

Baby It's Cold Outside: Perspectives on Teacher Retention and Student Achievement in Arctic Schools

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Nationally, 30% of new teachers leave the profession within five years. The turnover rate can be considerably higher in high-poverty schools as compared to more affluent ones (Ingersoll, 2001; Ronfeldt, Loeb, & Wyckoff, 2013). Teacher turnover rates also tend to be higher in rural and low performing schools (Eppley, 2009; Mueller, Carr-Stewart, Steeves, & Marshall, 2013). Recent research confirms that a stable and quality teacher workforce positively impacts student achievement (Darling-Hammond, Newton, & Wei, 2013; Henry, Bastian, & Fortner, 2011; Winters & Cowen, 2013). Retaining quality teachers is a complex task especially for rural schools. As the importance of well-qualified teachers for student achievement has become increasingly clear, this source of inequality has become increasingly difficult to justify and ignore, especially in rural Alaska.

Alaska is a highly unique area that is comprised of diverse landscapes and is populated with a wide variety of life forms and peoples (Nordic Council of Ministers, 2010). Arctic Alaska can be loosely defined as the northern region of Alaska that is on or close to the Arctic Ocean. Four distinct geographic regions comprise the area: the arctic coastal plain, the Brooks Range, the Bering Strait, and northern portions of the boreal forest (Ritter, 2009). Alaska Native people have thrived in the regions of Arctic Alaska for millennia. With the arrival of a larger influx of Western cultures in the late 1800s, which continues to grow even today, Alaska is now a merging of ethnicities and backgrounds where the Alaska Native groups are the majority in that region yet a minority within the state (Barnhardt, 2014). Many Arctic Alaska Native communities are off the road system and only accessible by planes or boats.

One critical challenge facing Arctic Alaska is teacher retention and accessing quality education for those who reside in the region (Kaden, Patterson, & Healy, 2014). This includes a stable workforce and academic curricula that promotes indigenous cultures, languages, and ways of thinking and behaving (Eppley & Corbett, 2012; Faircloth, 2009; White, 2008). Teaching students in ways that allow them to keep their cultural identity is important for motivation, curriculum relevance, and ultimately student achievement (Eppley & Corbett, 2012). More than 70% percent of newly hired teachers are not from Alaska (Hill & Hirshberg, 2014). Often they learn about the local cultures, Arctic lifestyles, and local curriculum only to leave after a year or two (Munsch & Boylan, 2008). The limited research currently available in Alaska may restrict the ability to intervene in this phenomenon in a strategic manner.

The objective of this study is to identify factors that can be linked to teacher retention and student achievement. The guiding research question for this paper is: What are factors linked to teacher retention in Arctic Alaska school districts and to what extent are these trends related to

student achievement?

Perspectives on Arctic Alaska Schools, Teacher Retention, and Student Achievement

The education system can become a major variable in the cultural and economic well-being of communities or it can amplify and accelerate the process toward losing cultural integrity, contact with nature, and community viability (Corbett, 2009). A significant factor for healthy, resilient Arctic communities can be schools (Corbett, 2009; Eppley, 2009; Kline, White, & Lock, 2013). In these areas, schools exceed the single role of education facility, often functioning as places where people meet, interact, and strengthen their social networks. Schools can become community halls or sports centers where a variety of events takes place, such as greatly anticipated basketball tournaments (Nordic Council of Ministers, 2010). In some instances, schools can also be perceived as the key institution that threatens Native culture, language, and community identity.

In this paper, rural school districts include small communities, which are considerable distances away from other communities, especially urban centers, and are often only reachable by airplane or boat (Howley & Howley, 2010; Slack, Bourne, & Gertler, 2003). Rural school districts for this study include communities with different local languages and heritages inclusive of Native cultures. In such communities, indigenous people have particularly strong connections to cultural, environmental, and spiritual practices (Corbett, 2009).

Quality education for indigenous peoples incorporates their cultures, communities, lives, and land.

Reyhner (2012) asserts, that Indigenous “students need to learn both the knowledge and skills included in tribal, state, and national standards, and they and their teachers also need to respond to local concerns and have some choice in what type of learning projects they can become engaged (p. 32).”

Access to quality education involves a consistent, well prepared, and culturally responsive teacher work force that is integrated into the community life (Assembly of Alaska Native Educators, 1998).

