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Growing our own: Recruiting Alaska’s youth and paraprofessionals into teaching

Good teachers are critical to student success, and Alaska faces significant challenges in staffing its public schools. About 200 new teachers graduate from Alaska colleges every year, but the state needs to hire many more than that to fill open positions. Unfortunately, as figure 1 details, the United States is experiencing a national teacher shortage that has reached “crisis” levels (Gunn, 2018; Picchi, 2018), and Alaska’s fiscal challenges further perplex the state’s ability to recruit and retain educators.

Alaska does not simply need *teachers*, it needs *high quality educators* who reflect the diversity of its students (Motamedi & Stevens, 2018).¹ Teachers who are prepared in Alaska not only bring cultural familiarity, but also have lower turnover rates (Hill & Hirshberg, 2013). Grow Your Own (GYO) initiatives to recruit and train local teachers are a sustainable and effective (Espinoza, Saunders, Kini, & Darling-Hammond, 2018) way to staff classrooms with “homegrown” educators who are culturally and linguistically similar to the students and communities they serve (Gist, Bianco, & Lynn, 2019; Valenzuela, 2017). The University of Alaska (2016), which produces the vast majority of Alaska’s new teacher graduates, has set an ambitious goal to prepare 90% of the state’s new teacher hires by the year 2025; this necessarily implies parallel GYO strategies.

Typically, GYO initiatives have two foci: encouraging high school students to enter the teaching profession through career exploration and structured programs of study (PoS), and creating alternate teacher certification pathways for working adults. Regardless of pathways, teachers must meet a specific set of qualifications to practice in Alaska (see table 1 on page 5). Starting with survey data exploring what motivated Alaska’s incoming teacher candidates to pursue careers in education, this paper reviews the literature on GYO initiatives, outlines Alaska’s efforts around secondary career exploration and paraprofessional pathways into teaching, and makes policy recommendations.

Figure 1
Alaska’s teacher crisis

	Demand	Supply	Turnover	Competitiveness
US	Strong economy creates increased demand for teachers in other states ^{i,ii}	Decreased interest in teaching profession ^{iii,iv}	High turnover in profession in general	Strong economy allows other states to offer better compensation packages
		Declining enrollments and graduates in teacher preparation programs ^{v,vi,vii}	In good economy, highly qualified teachers find jobs in private sector or other fields ^{viii}	
AK	AK’s demand for teachers has been steady for past decade ^{ix}	AK-prepared teacher supply has been flat since at least 2008	About 22% of AK’s teachers turn over annually ^x	In AK’s fiscal crisis, teacher salaries and benefits have not increased commensurate to other states
	Most of AK’s new teacher hires come from the lower 48	UAA, AK’s largest teacher preparation program, suspended admissions in 2019	Turnover is higher in rural and low-income schools ^{xi}	

Alaska competes for teachers in a national market, and the US is in the midst of a teacher shortage. Alaska’s economic recession and high turnover rates exacerbate its challenges in hiring educators.

¹ Alaska’s gap in teacher qualifications between high- and low-poverty areas is the third highest in the nation, following only Missouri and New York (US Department of Education, 2015), and although the majority (52%) of Alaska students are non-White (Source: Alaska DEED Enrollment Totals, 2018-2019), 89% of Alaska’s teachers identify as White (Source: DEED Certified Personnel Database, 2013).

MOTIVATION TO PURSUE TEACHING

Each semester, the Center for Alaska Education Policy Research (CAEPR) surveys incoming teacher education program students (teacher candidates) at University of Alaska (UA) campuses.² These data support program assessment, but also offer an opportunity for policy analysis. Here, we report statewide aggregate data from 61 students, reflecting 35% of incoming teacher candidates between summer 2017 and summer 2018. Teacher candidates were asked whether they had engaged in several types of experiences that typically lead people to the teaching profession. They were then asked to rate the experiences they had; figure 2 depicts how students perceived various experiences as influential to their career choice.

Experience with youth

Nearly all incoming teacher candidates had direct experience with youth, and the vast majority said these experiences motivated them to pursue teaching (see the orange bars in figure 2). In this category, non-teaching work experience with children (such as coaching, babysitting, or working at a summer camp), classroom work or volunteer experience, and experience helping someone else learn were rated as highly influential to career choice. This aligns with prior research – people who go into teaching genuinely like working with youth (Heinz, 2015), and work experience helps people solidify career interests (Stringer & Kerpelman, 2010).

