

Aboriginal Students and School Mobility in British Columbia Public Schools

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In British Columbia, K-12 school Aboriginal students' completion rates are far from equivalent to those of their non-Aboriginal peers. In addition, there is a high degree of variability in Aboriginal students' school completion rates across schools and communities. Administrative data associating approximately 1.5 million school census records of students enrolled in public schools province-wide over 13 years were examined. A longitudinal cohort design was employed to examine individual-level and school-level differences in the school completion outcomes of Aboriginal students. Findings indicate that school change, or student mobility, of secondary Aboriginal students was a prevalent feature in Aboriginal high school trajectories. A negative relationship exists between the frequency of school change during the high school years and Aboriginal students' school completion.

Introduction

Across Canada, Aboriginal students' high school completion rates are a source of concern for Aboriginal parents and Aboriginal communities, as well as educators and provincial and territorial ministries of education. Equity in Aboriginal graduation is seen as critical by advocates of Aboriginal peoples. The minimal progress in increasing the school completion rates of Aboriginal peoples in Canada over the last three decades is troubling. Poor educational outcomes have fueled calls for increased local and Aboriginal control of schools that Aboriginal students attend. For example, the Government of British Columbia, the Government of Canada, and the BC First Nations Education Steering Committee (BCFNESC) have recently signed a tri-party agreement to work with interested First Nations in developing a means whereby on-reserve First Nations schools gain increased jurisdiction over educational services and programs (BC Ministry of Education, 2006b). In public schools, where the majority of BCs Aboriginal students are enrolled (Posti, 2005), the histories and contributions of Aboriginal peoples are increasingly present in school curriculum.

In BCs public schools, where this research is set, the provincial Ministry of Education has worked to establish formal Aboriginal enhancement agreements in an effort to improve both the academic achievement of Aboriginal students and relationships with Aboriginal communities. These agreements have been achieved in 35 of the 60 school districts (BC Ministry of Education, 2007). Enhancement agreements set the expectation that there will be close monitoring of the performance of Aboriginal students in schools and that student performance data will be used to assist in setting school and school-district goals for continual improvement. School completion rate (graduation within 6 years on entering grade 8) is a key indicator used to determine whether Aboriginal students have made progress in BC public schools. The process of monitoring, data-collection, and goal-setting for Aboriginal students closely mirrors province-wide school and school district accountability practices established to serve all students and communities.

In BC's public schools there is some indication that improvement in school outcomes for Aboriginal students is occurring. The BC Ministry of Education reports in their recent 2005/06 *How Are We Doing? Demographics and Performance of Aboriginal Students in BC Public Schools* (BC Ministry of Education, 2006a) that over a five-year period the Aboriginal school completion rate has increased from 42% to 47%. Over this same time, the school completion rate of all students has increased from 79% to 82%. However, the trend toward higher school completion rates is not consistent in every school district, community, or high school in BC. There is wide variation across the province and often highly variable results in high schools from year to year.

How these school completion outcomes, and specifically the differences between the Aboriginal and non-Aboriginal school completion in given schools, are related to the student-level factors, school context, or other broader community context variables, is not readily understood. Understanding such relationships could assist educators and advocates of Aboriginal students to work toward consistently high province-wide school completion rates for Aboriginal students. This research presents information about one factor: student mobility in secondary grades and the school completion outcomes of Aboriginal students in BC high schools.

The purpose of this article is threefold. I first review literature on school change and student achievement. Next I present findings related to school change of Aboriginal students in BC public schools and the relationship of mobility to Aboriginal school completion rates. Finally I discuss implications for schools where high rates of Aboriginal students are mobile across schools and communities.

