade cohort; the relationship between these variables was found to be significant for the 2010–11 cohort ($\chi^2 = 4.70$ (df = 1), p < .05), but not for the 2011–12 entering cohort ($\chi^2 = 3.80 \ [df = 1], p < .1$) nor the 2013–14 entering cohort ($\chi^2 = .64$ [df = 1], p < .2) or 2012–13 ($\chi^2 [df = 1] = 1.92, p < .2$). As with 4-year graduation rates, Table 4 shows inconclusive evidence that 5-year cohort graduation rates varied significantly across correspondence school types.

Limitations

This study presents several notable limitations that bound the findings presented above. Perhaps most important is the distinction between homeschooling and correspondence schooling in Alaska. The two groups are not equivalent, though there is a direct relationship: many, if not most, Alaskans who use correspondence schools consider themselves to be homeschooling. Yet there are also others who homeschool in the state without using correspondence schools. We do not have good information on this latter group; findings should therefore be interpreted cautiously, and extend only to that population of families in Alaska who use the public system of correspondence schools. What is presented



here (a look at correspondence schools) may be considered a minimum, or floor, estimate of the larger population (of homeschooling more broadly) – but readers should keep in mind that homeschoolers who do not use correspondence schools may differ in notable ways from those who do.

A second important limitation is the structure of the data provided by the Alaska Department of Education & Early Development (EED). While EED has released 4- and 5-year cohort graduation data, they have not provided cumulative longitudinal data (e.g., for the same group of students over a 4- and 5-year timespan). Rather, the graduation data presented for the 4- and 5-year cohorts are separate snapshots of two different cohorts of students with no relationship save that they attended largely the same set of schools and overlapped in time between 2010–17.

A third limitation is that the nature of the data provided (school-level enrollment and cohort graduation data) prevents the sorts of causal conclusions about school effects in which many readers (including the authors!) may have interest. Although cohort graduation rates are presented, readers are cautioned against drawing conclusions that any school type is more or less effective than another. Though perhaps tempting, readers will be disappointed if seeking an answer to whether correspondence schools 'work' in Alaska, as there is simply no way to account for known relevant variables such as the sorting of students into schools, student demography, or previous academic experiences. This paper addresses Belfield's (2005) challenge concerning research into "the absolute performance of homeschoolers", but has no comment on "the treatment effect of homeschooling".

A fourth limitation is the presentation of graduation rates as a standalone indicator of school success. Alaska is a rural state, and as many readers of research about schooling in rural areas will be aware, the meaning and value of a high school diploma may vary greatly by place (Jordan, Kostandini, & Mykerezi, 2012). Alaska remains a place where many young people without high school diplomas can be financially successful, and as such an examination of graduation rates within the state may not illuminate similar questions raised elsewhere. And although the requirements to graduate from traditional public and correspondence schools in Alaska are the same, public schools elsewhere in the United States vary widely in graduation requirements including requirements for any particular level of academic achievement (National Center for Educational Statistics, 2014). While some assessment data exist that might be useful in comparing the performance of high school graduates across states (i.e., the National Assessment of Educational Progress [NAEP] and the Trends in International Mathematics and Science Study [TIMSS]), such data are not presented here, and readers should avoid concluding that a high school diploma earned in Alaska means the same thing as a hypothetical diploma earned elsewhere.



Discussion

A substantial and increasing percentage of Alaskan students enrolled in correspondence schools between 2010 and 2017, with the highest percentage (9.5%) enrolled during the most recently available school year, 2016-17. Although not well studied nationally, this rate appears quite high, perhaps higher than in any other state. Further, if the 9.5% rate is used as a conservative estimate of the K-12 homeschooling population, Alaskans homeschool at a rate approaching three times higher than the 3.4% national rate estimated for 2012 (Redford et al., 2016, Table 1). Such a high rate is understandable in light of the state's geography, its variable commitment to provide a quality education to all students, and its 80+ year experience providing financial, legal, and operational support to correspondence schools. Alaska may therefore represent something of a high-water mark for homeschooling in the nation as of 2016-17; if the enrollment gains seen from 2010–17 continue, there is reason to anticipate that Alaska's lead status could be sustained over time.