Personal connection to an educator

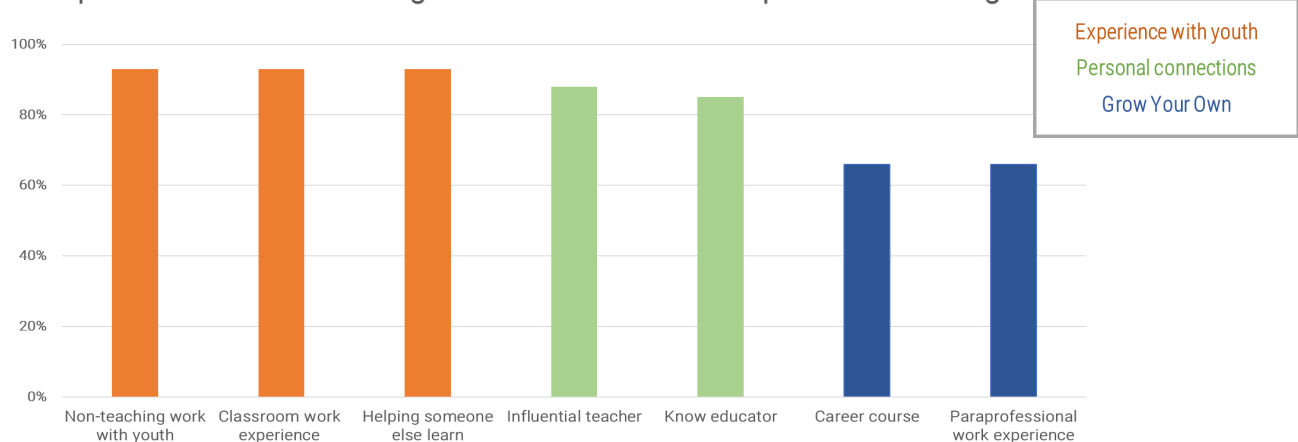
All incoming teacher candidates reported having an influential K-12 teacher, and the vast majority also had a personal relationship with someone (such as a parent, relative, friend or family friend) who was an educator. These personal connections, as a group, were valued as the second strongest motivator for students to pursue the teaching profession (see the green bars in

figure 2). This also aligns with the literature - social connections are a strong influence on career choice (Hartung, Porfeli, & Vondracek, 2005; Hirschi, Niles, & Akos, 2011; Watson & McMahon, 2005).

Grow Your Own (GYO) initiatives

Taking a career exploration course or working as a paraprofessional were less common experiences for incoming teacher candidates, and students who had these experiences also rated them as less motivating (see the blue bars in figure 2). Thirty-four percent of teacher candidates who took career courses, and 34% of those who worked as paraprofessionals said these experiences did *not* inspire them to pursue the teaching profession. When we compare these figures to the NExT national data, Alaska students' perceptions of their paraprofessional experiences are similar to national averages, but their ratings of career courses were significantly lower. As both of these experiences are not only key GYO strategies but also ones that can be supported through programming and policy, they merit further exploration.

Figure 2
What inspired Alaska's incoming teacher candidates to pursue teaching?



Most incoming teacher candidates who had worked with youth or had personal connections to educators agreed that those experiences motivated them to pursue the teaching profession. Fewer of those who had taken career courses or worked as a paraprofessional agreed that these experiences motivated them to pursue teaching. n=61

² The University of Alaska participates in the Network for Excellence in Teaching (NExT) initiative (<https://www.nextteachers.org/>), which develops validated survey instruments and norms data for national comparison in a collaboration that includes more than 60 teacher education programs across the US.