Literature Review

Little is known about the effect of student mobility - or students moving from one school to another for reasons other than being promoted to the next school level (Rumberger, 2002) - on students' school careers. Ligon and Paredes (1992) referred to student mobility as "one of the most elusive statistics in education today." Due to the scarcity of student-level data, longitudinal research following school trajectories of students or skill development of students has rarely been attempted. Many studies that have occurred have relied on inconsistent and potentially inaccurate measures of student mobility (such as district estimation formulas) and are localized to a given jurisdiction (essentially case studies) or have a single enrollment measure (which may not represent mobility that occurs before or after the measure). Studies that have been conducted frequently examine school-level student mobility. Individual-level data are frequently unavailable, and student populations are often not disaggregated to specific demographic groups such as Aboriginal students. However, research strongly suggests that student mobility is associated with increasing risk to students' ability to complete high school.

Student Mobility and Disruption

When students are mobile across schools, there may be risks of disrupted educational programs, peer relationships, and family support and community networks. Calabrese (1989), Fisher, Matthews, Stafford, Nakagawa, and Durante (2002), and Pribesh and Downey (1999) suggest that a school move damages or completely severs important social ties that are useful for cognitive development and social development. Fitchen (1994) and Wood, Halfon, Scarlata, Newacheck, and Nissim (1993) point out that high levels of residential mobility are associated with low levels of support of the family's networks such as church and community groups and other extended family, neighbors, and social service agencies. Mobility disrupts regular attendance, continuity of lesson content, and the development of relationships with teachers and students, as well as interrupting basic skill acquisition (Paik & Phillips, 2002) and thereby is associated with lower student achievement.

Student Mobility and Academic Achievement

Research has provided evidence of a negative relationship between student mobility and academic achievement (Fowler-Finn, 2001; Heinlein & Shinn, 2000; Mantzicopoulos & Knutson, 2000; Temple & Reynolds, 1997; Wright, 1999). Typically, researchers compare state-mandated test scores or grade-level skills measures of mobile and non-mobile student groups in a location or single school. Although such studies tend to confirm that student mobility is a factor that differentiates academic performance, the degree to which student mobility independently accounts for differences between groups on test performance or school-wide performance on such tests - is more difficult to determine. The conclusion that mobility in itself may have little effect is supported in Nelson, Simoni, and Adelman (1996). Temple and Reynolds found that half the achievement differences in schools were attributable to issues that predated mobility (such as prior student achievement). A similar conclusion was reached in Alexander, Entwisle, and Dauber (1996) when family and academic issues that predated mobility were controlled for.

Students at various grade levels have been participants in studies although attention to the developmental stage of students is rarely considered. Kerbow's (1996a, 1996b) comprehensive examination of all students in Chicago's elementary schools provided the basis for his estimate that three school moves were equivalent to the loss of one academic year in terms of skill acquisition. Heinlein and Shinn (2000) argue that early mobility is a more potent predictor of grade 6 achievement than later mobility in their sample of New York students. Reynolds (1991) found that mobility (from kindergarten-grade 2) had a significant effect on early school achievement. Ingersoll, Scamman, and Eckerling (1989) found negative effects for mobility at all elementary grade levels in Denver, but especially in the earlier grades. In a Canadian study, Wasserman (2001) reports that in Alberta, students who changed schools frequently had lower average provincial test scores (grades 3 and 6) in direct proportion to the number of school changes.

Ligon and Paredes (1992) compared four secondary student groups in Austin, Texas high schools: (a) stable; (b) mobile in the current academic year, though not previously; (c) previously mobile, though currently stable; and (d) highly mobile. Although these researchers

found highly significant differences between all groups at each secondary grade level, the prior academic achievement of students was not controlled for. Yet Fernandez (1987) found that mobility had no effect on high school students' performance when other home factors (such as language and socioeconomic status) were controlled for. In contrast, Ingersoll et al. (1989) found a negative effect on academic achievement at each secondary grade level in urban Denver public schools in a study that controlled for socioeconomic status and ethnicity. In Sewell, Palmo, and Manni (1981) mobility, as well as language and socioeconomic status were significant predictors of test performance.