Identified racial/ethnic enrollment differences between traditional and correspondence schools in Alaska were notable. Correspondence schools in Alaska enrolled student bodies that were disproportionately more White, and disproportionately less every-other-racial/ethnic group compared to traditional schools in the state. Given that correspondence schools are schools of choice, and that they have origins in the provision of schooling to predominantly Alaska Native students in rural parts of the state, a disproportionately White and less diverse correspondence school student body in Alaska raises serious questions about access, enrollment, and retention of students by race/ethnicity. How do marketing, student support, curriculum, and school climate shape the decisions of students and families considering enrolling, staying in, or leaving Alaska correspondence schools? As noted above, race/ethnicity and geography in Alaska are historically linked (as elsewhere across the nation) - any finding that a set of schools of choice within the public domain is ethnically identifiable or isolated gives pause, and may be a reasonable point of inquiry for Alaskan families and educational authorities across the state (Orfield & Frankenberg, 2013). The legacy of the 1905 Nelson Act – which created parallel school systems by race/ethnicity across the state - looms large in Alaska, and moving toward equitable access and outcomes for all students remains a vast challenge.

"Statewide correspondence" schools attracted far more students, and expanded enrollments from 2010-17 compared to "District correspondence" schools in Alaska, for unknown reasons. It remains an open question of why enrollment increased in "Statewide correspondence" schools; there have been no significant regulatory changes at the state level which would increase attractiveness of such programs. Though beyond the scope of this paper, identification of characteristics of "Statewide correspondence" schools that have attracted higher enrollments



compared to "District correspondence" schools may prove useful in understanding enrollment preferences. For example, the actual or perceived quality of educational programs (such as course offerings, curriculum, instructional or delivery type) may vary by correspondence school type. There may also be different financial incentives for families, entry requirements, or rules and expectations that influence students or families in their choice of correspondence school. Or there may be factors external to schools such as job availability or family mobility that increase the attractiveness of one school type over others. All are worthy of future exploration to better understand the data presented here.

In terms of grade level enrollment, there appear to be relatively even distributions of students in Alaskan correspondence schools across the elementary and middle years (grade K-9), with significant correspondence school enrollment gains late in high school (grades 10-12). While putting this grade distribution into context remains challenging (i.e., we have no way to know whether homeschooling or correspondence schools see similar enrollment gains in grades 10-12 nationally), it does raise the question: Why have a disproportionate number of 10th, 11th, and 12th grade students in Alaska chosen correspondence schools? At the national level, 9th grade has long been understood as a "bottleneck" or "bulge" year - where disproportionately high percentages of students fail or earn insufficient academic credits for grade-to-grade progression (West, 2009). As students in Alaska reach high school age, it may be that correspondence schools are serving as pathways toward graduation for those who struggle. Alternatively, correspondence schools may be attracting students seeking accelerated or specialized study (e.g., via AP or language coursework unavailable at local schools) in geographically isolated settings. In any case, an understanding of the bulge noted above seems likely to emerge only from a qualitative identification of the push-pull calculus unique to each individual and family approaching the late high school years.

Notably, Alaskan students entering correspondence schools in 9th grade graduated from high school at significantly lower rates than peers in traditional public schools. The most-recent 4-year 9th grade cohort, for example, graduated from Alaska correspondence schools at a rate of 57.9%, compared to a rate of 81.9% for students enrolled in traditional Alaska public schools - a 24.0% 4-year cohort graduation gap. The most-recent 5-year 9th grade cohort also demonstrated a sizable difference by school type; students enrolled in Alaska correspondence schools graduated at a rate of 62.5%, compared to a rate of 85.6% for students enrolled in traditional public schools, a 5-year cohort graduation gap of 23.1%.

Readers are cautioned against the overinterpretation of these differences, though they do raise serious questions. An important aspect of the calculation of cohort graduation rates is that they are based on first-time entrants into 9th grade, tracked for four or 5 years. If students change school types - for example, if they shift from a correspondence to a traditional school during high school - they can be added to a cohort, but if cohort members change schools in identifiable patterns, reported graduation rates may be impacted in ways that have little to do with school quality or effectiveness. For example, if students entering correspondence schools late (e.g., in 11th or 12th grade) are disproportionately struggling students, we would expect to see the graduation rates of both correspondence and traditional public schools distorted; traditional school graduation rates would be shifted (perhaps misleadingly) up, while correspondence school graduation rates would be shifted (again, perhaps misleadingly) down. Alternatively, an influx of gifted and talented students into correspondence schools late in high school could distort the reported graduation rates in opposite fashion. Without student-level qualitative data, and without a mechanism to account for student selection into and out of schools, there is no justification for drawing conclusions about school quality based on graduation rates alone.