CAREER COURSES

The nation needs more teachers, but interest in the education profession is declining. In 2015, only 4.6% of U.S. high school graduates taking the ACT indicated plans to pursue a career as an educator, compared to 7% in 2010. Since 1970, the proportion of college freshmen planning to major in education has decreased by 57% (Chronicle, 2017). Students develop a significant amount of their career knowledge from school experiences (Hooker & Brand, 2010), and career exploration courses are meant to do two things: expose youth to occupations, and help them make plans and take steps to achieve their career goals (Hirschi et al., 2011; Hughes & Karp, 2004). School-based career exploration programs promote more suitable academic choices (Castellano, Sundell, Overman, & Aliaga, 2012); students who participate in these programs experience better postsecondary transitions (Rogers & Creed, 2011; Skorikov, 2007), and the programs are especially beneficial for under-represented (Rowan-Kenyon, Perna, & Swan, 2011) and rural students (Lapan, Aoyagi, & Kayson, 2007). Career courses are most effective when embedded in a structured program of study (PoS) that supports students through coursework, guidance counseling, career advising, and work-based learning opportunities articulated in a personal learning and career plan, but few US high schools offer this robust support (DeFeo, 2015; Kosine & Lewis, 2008; Solberg, Phelps, Haakenson, Durham, & Timmons, 2011; Stipanovic, Lewis, & Stringfield, 2012).

Nationally, education career exploration programs vary considerably and include school clubs, summer classes, courses for college credit that are part of a year-long preparatory curriculum, and magnet career academies (Gist et al., 2019). Though not all participants ultimately become teachers (Espinoza et. al, 2018), these programs are a critical part of the K-12 recruitment process, and they do foster college attendance, especially among lower-performing and minority youth (Valenzuela, 2017).

Career courses in Alaska

The *Future Educators Association* (FEA) is a youth initiative of the *National Education Association* (NEA). Since Alaska initiated participation in 2003, the program has grown from three active school districts to a statewide initiative. In 2012, the Alaska Department of Education & Early Development (DEED) used funding from the Carl D. Perkins Vocational and Technical Education program to expand FEA into education career pathways for students in Alaska high schools. By 2014, at least eight Alaska school districts were offering career foundational education courses, and five offered a career pathway in education (DeFeo, Fallon, Hirshberg, & LeCompte, 2014), but between 2008 and 2017, only 2.9% of Career and Technical Education dual enrollment credits (those designed to align with specific career pathways) were earned in education (DeFeo & Tran, 2019a).

In 2017, following national trends and through cooperation between the University of Alaska and the Alaska DEED, Alaska's FEA was remodeled as *Educators Rising Alaska*. Beginning in high school and extending through college, it promotes teaching as a rewarding career choice and provides opportunities for high school students to develop educator skills and dispositions through a career exploration curriculum and four professional development courses in which students can earn micro-credentials. The four-course sequence is recognized as a career pathway, and will be expanded to include middle school students in the 2019-2020 academic year. The transformed program is a centerpiece of Alaska's GYO teacher recruitment strategy.

Policy implications

Survey data shows that, Alaska incoming teacher candidates have not found career courses to be as motivating as other experiences. However, *Educators Rising Alaska* offers much that high school career pathways in Alaska have heretofore lacked: micro-credentials that acknowledge and celebrate students' emerging competencies, career and technical student organization (CTSO) extracurricular activities that offer state and national competitions and conferences, and a structured PoS. This laudable best practice effort recently completed its second year and is expanding both its programs and geographic reach. Future plans include offering dual enrollment classes that will articulate into college degrees.

A structured PoS requires more than just the curriculum; to maximize its potential, a PoS also needs adequate resources. A recent inventory of school districts in Alaska noted that a shortage of high school guidance counselors - and high workloads for those in service - is a significant obstacle to supporting students' career planning and development (DeFeo et al., 2014). Resourcing the expansion of *Educators Rising* and ensuring adequate high school staff and infrastructure will be critical to maximizing the potential of this GYO initiative, particularly in small or remote high schools that have limited field experience opportunities and few teachers to support students as they engage in these activities. Policies to support students in their summer transitions into college and build cohort identity are also recommended.

PARAPROFESSIONAL PATHWAYS

Another important GYO strategy is to offer pathways into teaching for individuals who already have work experience. Paraprofessional educators (paraprofessionals) – people who assist teachers in the classroom with teaching or administrative support – serve an important role in Alaska, especially in schools that experience high teacher turnover. They are a stable presence in classrooms; as local community members who are often linguistically and culturally like the student body, they serve as cultural brokers for new teachers (Guin, 2004).