Student Mobility and School Completion

Researchers have established a strong relationship between student mobility and high school completion. A New York State Education Department report (1992) found high association between mobility and dropping out. In the specific cohort examined, mobile students had an 18.5% completion rate in contrast to an 80% completion rate for their non-mobile peers. Fetler (1999), Rumberger and Larson (1998), Swanson and Schneider, (1999), and Teachman, Paasch, and Carver (1996) confirmed this relationship by examining a US national sample. Rumberger, Larson, Ream, and Palardy (1999) determined that students who move twice in a school career have a 60% graduation rate. The US Government Accounting Office (USGAO, 1994) found that children who had moved more than three times before high school were four times more likely to drop out of high school. Haveman and Wolfe (1994) tracked high school students and found that residential mobility diminished the probability of graduation after background variables were controlled for. The literature has not focused on Aboriginal students as a group. One US case study (Eberhard, 1989) examining the mobility of Native American students, reported that the probability of high school completion decreased dramatically for each school move. An Australian research report commissioned by the Australian Commonwealth Department of Education, Science and Training and the Department of Defence (2002) to assess the effect of students changing schools highlighted the high mobility of the Aboriginal group. The report suggested that mobility was related to absenteeism, school suspension, and poor retention of Aboriginal students and expressed concern over rural Aboriginal students in traditional communities.

Geographic and Demographic Factors

Research also qualifies the relationship between poor school outcomes and student mobility as also being linked to socioeconomic status and ethnicity (Demie, 2002; Ingersoll et al., 1989; Ligon & Paredes, 1992; USGAO 1994; Wright, 1999). Educators in many rural/agricultural areas have long been aware of the particular difficulty in providing education services to children of migrant workers. Yet it is increasingly clear that students are also mobile in suburban and urban areas (Bayer, 1982). Research indicates that children with fewer economic resources, who live in poor housing areas, and live with one or no parent are at greater risk for mobility (Ligon & Paredes; New York State Educational Department 1992; Paik & Phillips, 2002; Wright). In one case Schüler (1990) found that 58% of poor families in an urban area moved once a year. The causes cited for this were typically finding employment, job relocation, poor housing, high

crime rate neighborhoods, domestic issues, and the temporary nature of many low-income jobs. In research on the educational challenges of children in foster care, concern is expressed about the increased rates of change of residence and school in this student population (Blome, 1997; Burley & Halpern, 2001; Zetlin, Weinberg, & Kimm, 2004).

The extent of student mobility varies tremendously in varied communities and schools. Kerbow, Azoitia, and Buell (2003), Nelson et al. (1996), and Parsons, Chalkley, and Jones (2000) provide evidence that the "magnets" for mobile students are urban schools in economically poor neighborhoods. Much mobility of Aboriginal students in BC is focused in urban areas generally and in low-income neighborhoods particularly (Aman & Cartwright, 2007).

The Effect of Student Mobility on Schools

Researchers have also raised concerns that in addition to negative effects on students, student mobility has a negative effect on schools when accountability efforts produce school-level aggregations of student performance measures, but fail to account for this student population (Aman, 2006). Kerbow (1996a, 1996b) makes the point that school reform efforts implicitly assume that students attend a given school long enough for the school to make a difference in their achievement. He argues that there are deep and hidden consequences for the schools that mobile children attend - and there is danger that improving schools and effective programs remain undetectable. In a United Kingdom context, Strand (2002) indicates that using test performance data for decisions about schools and program funding will serve the vulnerable mobile population poorly. Offenbergl (2004) demonstrates how the Adequate Yearly Progress school performance measures implemented nationally in the US are prone to this error in poor urban Philadelphia schools where high mobility occurs.

The Mobility of Aboriginal Students

There is statistical evidence that mobility, or change of residence or migration as it is called in demographic research, is a prevalent feature of Aboriginal populations in many places in the world including Canada. A recently released Canadian report on Aboriginal demography (Siggner & Costa, 2005) states that 49% of Aboriginal people in Vancouver have moved between communities at least once in the last five years. Clatworthy (1995), Cooke (2002), and Taylor (1998) observe that migration of Aboriginal people to and from urban areas often follows a seasonal pattern or is tied to family and cultural commitments. Norris and Clatworthy (2002) suggest,

Reserves provide friends, extended family support, and culturally appropriate activities and services that may not be available off reserve. Accordingly, people may perceive their reserve communities as offering a better quality of life than urban centres for raising children: lower crime rates and less alcohol and drug abuse, (pp. 66-67)

Similarly, an analysis of census data from Indian Affairs and Northern Development, Canada (2004) states, "There is evidence that the support of extended families, may be a very

important resource for people living in Aboriginal communities, and one that is relatively unavailable in the city" (p .11).