However, what is clear is that the reported 4- and 5-year cohort graduation rates for correspondence schools in Alaska - and for "Statewide correspondence" schools in particular - were comparably low, at or below 62.5%. This means that, of those high school students enrolled in Alaskan correspondence schools between 2010 and 2017 - less than two-thirds graduated within 4 or 5 years. Whether that percentage of high school graduates is appropriate for the communities and families in Alaska, by some measures the most rural state in the nation, we do not have the data to say. We can speculate that the audience attracted to correspondence schools in Alaska may be adequately served, even with low graduation rates. For example, children of families living in remote regions, who migrate seasonally for work, or who learn trades like fishing or mining may experience low rewards for school attainment, and relatively high rewards on leaving school for work as soon as legally possible.

In addition to differences between traditional and correspondence schools, there were also differences in graduation rates between the two types of correspondence schools in Alaska, though not consistently significant ones; the 4- and 5-year cohort graduation rates among students enrolled in "District correspondence" schools ranged from 3.7% to 13.9% higher than those enrolled in "Statewide correspondence" schools. This latter finding appears counterintuitive, in light of the enrollment figures presented Figure 1; although "District correspondence" schools appeared to demonstrate higher graduation rates than their "Statewide correspondence" alternative, they were far less popular among students and families.

Some additional context for interpreting graduation rates by school type comes from Alaska's graduation rates by race/ethnicity, which suggest that the "treatment effect" of correspondence schools (the effect they have on students once enrolled) may be cause for concern. To understand why, below we present 4-year cohort graduation data from Alaska's 2016-17 statewide report card, by race/ethnicity (Alaska Department of Education & Early Development, 2018; table retains "All" and selected racial/ethnic subgroups):

Table 5. Statewide 4-year cohort graduation rates, Alaska public schools (2016–17), by selected racial/ethnic subgroups. Source: Alaska Department of Education, 2017a.

Subgroup	Graduation Rate
All Students	78.2%
Alaska Native/American Indian	68.9%
Caucasian	82.2%

Table 5 shows a sizable 4-year cohort graduation rate gap in Alaska by race/ ethnicity: public school students identified as White graduated from high school at a rate 13.3% higher than students identified as Alaska Native/American Indian in 2016-17. This graduation rate gap by race/ethnicity is longstanding in the state, and a clear legacy of the Nelson Act's parallel school systems. More than a hundred years later, Alaska has yet to show that it can successfully graduate equitable percentages of students identified as Alaska Native/American Indian.

The statewide graduation rate gap favoring White students across the state is challenging to reconcile with findings from Figures 3 and 4, which showed both disproportionately White student bodies enrolled in Alaska correspondence schools, and significantly lower 4-year cohort graduation rates in those same correspondence schools. Alaska correspondence schools, whose student bodies are disproportionately White, have been graduating significantly lower percentages of students than we would expect when considering race/ethnicity alone. There is a narrative here that we do not yet understand. A potentially fruitful future research agenda could examine the processes of selection into correspondence schools, the academic experiences and supports while there, or some mixture of the two, while exploring how those factors may influence enrollment, attainment, and cohort graduation rates by race/ethnicity.

An emergent question, linked to race/ethnicity in Alaska, centres on geography and the meaning of a high school diploma in a rural state: to what extent might graduation rates in correspondence schools be artifacts of serving disproportionately rural student bodies? This is an interesting question, one which we cannot definitively answer with available data. It is interesting because there has long been a rural/urban divide for students in Alaska. As outlined in our introduction, and discussed far more capably by Haycox (2006) and Naske and Slotnick (2014), schooling in Alaska is a present-day iteration of not just geography, but colonialism, race/ethnicity, power, and language, among other factors.