Paraprofessional pathways have been a recognized alternative route into teaching and an approach to GYO since at least the 1970s (Gist et al., 2019). Paraprofessionals who complete teacher education programs are the most likely group in the educator pipeline to teach in rural, difficult-to-staff (Espinoza et al., 2018) or minority-serving communities (Gist et al., 2019; Morrison & Lightner, 2018; Motamedi & Stevens, 2018), and to be retained in the profession (Espinoza et al., 2018; Morrison & Lightner, 2018). Because paraprofessionals who become teachers often work in their home communities, they establish better school-community relationships (Espinoza et al., 2018; Morrison & Lightner, 2018), and tend to be highly effective teachers (Gist et al., 2019; Morrison & Lightner, 2018). While they study, they also enhance teacher education programs: they are more mature (Clewell & Villegas, 1999) and as they learn, they share “real world” and field experiences with fellow teacher candidates, adding a practical point of view in an arena where traditional students often lack direct experience (Morrison & Lightner, 2018).

Paraprofessionals in Alaska

Since 2017, 16% of UA's incoming teacher candidates had previously worked as paraprofessionals in the Alaska K-12 public school system.³ To work in Alaska, paraprofessionals must have credentials (an associate degree, 48 college credits, or a state-approved assessment) and demonstrate professional skills and dispositions (verified by a district representative in a professional standards checklist). With classroom skills and experience, they are obvious candidates to become certificated teachers. Alaska's superintendents and principals are quick to note that paraprofessionals are invaluable to teaching and learning, but targeted pathways to scaffold these individuals into teaching happen at the local level, rather than through a structured statewide GYO policy initiative. At least two school districts have career ladder programs for paraprofessionals to earn a teaching certificate, supporting them with funding to take distance-delivered courses, with paid leave to take classes on campus, or paying their salaries while they attend classes in exchange for a promise to teach for the district upon graduation. At least nine districts offer financial support for paraprofessionals to pursue teaching certificates; however rather than a structured GYO initiative, these funding mechanisms support paraprofessionals to take advantage of existing programs. When Leary, Tetpon, Hirshberg, and Hill (2015) chronicled initiatives since the 1970s that focused on recruiting Alaska Natives into education they noted that, though few expressly targeted paraprofessionals, the programs themselves were successful in producing teachers; however, the initiatives were not sustained when grant funding ended.

Policy implications

Though individual districts are investing in the professional development of paraprofessionals, expanding opportunities through a robust and structured GYO initiative is an opportunity for Alaska. Supporting paraprofessional transitions includes recognizing that this student population has some advantages over traditional teacher candidates (Morrison & Lightner, 2018) but also unique barriers (Gist et al., 2019) - and Alaska will need to develop a responsive program to meet those needs.

In addition to academic, social, and financial supports, best practice in GYO paraprofessional pathways requires targeted recruitment that involves school districts and local stakeholders and encourages them to make recommendations for candidacy (Hunt, Kalmes, Haller, Hood, & Hesbol, 2012), supporting paraprofessionals in meeting program prerequisites including passing the Praxis I⁴ and meeting GPA requirements (Leary et al., 2015; Morrison & Lightner, 2018), acknowledging their unique strengths in candidate selection criteria (Burbank, Bates, & Schrum, 2009), and developing a culturally relevant curriculum (Tetpon, Hirshberg, Leary, & Hill, 2015; Valenzuela, 2017) that acknowledges and builds upon skills and knowledge they have (Clewell & Villegas, 1999; Morrison & Lightner, 2018). Additionally, a GYO program should accommodate schedules so paraprofessionals can remain in the classroom while earning their certification – both because they are invaluable to the education workforce (Gist et al., 2019; Morrison & Lightner, 2018; Tetpon et al., 2015), and also because the majority of rural paraprofessionals are the primary wage earners in their families (McDiarmid, Larson, & Hill, 2002). Paraprofessionals serve an important role in Alaska's schools, and policy initiatives that support their retention and development in their current assignments are also warranted.

³ Lacey Hall, Alaska College of Education data manager

⁴ The Praxis I (<https://www.ets.org/praxis>) is a test of reading, writing, and mathematics skills that prospective educators must pass to be admitted to a teacher education program.