Migration may also be linked to the search for employment or improved living conditions (Norris & Clatworthy, 2002). Probably mobility is also tied to the pursuit of higher education or specialized training and is associated with an emerging Aboriginal urban middle class (Graham & Peters, 2002; Wotherspoon, 2001). Migration may be heavily determined by housing needs (Norris & Clatworthy). Housing issues may affect some Aboriginal people particularly: Aboriginal children are overrepresented in foster care in BC (BC Ministry of Child and Family Development, 2005) and across Canada (Blackstock & Trocmé, 2005; Trocmé, Knoke, & Blackstock, 2004). This overrepresentation may result in increased school mobility of Aboriginal children. Generally, these researchers affirm that providing education (and other public services) for populations that are mobile across jurisdictions is a challenge. Thus mobility of Aboriginal families has implications for schools, the most basic of which is that the provision of comprehensive, coherent, and sustained learning programs may not occur. For example, newcomer programs have been put in place in some jurisdictions to better meet the needs of students who are mobile across schools. See also Rumberger et al. (1999) for a wide range of interventions albeit in a US context.

The underlying causes and prevalence of student mobility and the relationship of mobility to school completion is not well understood. Mobility and residence change and school change have not been examined in terms of the Aboriginal population of students. One key objective of this study was to explore the relationship of mobility, or school change, of Aboriginal secondary students to Aboriginal school completion rates. Understanding the extent of student mobility and locations where student mobility rates are high could assist educators and advocates of Aboriginal students to work toward consistently higher graduation rates and higher achievement in school.

Method

This research study was part of a broad, large-scale, exploratory data analysis that was conducted with an unusually extensive data set of school census data of K-12 students in all public schools in BC over 13 years (Aman, 2006). This student-level administrative data, masked for anonymity, was collected and generously provided by the BC Ministry of Education in support of this research. The administrative data provided information on the grade level of students as well as the school locations of students each school year. Eight percent of the student files were associated with students who had at some point in their school career identified themselves as Aboriginal on the student census form (Form 1701) collected each year by the BC Ministry of Education. For this analysis, which focuses on students in secondary grade levels (grades 8-12), administrative records associated with nearly 30,000 Aboriginal students over the school years 1991-1992 to 1998-1999 were examined.

The mobility of Aboriginal students between secondary schools throughout their high school careers emerged as an important feature of the student-level data. Students who enter grade 8

in one school are often enrolled in another school five years later. The destination school may be across town from the original school or across the province. A student may have enrolled in several high schools over time either in his or her school district, between school districts, or both.

In order to investigate the relationship between Aboriginal student mobility and school completion for individual Aboriginal students, two sorts of mobility characteristics were calculated from the school census information: number of school changes (grades 8-12); and location of changes (where the original and destination schools were located).

Calculating the Number of School Changes in the Secondary Grades

The number of school changes that occurred in high school (grades 8-12) was calculated for each Aboriginal student. Note that the number of school changes that students may have made before high school has not been calculated. The number of school changes is determined by noting where a student is enrolled in September each school year over five years. This calculation is not sensitive to the unknown number of students who move temporarily during the school year and return to the school where they originally enrolled in September. Neither does this calculation include students who may be still enrolled in high school in their sixth year, but changed schools in their sixth year of high school.

Controlling for School System Structure and Grade Progression

Students who experience no school change are typically enrolled in secondary schools. Half the school districts in BC are configured solely with secondary schools. In the other school districts, junior high schools (grades 8-10) and /or middle schools (grades 6-9) exist. A handful of BC schools in remote areas have other grade configurations (e.g., grades K-12).