Approximately 60% of Alaska’s teachers leave the Arctic region after less than two years, informally citing a variety of reasons, many of which are tied to school and community relations (Hill & Hirshberg, 2014). Such teacher turnover may affect student achievement, contribute to a school climate of instability, and redirect funds for recruitment that might be better spent towards student learning (Barnes, Crowe, & Schaefer, 2007). Darling-Hammond and Sykes (2003) argue that when teachers leave, low-income schools have a difficult time attracting new teachers and end up hiring inexperienced and less prepared teachers. Teacher and principal turnover also has a disruptive effect on the development and maintenance of social resources including staff collegiality, community integration, and confidence in schools (Henry et al., 2011; Hughes, 2012). When teachers leave schools, previously held relationships and relational patterns are altered. Turnover disrupts the formation and maintenance of staff cohesion, community relations, and school instructional program coherence. Since staff turnover presents significant challenges to organizational knowledge and the successful and coherent implementation of instructional programs (Guin, 2004), it also may harm student achievement.

Newly hired teachers in Alaska typically lack understanding about place relevant curricula, Native culture, and community values. New teachers are often expected to patiently, quickly, and successfully assimilate into unfamiliar schools, and community cultures. Those expectations are more challenging in small rural schools, where the inevitable scrutiny of a new face is more likely to extend beyond the school walls (McCracken & Miller, 1988).

Methodology

This study uses a mixed methods approach to identify and understand factors that contribute to teacher retention in Alaska's public K-12 schools (Creswell, 2007; Kleinsasser, 2000; Miles & Huberman, 1994). Archival data was retrieved from the Alaska Department of Education & Early Development (EED, 2013) and analyzed by descriptive statistics to document teacher retention in ten rural school districts and to compare data to three Alaskan urban districts (Table 1). Interviews with educators were conducted to gather qualitative data to inform results, and identify factors related to teacher retention (Creswell, 2007). This report focuses on a subset of data and is part of a larger study on teacher retention and effectiveness in rural Alaska.

Participants

Institutional approval and participant informed consent from school districts and interviewees were obtained prior to data collection. In addition to archival data, 15 semi-structured interviews were conducted with employees during the 2011-2013 school years. The researchers sought a diversity of participants from across the target school districts of this study (6 male, 9 female, ages 22 to 62), with at least one interview conducted in each of the target school districts with less than 100 teachers, and two interviews conducted in districts with more than 100 teachers. Possible participants were selected from the current district employee database and contacted by e-mail before researchers traveled to the school sites. The interviews were scheduled at a suitable time during school visits by the researchers. Interviewees were divided into categories based on their current job (e.g., class room teacher, administrator), with particular attention to "stayers" or "leavers" and years of teaching experience within categories. Among the 15 participants, three were Alaska Native teachers, two were administrators, and four were first year teachers new to Alaska. Five participants had between two and four years of teaching experience, and six had more than four years of teaching experience in Alaska. Four participants stated intent to leave the district at the end of the school year, five were unsure about their future career plans, and six planned to return for the following school year.

Data Collection

Archival data on teacher retention from the Alaska Department of Education & Early Development (EED) for school years (SY) 2010 through 2013 were collected. Reading and Mathematics proficiency scores were based on Alaska Standard Based Assessment (SBA) results between 2010 and 2013, which were reported to the public by EED on the yearly report cards (EED, 2014).

Interviews were semi-structured to allow for flexibility (Holstein & Gubrium, 1995; King, 1994) and lasted approximately thirty minutes each. All interviews were conducted in person, tape-recorded, and were supplemented by written notes following the end of the interview. The questions focused on: (a) working conditions; (b) curriculum and teaching; (c) job

satisfaction; and (d) sociocultural living demands and community integration in rural native cultures.

Data Analysis

Descriptive analysis was used to describe archival data. The Pearson correlation coefficient (r) was calculated using SPSS between retention and student achievement. Statistical significance (p) is reported at the 95% confidence level. The audio-recorded data were transcribed after the interviews were completed to identify factors related to teacher retention and working in rural schools. The researchers read the transcripts and the field notes to identify themes through inductive coding and sorting (Berg & Lune, 2004). Peer debriefing was used during transcription and analysis to increase credibility of the study and ensure that analysis were grounded in data (Kleinsasser, 2000).

Results and Discussion

Archival data presented in Table 1 indicates that average teacher retention rates of rural districts (< 77%) are significantly lower than the average rate in the three urban districts (> 92%). In addition, the retention rates in rural districts varied significantly (see SD) by school year. Calculating a Pearson correlation coefficient r shows a statistically significant correlation between average teacher retention and average percent proficiency in reading over the same four-year time frame, school years 2010-2013 for the 10 study districts: $r = .623$ ($p < .054$).