CONCLUSION

Meeting Alaska’s teacher demand will require the state to develop pathways, pipelines, and partnerships (Valenzuela, 2017) that encourage individuals to enter the teaching profession, support teacher candidates through their initial certification, impel more teachers to move to Alaska, support early career teachers during their most vulnerable turnover years (Callahan, 2016; DeFeo & Tran, 2019b), and incentivize both staying in the profession and continuing to teach in Alaska. GYO’s are just one strategy in a multifaceted approach to solving the state’s teacher shortage.

GYO’s are a long-term investment; not all high school students who explore teaching careers will ultimately become teachers,

and it will be several years before today’s *Educators Rising* students are in classrooms of their own (Espinoza et al., 2018). Though paraprofessionals start their teacher education programs with some college credits, they tend to take longer than traditional students to complete their certification programs (Tetpon et al., 2015). However the teachers who do complete their degrees through GYO initiatives are effective, committed educators who are retained in the classroom (Espinoza et al., 2018) and reflect the diversity of the communities they serve. As a long-term solution to a perennial problem, GYO’s are an opportunity for programming and policy in support of Alaska’s youth and communities.

Table 1
What does it take to be a teacher in Alaska?

Minimum qualifications for teacher certificate		Other qualifications
Initial licensure	Professional licensure	
<ul style="list-style-type: none"> • Hold a bachelor’s degree • Complete an accredited teacher preparation program including a supervised student teaching experience • Pass an approved basic competency exam • Pass a content area exam 	<p>Within two years of hire, teachers with initial certificates must apply for a professional teacher certificate, which entails all of the requirements for initial certification plus:</p> <ul style="list-style-type: none"> • 2 years of teaching experience • 3 credits of AK studies coursework • 3 credits of AK multicultural coursework • Renewal needed every 5 years; and requires at least 6 credit hours of coursework 	<ul style="list-style-type: none"> • Endorsements – DEED offers 97 endorsements in 16 subject areas; 77% of AK public school teachers hold in-field endorsements in their current assignments • National Board Certification (NBC) – NBC is a voluntary and rigorous advanced credential held by 118 (1.5%) of AK’s public school teachers,^{xii} and 3% of teachers nationwide • Advanced degrees – 47% of AK teachers have a Master’s degree or higher credential^{xiii}

Endnotes

ⁱ Ingersoll, R., Merrill, L., & Stuckey, D. (2014). *Seven trends: The transformation of the teaching force, updated April 2014* (CPRE Report No. RR-80). Philadelphia, PA: University of Pennsylvania Consortium for Policy Research in Education.

ⁱⁱ Ingersoll, R., & Perda, D. (2010). Is the supply of mathematics and science teachers sufficient? *American Educational Research Journal*, 20, 1-32.

ⁱⁱⁱ ACT. (2015). *The condition of future educators*. Retrieved from <http://www.act.org/content/dam/act/unsecured/documents/Future-Educators-2015.pdf>

^{iv} In 2018, 54% of Americans surveyed in the Phi Delta Kappan’s Poll of the public’s attitudes toward public schools said they would not want their child to pursue teaching as a profession, citing poor pay and benefits. This was the first time the majority of the population answered the question in the negative since it was first asked in 1969. See Richardson, J., & Jacques, M. S. (2018). *Teaching: Respect but dwindling appeal*. Arlington, VA: Phi Delta Kappan.

^v Aragon, S. (2016). *Teacher shortages: What we know*. Denver, CO: Education Commission of the States.

^{vi} King, J. E., & Hampel, R. (2018). *Colleges of education: A national portrait*. Washington, DC: American Association of Colleges for Teacher Education.

^{vii} Sutchter, L., Darling-Hammond, L., & Carver-Thomas, D. (2016). *A coming crisis in teaching? Teacher supply, demand, and shortages in the U.S.* Retrieved from https://learningpolicyinstitute.org/sites/default/files/product-files/A_Coming_Crisis_in_Teaching_REPORT.pdf

^{viii} Ballou, D. (1996). Do public schools hire the best applicants? *The Quarterly Journal of Economics*, 111(1), 97-133.