In order to control for the possibility that secondary students who changed schools had done so for reasons of school-system structure in their location such as grade progression or school closure, background information was obtained on the grade structure of each high school in BC and the opening and closing dates of high schools. Aboriginal students who had changed schools in the secondary grades were also compared with their school cohort peers for confirmatory evidence that the entire cohort of students had changed schools. In 45 Aboriginal student cases, no determination could be made about the cause of a school change. These students were not included in this analysis.

Location of School Changes

School change was categorized as (a) within-district school change, or (b) between-district school change. This was in order to examine whether differences and patterns existed between the various communities in BC in terms of the prevalence of student migration and students changing schools in their communities.

Choice of School

Choice of school is not available to the same degree across BC communities. In some locations in the province, in-district change is not likely or possible because of the limited number of high schools in the district or the geographic separation of small population centers. Yet in other districts, a broad choice of high schools exists in the same town. For the most part, students who had changed schools once, not for school structure reasons, did so in population centers where choice of high schools existed. Similarly, between-district school change may occur in cases where student residence has changed or where students exercise choice. In urban areas of the province, school choice between districts is an available option. For example, students in Burnaby may attend schools in Vancouver. Vancouver students may attend schools in West Vancouver. Existing policy on school catchments allows for students to attend any public school in British Columbia if room exists.

Findings

A high degree of school change occurs throughout the high school years for a large proportion of Aboriginal students. Table 1 provides information on the most recent graduate class (n=4,460) available in the administrative data. The students in this cohort were each enrolled in grade 8 for the first time in the 1998-1999 school year and would be expected to complete high school within six years (June 2004). The completion rates associated with the number of school changes made by Aboriginal students of this 1998-1999 cohort during their high school trajectories are represented.

Fewer than a third of the provincial 1998-1999 Aboriginal cohort experienced no school changes throughout secondary grades. The highest completion rate (56.4%) is associated with the 31.3% of Aboriginal students who did not change high schools. The completion rate of Aboriginal students who changed schools once during high school is somewhat lower (48.9%). The pattern of lower completion rates associated with two, three, and four school changes is more evident. For the nearly 20% of the students who moved twice in secondary school grades, the completion rate was 28.1%. Students who changed schools three times had a still lower completion rate of 17.3%. Those who changed school four times in the secondary grades had the lowest completion rate (11.3%).

Table 1
Number of School Changes and Completion Rates
in the 1998 Aboriginal Cohort

Number of School Changes (High School Only)	Percentage of 1998 Aboriginal Cohort	8 Year Completion Rate (September-June 2004)
No school changes	31.3%	56.4%
1 school change	36.8%	48.9%
2 school changes	19.8%	28.1%
3 school changes	9.7%	17.3%
4 school changes	2.4%	11.3%

[Enlarge 200%](#)

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Table 1

Number of School Changes and Completion Rates in the 1998 Aboriginal Cohort

Table 2 provides information on the percentage of the 1998-1999 Aboriginal cohort in terms of categorizations of school moves. These categorizations represent the locations of the original school in comparison with the destination school or schools. As noted above, approximately

one third of the 1998 Aboriginal cohort did not change schools and nearly 57% of this group completed school within six years. This is a much higher percentage than the overall 46% completion rate reported for Aboriginal students province-wide for this cohort year (BC Ministry of Education, 2006a).

It was determined that for 18% of the 1998 Aboriginal cohort, school change occurred due to school structure change (e.g., all students attending a middle school or a junior high school will necessarily change to secondary school offering senior grades). The completion rate of these students is comparable (at 58%) to that of Aboriginal students who did not change schools. Together these two groups of students comprise approximately 50% of all Aboriginal students enrolled in BC public schools.

An estimated 20% of the 1998 Aboriginal cohort were categorized as having experienced within-district school change. The completion rate of these students is substantially lower than that of their peers who remain in the district or who changed schools due to grade progression. Students who changed schools in their original school district in this cohort had a 28% completion rate.