Similarly in math, $r = .665$ ($p < .036$) for average teacher retention and average percent proficiency. The correlation coefficients were higher when including the three urban districts. Correlation between average teacher retention and average percent proficiency in reading is $r = .826$ ($p < .001$) and between average teacher retention and average percent proficiency in math is $r = .768$ ($p < .002$). Overall, data indicates a significant difference in teacher retention rates between rural and urban areas and a statistically significant correlation between teacher retention rates and student achievement.

Table 1: *Teacher Retention Rates and Reading/Mathematics Proficiency between School Years (SY) 2010 to 2013*

District	Teacher Count (N)	% Proficiency		% Retention		SD	SY09-10	SY10-11	SY11-12	SY12-13
		Reading /Math 2010-2013	Average	Average	SD					
Bering Strait	234	52/46	68	2.6	65	70	70	66		
Denali	33	87/77	86	9.5	97	80	90	76		
Iditarod	30	72/54	66	9.5	78	56	67	61		
Nenana	26	81/61	91	10.5	92	100	76	96		
Nome	56	69/59	83	7.9	93	80	74	83		
North Slope	168	59/52	80	2.1	77	79	80	82		
Northwest Arctic	153	49/45	77	7.3	85	80	72	69		
Tanana	5	59/53	74	18.9	60	60	75	100		
Yukon Flats	34	46/37	69	9.0	75	74	59	*-		
Yukon-Koyukuk	56	76/58	78	12.0	81	91	78	62		
Mean of Districts	80	65/54	77	2.4	80	77	74	77		
Alaska Statewide	8862	78/69	82	2.3	90	89	89	90		
Urban Districts										
Anchorage	3142	82/72	94	1.2	93	94	93	95		
Fairbanks	926	84/75	92	1.5	93	90	91	92		
Matsu	913	88/76	95	2.0	93	93	97	96		

* Unreported

Factors Identified from Interviews

The transcriptions of interviews reveal a variety of emerging factors related to teacher retention. Twelve participants highlighted advantages of working in Arctic schools, which included smaller class sizes, good student relationships, and opportunities to experience different cultures, unique outdoor activities, and the beauty of the Arctic. Almost every educator (13) interviewed for this study, however, cited struggling with the demands of working in a small school, living in a rural remote Arctic community, and learning how to integrate into an Indigenous community. Three of the first year teachers new to Alaska, and two of the teachers in

their second year of teaching indicated that they would apply for teaching positions in urban areas for the following school year. Only one teacher with more than five years of teaching experience intended to leave to be closer to family. According to Strange (2011) fully certified teachers and teachers with more than four years of teaching experience are less likely to leave village assignments or their profession. Often they have chosen their Alaska teaching assignments purposefully for a new life challenge or an interesting work opportunity after leaving or retiring from another state. This was confirmed by four of the participants. However, for the younger participants (below 30 years of age) teaching in the Alaska “bush” was their first assignment as a new teacher. The reasons for accepting employment in the Arctic varied from job availability (8) to adventure (4). Ten of the interviewees had never been to Alaska before hiring and reported limited knowledge about culture and place. Ten participants were struggling with the demands of the rural and remote life in a “foreign” cultural setting. Reported feelings of loneliness, isolation, seasonal depression, and personal failure may contribute to lower retention. All 15 participants stated that they were deeply committed to students and building strong student-educator relationships. This commitment often resulted in long school days (12), doing tutorials (11), coaching basketball teams (5), or preparing of lessons during evenings at schools using the only dependable Internet access point within the villages (13).

Our interview results confirm that the most committed teachers and teachers new to the profession seemed to be at risk of burnout, facing colossal demands with few boundaries in place to protect their time (Cochran-Smith et al., 2012). Younger and first-year teachers tend to move from rural to urban areas in Alaska as soon as job opportunities arise. One administrator summarized: *New to the teaching profession, new to an Indigenous community, and new to Alaska is a troublesome combination.* Teachers reported that understanding the Native knowledge systems and epistemology is challenging (8). As one teacher reported during the interview: *I go along with most people here, however, the feeling of being an outsider seems to be always present when I walk through the village. I really could use a local mentor to understand the culture.*