^{ix} Public school enrollments have been steady for the past 10 years at around 130,000 students, and teacher FTEs have been relatively stable (Source: Alaska DEED Data Center Statistics and Reports <https://education.alaska.gov/data-center>).

^{x, xi} Pierson, A., & Stevens, D. (2017, February). *Alaska State Policy Research Alliance: Informing issues with data and evidence*. Retrieved from http://www.akleg.gov/basis/get_documents.asp?session=30&docid=12204

^{xii} Cecilia Miller, AK DEED, personal communication June, 2019

^{xiii} Alaska Department of Education and Early Development. (2018). *Alaska public schools: A report card to the public, 2017-2018*. Retrieved from <https://education.alaska.gov/ReportCardToThePublic/Report/2017-2018>

References

- Burbank, M. D., Bates, A. J., & Schrum, L. (2009). Expanding teacher preparation pathways for paraprofessionals: A recruiting seminar series. *Teacher Education Quarterly*, 36(2), 199-216.
- Callahan, J. (2016). Encouraging retention of new teachers through mentoring strategies. *Delta Kappa Gamma Bulletin*, 83(1), 6-70.
- Castellano, M., Sundell, K., Overman, L. T., & Aliaga, O. A. (2012). Do career and technical programs of study improve student achievement? Preliminary analyses from a rigorous longitudinal study. *International Journal of Education Reform* 12(2), 98-118.
- Chronicle of Higher Education. (2017, May). *Background and beliefs of college freshmen*. Retrieved from <https://www.chronicle.com/interactives/freshmen-survey>
- Clewell, B. C., & Villegas, A. M. (1999). Creating a nontraditional pipeline for urban teachers: The pathways to teaching careers model. *The Journal of Negro Education*, 68(3), 306.
- DeFeo, D. J. (2015). Why are you here? CTE students' enrollment motivations and career aspirations. *Career and Technical Education Research* 40(2), 82-98.
- DeFeo, D. J., & Tran, T. (2019a). *Dual enrollment in Alaska: A 10 year retrospective and outcome analysis* (Report No. 1754). Anchorage, AK: Institute of Social and Economic Research.
- DeFeo, D. J., & Tran, T. C. (2019b). Recruiting, hiring, and training Alaska's rural teachers: How superintendents practice place-conscious leadership. *Journal of Research in Rural Education*, 35(2), 1-17.
- DeFeo, D. J., Fallon, S., Hirshberg, D. & LeCompte, C. (2014). *Alaska career pathways: A baseline analysis* (Report No. 1561). Anchorage, AK: Institute of Social and Economic Research.
- Espinoza, D., Saunders, R., Kini, T., & Darling-Hammond, L. (2018). *Taking the long view: State efforts to solve teacher shortages by strengthening the profession*. Palo Alto, CA: Learning Policy Institute.
- Gist, C. D., Bianco, M., & Lynn, M. (2019). Examining grow your own programs across the teacher development continuum: Mining research on teachers of color and nontraditional educator pipelines. *Journal of Teacher Education*, 70(1), 13-25.
- Guin, K. (2004). Chronic teacher turnover in urban elementary schools. *Educational Policy Analysis Archives*, 12(42), 1-30.
- Gunn, D. (2018, August 29). How states across the country are dealing with teacher shortages. *Pacific Standard*. Retrieved from <https://psmag.com/education/how-states-across-the-country-are-dealing-with-teacher-shortages>
- Hartung, P. J., Porfeli, E. J., & Vondracek, F. W. (2005). Child vocational development: A review and reconsideration. *Vocational Behavior* 66(2005), 385-419.
- Heinz, M. (2015). Why choose teaching? An international review of empirical studies exploring student teachers' career motivations and levels of commitment to teaching. *Educational Research and Evaluation*, 21(3), 258-297.
- Hill, A., & Hirshberg, D. (2013). Alaska teacher turnover, supply and demand: 2013 highlights. Anchorage, AK: Institute of Social and Economic Research.
- Hirschi, A. Niles, S. G., & Akos, P. (2011). Engagement in adolescent career preparation: Social support, personality and the development of choice decidedness and congruence. *Journal of Adolescence*, 34(2011), 173-182.