Approximately a third of the province's 1998-1999 Aboriginal cohort changed schools between districts. These students' six-year completion rate is nearly identical to that of students who changed schools within districts. Thirty percent of these Aboriginal students completed school. Together these two groups comprise 50% of all Aboriginal students enrolled in BC schools.

There is a wide range in the proportion of Aboriginal students in school cohorts who have changed schools two or more times across the province's high schools. For example, in some high schools in the province at least 50% of the Aboriginal senior class had previously attended two or more other high schools. This was the case in high schools in Vernon, Kamloops, Kelowna, Victoria, and Prince George. The proportion of mobile Aboriginal students in large urban high schools in Vancouver, Burnaby, and Surrey was nearly as high. In nearly every high school province-wide, mobile Aboriginal students had poorer school completion outcomes than their non-mobile Aboriginal peers in the same high school.

Table 2
School Completion Rates and Location of School Change in 1998 Aboriginal Cohort

Location of School Change (High School Only)	Percentage of 1998 Aboriginal Cohort	6 year Completion Rate (Preparation June 2004)
No school changes	31.9%	56.9%
School-structure school change	18.0%	58.2%
Within-district school change	19.2%	28.2%
Between-district school change	30.4%	29.8%

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Table 2
School Completion Rates and Location of School Change in 1998 Aboriginal Cohort

Discussion

For advocates, educators, researchers, and policymakers interested in addressing the equity issue of school outcomes of Aboriginal students, the prevalence of school change of secondary Aboriginal students is important. The number of school changes that secondary Aboriginal

students experience is associated with school completion across BC communities and schools. The results of this analysis support the findings of others who have investigated the general relationship of mobility with student outcomes.

Fifty percent of the high school population of Aboriginal students experienced school change in BC. Although it is not possible to know from the administrative data what motivated school change at the individual level, the high degree of mobility in this subpopulation of students should be noted. Given the mobility in the Aboriginal student population, a challenge exists in terms of fashioning and implementing an appropriate and effective policy response for school systems. The mobility of Aboriginal students does not affect all school districts and schools equally. Where greater mobility of Aboriginal students occurred, Aboriginal students were enrolled in specific schools, particularly those in low socioeconomic neighborhoods. A refined analysis of the prevalence of mobility and the associated educational outcomes in individual schools in various community contexts is desirable. I hope that research focusing on Aboriginal school outcomes will continue in order to provide information that influences positive and appropriate responses in education systems. For example, the relationship of mobility in the earlier grades was not examined in this study, nor was the relationship of student mobility to standardized exam results at any grade level.

Further, the distinction between mobile students and non-mobile students does not occur when school exam performance or graduation rates are reported publicly. Reports that state student outcomes by student groups (such as male or female students, Aboriginal students, or French immersion students) at the school level invite year-by-year and school-by-school comparisons that may be unhelpful and misleading as instruments of school goal-setting or evaluation. Such calculations fail to account for the fact that fundamentally different populations of students may exist each year in each school: in this study mobility in secondary years emerged as an important demographic characteristic. Data must be analyzed such that student demographic features become evident before comparisons are made, particularly for explicitly evaluating school improvement or program success.

The identification of mobility as a significant factor in the educational careers of Aboriginal students should not persuade school officials that the problem rests with the mobile students and their families or lead them to absolve schools of any responsibility. The personnel, programs, policies, and practices at the school level may contribute significantly to the variability in Aboriginal students' success in school, and the importance of these factors is suggested in much of the qualitative work focusing on Aboriginal issues in education. At a higher level, community conditions, dynamics, and available support services should be examined using information more relevant to local contexts rather than generic socioeconomic descriptors.

Although this study was a large-scale quantitative analysis, more qualitative and ethnographic work located in schools would provide refined information on current school practices that promote Aboriginal school completion. Research focusing on Aboriginal school outcomes will

continue in order to provide information that influences positive and appropriate responses in education systems.

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