Readers may wonder whether students living in rural Alaska have access to schools – especially high schools – comparable to schools in urban parts of the state. The short answer is yes. Each student in Alaska, following the *Tobeluk* v. Lind Alaska Superior Court case in 1976 (settled by the state and commonly known as the "Molly Hootch" settlement; Molly Hootch was the first-named plaintiff), has had physical access to a K-12 school where they live, even in very small communities far off the road system. These schools in remote villages have typically been single-building K-12 schools. Unlike elsewhere in the nation, there were no communities in Alaska during the study period with an elementary school, but no middle or high school. Since the Molly Hootch settlement, the Alaska Department of Education & Early Development has provided state funding for any community with at least 10 students total enrolled in grades K-12 (AK statute 14.17.905). Although Alaska has always had, like many Western states and rural locales, some families living in remote locations without physical access to schools, these families have been rare; virtually all students attending correspondence schools in Alaska in the last several decades have also had access to a physical school nearby. Well before the timeframe of this study (2010-17), correspondence schools in Alaska became schools of choice, rather than necessity.

With respect to outcomes among rural and urban students, recent research by Tran and Hill (2019) indicated a roughly 6% graduation rate gap favoring the "Big Five" urban Alaska school districts. Tran and Hill (2019) found that from 2010-16, the "Big Five" urban school districts in Alaska demonstrated an 80% 4-year cohort graduation rate, while the rest of the state's (mostly rural, many remote) districts demonstrated a 74% 4-year cohort graduation rate (both figures excluded correspondence school students from calculations). Therefore, we have some indirect evidence that rural students in Alaska generally graduated from high school at lower rates than urban students. This may have been due to a range of push/pull factors, such as the struggle of many rural students to leave families and/or villages that depend on each generation for community sustainability (Li, 2019); to disconnects between school curriculum and rural family needs (McLean, 1997; Schafft, 2016); or to a lack of culturally relevant pedagogy (Jester, 2002). Rural students also may have had difficulty gaining access to support services comparable to those available for students in urban spaces (Semke & Sheridan, 2012).

But the overall graduation rate gap between urban and rural students does not appear to fully explain the graduation rate gaps across traditional and correspondence schools in Alaska. During the study period (2010-17), we have some evidence that correspondence schools drew student bodies predominantly from urban, rather than rural places. This appears counterintuitive given the origin story of correspondence schools in Alaska – an intended solution to the problems of geographic isolation in a vast state. Below, in Figure 6, we can see that the racial/ ethnic composition of the "Big Five" urban districts identified by Tran and Hill (2019) was majority-White in 2016–17, while the racial/ethnic composition of the state's rural and remote districts was majority Alaska Native/American Indian:

Rural and remote schools in Alaska (those outside the "Big Five" districts) enrolled student bodies during this study period that were majority Alaska Native/American Indian; Figure 3 (above) showed that correspondence schools in Alaska enrolled, on average, just 10% Alaska Native/American Indian





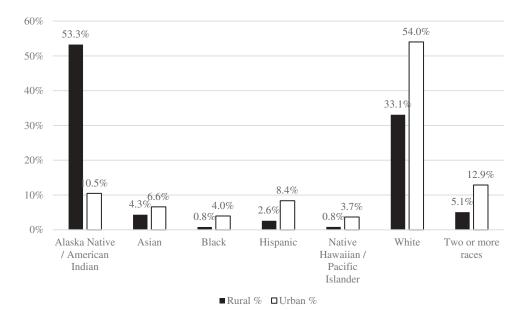


Figure 6. Alaska Public School enrollment, K-12, by geography ("Urban" includes the "Big Five" Alaska school districts: Anchorage, Fairbanks, Juneau, Kenai, and the Matanuska-Susitna school districts; "Rural" includes all others) and race/ethnicity, 2016-17.

students (and over 75% White students). Such substantial differences in enrollment by race/ethnicity suggest that that correspondence schools in Alaska have served predominantly urban student bodies in recent years.

A second piece of evidence that Alaska correspondence schools have likely become urban-serving institutions comes from looking at student enrollment in the districts operating correspondence schools during the study period. Table 6 presents the top five correspondence schools in Alaska by enrollment (2016–17 school year), representing 70.1% of total correspondence enrollment in Alaska:

Two of these large correspondence schools (Mat-Su Central and Connections) were operated by "Big Five" urban districts in Alaska. The other three large

Table 6. Top five largest-enrollment Alaska correspondence schools, by district classification and enrollment type, 2016-17.