- Hooker, S., & Brand, B. (2010). College knowledge: A critical component of college and career readiness. *New Directions for Youth Development*, 2010(127), 75-85.
- Hughes, K. L., & Karp, M. M. (2004). *School-based career development: A synthesis of the literature*. New York, NY: Columbia University Teacher's College Institute on Education and the Economy.
- Hunt, E., Kalmes, L., Haller, A., Hood, C. L., & Hesbol, K. (2012). *Illinois grow your own teacher education initiative: 2011-2012 policy and program recommendations*. Normal, IL: Center for the Study of Education Policy.
- Kosine, N. R. & Lewis, M. V. (2008). Growth and exploration: Career development theory and programs of study. *Career and Technical Education Research* 33(3), 227-243.
- Lapan, R.T., Aoyagi, M., & Kayson, M. (2007). Helping rural adolescents make successful postsecondary transitions: A longitudinal study. *Professional School Counseling* 10(3), 266-272.
- Leary, A., Tetpon, B., Hirshberg, D., & Hill, A. (2015). *Alaska Native-focused teacher preparation programs: CAEPR Research Summary* (Report No. 1536). Anchorage, AK: Institute of Social and Economic Research.
- McDiarmid, W., Larson, E., & Hill, A. (2002). Retaining quality teachers for Alaska (Report No. 1037). Anchorage, AK: Institute of Social and Economic Research.
- Morrison, J., & Lightner, L. (2018). Putting paraeducators on the path to teacher certification. *Phi Delta Kappan*, 98(8), 43-47.
- Motamedi, J. G., & Stevens, D. (2018). *Human resources practices for recruiting, selecting, and retaining teachers of color*. Portland, OR: Regional Education Lab of Education Northwest. Retrieved from <https://ies.ed.gov/ncee/edlabs/regions/northwest/pdf/human-resources-practices.pdf?>
- Picchi, A. (2018, August 23). School's back in session, but many teachers aren't returning. *CBS News*. Retrieved from <https://www.cbsnews.com/news/americas-new-education-crisis-a-teacher-shortage/>
- Rogers, M. E., & Creed, P. A. (2011). A longitudinal examination of adolescent career planning and exploration using a social cognitive career theory framework. *Journal of Adolescence*, 34(1), 163-172.
- Rowan-Kenyon, H. T., Perna, L. W., & Swan, A. K. (2011). Structuring opportunity: The role of school context in shaping high school students' occupational aspirations. *The Career Development Quarterly*, 59(4), 330-344.
- Skorikov, V. (2007). Continuity in adolescent career preparation and its effects on adjustment. *Journal of Vocational Behavior* 70(2007), 8-24.
- Solberg, V.S., Phelps, L.A., Haakenson, K.A., Durham, J.F., & Timmons, J. (2011). The nature and use of individualized learning plans as a promising career intervention strategy. *Journal of Career Development*, 39(6), 500-514.
- Stipanovic, N., Lewis, M.V., & Stringfield, S. (2012). Situating programs of study within current and historical career and technical educational reform efforts. *International Journal of Educational Reform*, 21(2), 80-97.
- Stringer, K. J., & Kerpelman, J. L. (2010). Career identity development in college students: Decision making, parental support, and work experience. *Identity: An International Journal of Theory and Research*, 10(3), 181-200.
- Tetpon, B., Hirshberg, D., Leary, A., & Hill, A. (2015). Alaska Native-focused teacher preparation programs: What have we learned? *Alaska Native Studies Journal*(2), 88-100.
- University of Alaska. (2016). *Strategic pathways: Teacher education*. Fairbanks, AK: University of Alaska. Retrieved from <https://www.alaska.edu/pathways/phase-1/teacher-education/>
- US Department of Education. (2015). *Highly qualified teacher data: Summary of school year 2013-14 data*. Retrieved from <http://www2.ed.gov/programs/teacherqual/resources.html>
- Valenzuela, A. (2017). *Grow your own educator programs: A review of the literature with an emphasis on equity-based approaches*. San Antonio, TX: Intercultural Development Research Association.
- Watson, M., & McMahon, M. (2005). Children's career development: A research review from a learning perspective. *Journal of Vocational Behavior* 67(2005), 119-132.

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