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An Examination of Educational Success

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An Examination of Educational Success

Jerry White, Paul Maxim and Nicholas D. Spence

Introduction

As noted in the Royal Commission on Aboriginal Peoples (RCAP) report, there are significant problems related to the low educational attainment of First Nations students (King 1993). Considering the enormity of the problem, an attempt is made in this paper to document the trends of successful schooling and school leaving for First Nations children and young adults. We also add to the information on elementary and high school experience, and contribute to a better understanding of the indicators of attainment, by looking at three issues related to quality: graduate rates, leaver rates, and age-appropriate achievement. These are more appropriate than indicators such as the Canadian Test of Basic Skills, which some feel are culturally biased. Instead, it centres the measures on the success or failure of the school and community. Finally, this piece articulates future avenues of research deserving of immediate attention in the area of First Nations education.

The promotion of children through the system, and/or their basic retention in the system, has a level of local applicability that affords a measure of relevance to particular conditions. Concerns, such as maintaining culture, also confound the issue of quality evaluation. The infusion of traditional culture and language in the school has many purposes according to its proponents. First Nations argue that cultural survival is a legitimate reason for taking control of schools; therefore, ways of assessing how well band-controlled schools are meeting the cultural survival needs of the next generation must be implemented. However, as King (1993, 28) notes, there is no data available to look at questions such as these.

The population of interest are those individuals who fall under the jurisdiction of Indian Affairs and Northern Development (DIAND). The *Constitution Act, 1867* (S92)[1] places education under the jurisdiction of the provinces. However, that same legislation, in Section 91(24), assigns "Indians and lands reserved for the Indians" to the federal government.[2] Federal responsibility for education does not extend to "any Indian who does

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not ordinarily reside on a reserve or on lands belonging to Her Majesty in right of Canada or a province." Accordingly, we evaluate the education outcomes of all First Nations students who report that they reside on a First Nations reserve, have qualified to register under the *Indian Act*, and appear in the Indian Registry. Information on such students is reported to the Department of Indian Affairs and Northern Development, and our analysis is based on these data.[3, 4]

Previous Research

Research on Aboriginal educational attainment is rare. Much of the time spent discussing the issue centres on the perceived problems and the assumed patterns of underachievement. Empirical work is often restricted to small case studies or regional investigations. The Census data indicate that average educational levels are below national averages. Our own analysis of income inequality provides a clear indication of educational inequities (White, Maxim, and Beavon 2003).

A major section of the RCAP was devoted to education—both the hope and the problems. The RCAP set a goal for an increase in the control and delivery of education by Aboriginal Peoples. The assumption they made was that Aboriginal Education under Aboriginal control would pass on epistemologies and practices that are not included in the standard curricula. Indian control of Indian education was seen as a means of retaining and revitalizing cultural practices in a culturally grounded environment (King 1993, 2).[5]

This approach was born out of the reaction to the 1969 White Paper.[6] The White Paper proposed that all educational services should come to the First Nations through the same channels, and from the same government agencies, that served all other Canadians (i.e., it should be provided by the provincial government). The White Paper initiated widespread opposition from First Nations. The First Nations position centred on maintaining any of the positive discrimination in the *Indian Act*. By 1971, the government had changed its position. The report of the House of Commons Standing Committee on Indian Affairs (Canada 1971) supported more involvement for First Nations in education, and continuing federal control of First Nations education—except where the majority of parents in the community made a demand for another arrangement. The Standing Committee also urged the inclusion of First Nations history, language, and culture in classrooms. The RCAP notes further that there is a critical problem in terms of data availability and assessments of educational attainment that have been done to date. King (1993) questioned whether the public and private non-Aboriginal schools will ever be evaluated, and wondered whether there will be an increase in demand for First Nations control of their own education.

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Studies of First Nation education indicate that certain patterns exist. First, off-reserve Indians have a greater educational attainment than those on-reserve (McDonald 1991; Canada 1991). Using 1986 data, Armstrong, Kennedy, and Oberle (1990) found that only 25% of Indians completed high school as compared with one-half of the non-Indian population. In 1971, less than 3% of First Nations out-of-school population had attained any post-secondary education. While that proportion had risen to 19% by 1981, it was still less than half the national average (Siggner 1986). In the early 1990s, only 23% of Indian students who completed high school were going on to university (King 1993).