Overall, community support of the schools’ mission and personnel vary greatly from village to village. Underlying historical events, current school and village leadership, and past and present teacher turnover rates seem to be correlated to overall community integration of teachers. One teacher indicated: *We had five principals in the last three years. All teachers are new to this school this year. People bet on how long teachers will stay. I somehow understand why they (students and local people) distrust us.* Building community, teacher, and school relationships are a collaborative effort as one Native teacher explained: *Community involvement into education? Teachers new to our school need to make an effort but so does the community. Going out, walking around, saying hi, understanding small talk, and dropping in unexpectedly is accepted and expected here in the village.* The complexity of living in Native villages, the low number of Native educators/mentors, geographical isolation, and the Arctic’s demanding living conditions affect teacher retention. National accountability practices and proposals for teacher evaluations tied to student test scores may also become critical factors as reported by eight participants. Our data indicates complex factors related to teacher retention and a strong correlation of teacher retention to student achievement in rural Arctic Alaska.

Conclusions and Recommendations

This study confirms that the teacher turnover rates in rural districts vary widely over time and are significantly higher than in urban school districts. Additionally, there is a strong correlation between teacher retention and student achievement. Working conditions, curriculum, sociocultural living demands, and community integration influenced overall job satisfaction and retention of participants. School instructional program coherence and stable relationships predict student achievement (White, 2008). Interview results from this study indicate that when teachers leave schools, previously held relationships, instructional curriculum, and school-community integration patterns are altered and affect student achievement.

In order to become effective educators, to remain at their local schools, and be accepted by the community, teachers need support (Fry & Anderson, 2011; Kline et al., 2013; Winters & Cowen, 2013). In our study, educators assumed many roles related to and outside of their teaching duties. They succeeded through individual determination, long hours at school, and intimate professional commitment to their students. This approach is not sustainable and may be, in fact, the formula for early attrition. Better communication patterns and shared responsibilities between rural school districts, local administrators, teachers, community members, and university based teacher preparation programs need to be established. Further, school district hiring committees need to include local stakeholders and share responsibility for selecting, mentoring, and evaluating teachers, rethinking their ideas about who is a good fit to their school and community in light of the need for place relevant curriculum and current education policies, which emphasize high-stakes accountability measures. Our data also indicate that state teacher evaluation measures and increasing school demands on new teachers to immediately demonstrate on-the-job performance encourage practices of letting teachers go instead of providing appropriate support. Given the current national attention to teacher evaluation based on test scores and the local demand for culturally responsive teaching, teachers new to the Arctic communities need opportunities for ongoing professional development and induction.

The recruiting, hiring, and training of new teachers requires significant financial costs (Barnes, Crowe, & Schaefer, 2007). These costs drain resources that might otherwise be spent on program improvement or working conditions (Barnes et al., 2007; Darling-Hammond & Sykes, 2003). Such dynamics harm rural schools with historically underserved student populations the most, as these schools tend to have more persistent turnover and in some cases have fewer overall resources with which to work. Teacher retention, teacher effectiveness, and student achievement are multilayered and complex issues shaped by the socio-cultural context of the schools, state policies, labor market forces, and individual connections with students and community. To develop and retain effective teachers and to increase students' learning a collaborative approach is needed. Turnover results in loss of institutional knowledge among educators that is critical for supporting student learning. Though there may be cases where turnover is actually helpful to student achievement, on average, it is harmful. Policies will require a systems approach that entails analysis of the multiple interacting variables and development of a blend of solutions tailored for individual school settings.

Limitations and Further Research

Current findings are limited to a four-year data collection and focus on specific rural Arctic school locations. Findings may not generalize to other settings and continued longitudinal data are needed to predict future trends. Our certainty about interviewees' perspectives cannot be complete, but we are confident that the missing information does not inordinately bias our

findings given the convergence of information and saturation obtained from other sources. Quotations are the best recollection of the precise phrases used, rather than guaranteed verbatim reproductions.

Results provide evidence of complex interactions of variables that contribute to teacher retention. Future research could untangle such variables to capture the exact percentages of teachers who leave the classroom for administrative positions, to continue graduate school, get laid off by the districts for low performance, or because they are dissatisfied with work conditions. Thus, explanations and conclusions have to be drawn with caution. Researcher biases may be present despite careful comprehensive analysis of interview transcriptions and interpretations (Creswell, 2007).

In its current form, this study identifies factors contributing to teacher turnover and student achievement in rural Alaska in the local context of Native communities and may assist education policymakers and administrators in designing strategies to minimize turnover, increase teacher effectiveness and student achievement.

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