Correspondence Program	District	District classification	Correspondence Enrollment (% of total AK correspondence)	Brick-and-mortar enrollment
IDEA	Galena City	Rural	3,907 (31.8%)	474
Mat-Su Central School	Mastanuska-Susitna Borough	Urban	1,614 (13.2%)	16,871
Raven	Yukon-Koyukuk	Rural	1,379 (11.2%)	376
CyberLynx	Nenana City	Rural	902 (7.4%)	217
Connections	Kenai Peninsula Borough	Urban	800 (6.5%)	8,341

correspondence schools were operated by rural districts. Notably, student enrollment in these large rural "Statewide correspondence" schools dwarfed that of the local population (and K-12 student body) within the operating district. Galena City School District, for example, though located in a town with fewer than 500 residents total (and fewer than 200 school-age students), operated a "Statewide correspondence" program with over 3,900 enrolled students. It appears that the largest Statewide programs may have moved beyond the original correspondence school mission of providing education to students in rural and remote communities - and into a new role, serving homeschooling students from urban communities. One theory - beyond the scope of this paper - is that the State-level funding mechanisms for correspondence schools in Alaska may have in effect subsidized the enrollment of urban homeschoolers enrolled in Alaska's "Statewide correspondence" schools, adding complexity to any interpretation of who uses correspondence schools, and to what ends.

Overall the findings presented above, especially concerning graduation rates, raise serious human capital concerns - as individuals with limited educational attainment, even in rural Alaska, face disadvantages in securing jobs, earning a living wage, and participating fully in democratic society. But there are also serious concerns about the use of public resources (financial, legal, operational or otherwise) in support of public programs with patterns of racial/ethnic enrollment that do not match schools statewide, and which demonstrate relatively low overall graduation rates. Without clarity, there is concern: why aren't there more Alaska Native/American Indian students in Alaska correspondence schools? Why are graduation rates among students in Alaskan correspondence schools so low? And: given that public (federal and state) resources are being used to support correspondence schools in Alaska (unlike in many other homeschooling settings nationwide) – are the outcomes justified by the investments made?

As with many papers about school choice, particularly those which touch on the challenging-to-study arena of homeschooling, this one falls short of providing definitive answers. Much additional work remains to explore the factors that push or pull students into different school types, and to identify what sorts of effects correspondence schools in Alaska may have on students once enrolled.

Notes

1. "Rural," or "Bush" Alaska generally refers to places off the road system. What counts as "rural" in Alaska is often quite a bit more remote and sparsely populated than elsewhere in America, where any place with fewer than 2,500 residents is so classified (U.S. Census Bureau, 2016). While a majority of students in Alaska live in urban areas (71% of school-aged children attend just five urban districts in Alaska [Anchorage,



- Fairbanks, Juneau, Kenai, and the Matanuska-Susitna valley]), a majority of schools are rural (Alaska Department of Education, 2016a).
- 2. The term "correspondence" originally referred to the earliest iteration of distance education in Alaska, which generally involved the purchase of (mailed) curriculum for use at home by a student, often with instructional support provided by a parent, relative, or hired tutor. Although not representative of the full range of homeschooling options in Alaska today, "correspondence" remains the statutory term for district and statewide distance-delivery education programs across Alaska (Alaska Department of Education, 2017).
- 3. Five states (Iowa, Minnesota, Arizona, Illinois, and Louisiana) have constructed tax credits that can provide indirect support to homeschooling families deducting expenses when filing state taxes; the allowable deductions vary from \$250-\$5,000 annually (HSLDA, 2013).
- 4. A note on these data the Alaska Department of Education & Early Development has only released data for separate cohorts of students entering 9th grade in different years (2010-11, 2011-12 & 2012-13 for 5-year cohorts; 2011-12, 2012-13, and 2013-14 for 4-year cohorts), rather than longitudinal data that could be used to track the same students over time. Hence, while 4- and 5-year cohort graduation rates are reported here, readers should understand that they represent different groups of students, rather than a longitudinal portrait of a single group (Alaska Department of Education & Early Development, 2015).
- 5. Following the 4-year Adjusted Cohort Graduation Rate [ACGR] reporting requirement for all states under 34 C.F.R. \$200.19(b) (1) (i)-(iv) (U.S. Department of Education, 2008).
- 6. The "Big Five" terminology is informally used throughout the state, and includes the Anchorage, Fairbanks, Juneau, Kenai, and Matanuska-Susitna [suburban Anchorage] school districts.

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