Although there was an increase in high school enrolment in Ontario during the 1980s, MacKay and Myles (1989) report that the overall graduation rate from high schools for Registered Indians varied between 33% and 55% of Grade 9 cohorts compared with completion rates of over 70% in all districts. One proposal for reducing school leavers involves increasing the Aboriginal cultural content that is taught. Despite the First Nations call for more traditional culture and language in the curriculum, there was a slow uptake on this demand. As King (1993, 38) notes: "Kirkness and Bowman (1992) conducted a national study of schools and found that only 19.3% of the responding schools in their national survey had produced some form of curriculum with First Nations content."

There is a tradition of criticism that developed out of opposition to studies of educational attainment that target cultural differences as an explanation for different achievement levels. Urion (1993) calls this research "cultural determinism," which wrongly makes culture the determinant of producing school failure behaviours. The earlier studies of educational attainment all point to a correlation between traditional language use and poorer performance (Cummins 1997). However, many argue that this is a problem of teachers failing to utilize second language techniques rather than a failure on the part of the language use itself (Toohey 1985). The issues of culture and language have also been addressed. While studying American Indians, Deyle (1992) found that their cultural identity interacts with the community and school contexts to affect education outcomes. This was often a negative correlation since the school authority, or other students, created a paternalistic or negative atmosphere concerning Indian culture and language. Ward (1998) tests the hypothesis put forward by Ledlow (1992) that Indians living in traditional communities have a more traditional culture with native language use, and will, therefore, have their development and educational attainment impeded. Conversely, James et al. (1995) argue that the use of traditional language and traditional affiliation has positive effects, or at least has no negative affects (i.e., does not predict failure increase). This follows the Portes and Sensenbrenner (1993) and Zhou and Bankstan (1994) findings that immigrant cultural identity is associated with social capital and cohesion effects at work.

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Despite the pessimism, studies suggest significant improvements in educational attainment in recent years. As Tait (1999) notes, the percentage of young Aboriginal adults with less than a high school diploma dropped from 60% to under 45% between 1986 and 1996, while those completing any form of post-secondary education rose from 15% to 20%. In addition, the number of Aboriginal persons holding a university degree doubled from 2% to 4% within the same period. While the 1980s had been a time of great change, as King (1993) notes, educational levels of Aboriginal people were still too low compared to the non-Aboriginal population. For instance, in 1986 Aboriginal people were 2.2 times more likely not to complete high school than non-Aboriginals. By 1996, this had increased to 2.6 times (Tait 1999).

The importance of education becomes especially salient when one examines the returns to education. Several researchers have found that the return to education for Aboriginals is greater than for other groups (George and Kuhn 1994; Patrinos and Sakellariou 1992; Sandefur and Scott 1983). Jankowski and Moazzami (1995) found that there is a return to education for First Nations persons of about 7.8% for each year of elementary and secondary school completed and 31% for university training. Other studies, such as Drost (1994), also find positive outcomes for education in terms of labour force participation. Analysis indicates that the largest gains in reducing the risk of unemployment come from improvement of completion rates for elementary and high school. Ryan (1996) argues that recognition of First Nations approaches to education—and truly integrating them into the schooling—combined with an end to discrimination in terms of placing graduates in the work force, is key to making improvements. The provinces of British Columbia and Saskatchewan have put a great deal of effort into the issues surrounding First Nations education. British Columbia studies have found that 14% of Aboriginal peoples do not progress to Grade 9, while 4% of non-Aboriginal students do not progress to high school. In addition, Aboriginal students score significantly lower on foundation skills assessment in the standard Grade 4, 7 and 10 assessments.

The British Columbia Ministry of Education and the Saskatchewan Department of Education[7] have done some research themselves; however, they largely rely on the work of others. Some of the most influential proposals for building effective schools and enhancing educational attainment for First Nations students depend on the community setting. Communities that discourage drug and alcohol abuse, and who generally engage in school activities supporting both home and school, are found to be a key to success (British Columbia 2000b; Epstien 1987, 1988; Levesque 1994). Similarly, language and culture play vital roles in the improvement of attainment since the preservation of traditional languages is extremely important for all Aboriginal peoples (King 1993). Kaulbeck (1984) states that students from some cultures may have a different way of processing

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information than those children who have been raised in the mainstream culture. This has to be recognized and accommodated. However, there seems to be little research into how this can be accomplished.

The Ministries of Education tend to return to basic proposals on how to improve educational attainment: fight the complexities of racism; incorporate culture, language, and traditions into the educational experience; find success and model it; seek community support; engage in more monitoring; and give the individual students active support (British Columbia 2000a).

The patterns of educational attainment for Indians in the United States is similar to their cousins in Canada. Utilizing 1980 U.S. Census data, Snipp (1990) found that 33% of urban Indians and 41% of those on reservations aged 17 to 18 are behind the national population averages or have dropped out. Using 1990 data, Ward (1995) found that the number lagging or dropping out on the reservation had increased to 48%. Studies suggest that American Indians have higher dropout rates (42%) than either Blacks (24.7%) or Whites (9.6%) (Kunisawa 1988; Frase 1989).

Educational attainment has also been found to vary by place of residence. Those outside metropolitan areas have less educational attainment by age and cohort than those in urban centres (Ward 1995).

Research Questions

Given our data restrictions, and based on the literature we have reviewed, there are several important questions we will address in this paper. The location of a school was shown to be predictive of educational attainment and drop-out levels for American Indians in the U.S. Specifically, rural and reservation schools were correlated with lower achievement and higher rates of non-completion (Deyle 1992). In the case of Canada, is location—namely the remoteness of a community—associated with the type of school chosen, and, consequently, educational success? Next, what is the level of traditional language used in schools where INAC-sponsored students receive their education? How has this changed since the RCAP 1991 study? Does the increased use of First Nations languages in the school setting correlate with higher educational attainment? In terms of school leavers, what are the reasons given for "school leaving," and how does this compare with the previous 1991 study for the RCAP? The education survey provides data with respect to the activities of students after they leave school—whether they become employed, unemployed, or enter post-secondary school—which provides some insight into the outcomes and motivations of educational achievement. We examine the differences in these activities of two school leaver groups: withdrawers and graduates.

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Sample

Combined data from the 1996 Census and the DIAND Program Data-Education Survey for the school years 1995–96 and 2000–01 are used to empirically examine the trends in educational attainment and school leavers among registered and non-registered Indian and Inuit students who live on-reserve in Canada.

Measures of Educational Success

Three different measures of educational attainment are used in this study: the age-appropriate rate, the graduate rate, and the withdrawal rate. The age-appropriate rate is the percentage of age-appropriate students in a band. It is calculated from nominal rolls of registered students living on-reserve and those who graduated and withdrew, but excludes those who left school for other reasons.[8] This gives us an analytically simple measure of the number of students that are behind the norm. This measure will be the one primarily used in this analysis. Our second measure of educational success, graduate rate, is the proportion of Grade 12 and 13 students in a band who were included on nominal roles and graduated. The third measure of our educational success, withdrawal rate, is the percentage of 16-year-olds and over on the nominal rolls who withdrew from school.

Results

Geography/School Type

We begin with a look at whether geography influences the type of school one attends, as indicated in Table 1. The focus is on provincial and band schools since these are the institutions of choice for most students (see Table 2). As observed in Table 1, those very close to major urban centres are more likely to attend provincial schools (51.9%) than band schools (41.3%). This changes as we move further away from a major centre (i.e., 50–350 km) with band schools (58.4%) being the school of choice instead of provincial schools (40.4%). When the distance from a band to a major centre is more than 350 km there is higher attendance at provincial schools (65.2%) than band schools (32.0%). Finally, when there is no road access, the percentage of students attending band schools (72.8%) is higher than provincial schools (26.7%). Thus, excluding isolated communities, we have found that bands that are the closest and furthest away from a major centre have higher rates of provincial attendance than band attendance. The magnitude of the differences in attendance at provincial and band schools is greatest where there is no road access to the community.

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Table 1: School type attendance by proximity of band to major centre, 1995–96

	<50 km	50–350 km	350+ km	No road access
Federal	1.77	0.29	0.03	0.04
Provincial	51.90	40.40	65.20	26.70
Private	5.06	0.85	2.77	0.52
Band	41.30	58.40	32.0	72.80

The RCAP (King 1993, 8) found that since the Standing Committee report, over three hundred First Nations have assumed local control of education, and almost half of the Indian students (47.2%) in schools in southern Canada are in band-controlled schools (King 1993, 15). Our data indicates that by 1995–96, 53% of First Nations students attended band-controlled schools, and by 2000–01 this figure had risen to 60%. Attendance at federal and private schools changed little over the five-year period, while provincial schools saw a 7% drop in attendance (see Table 2).

Table 2: School type attendance, 1995–96 and 2000–01

	Federal	Provincial	Private	Band
1995–1996	1.66	43.71	2.04	52.60
2000–2001	1.46	35.30	1.93	61.31

How do federal, provincial, private, and band schools fare when evaluated in terms of educational success? By using the dependent measure of educational success, the age-appropriate rate, we can examine the percentage of age-appropriate students in each of the different school types. Provincial and band schools have made significant increases in age-appropriate rates of students in recent years. For example, in Table 3, which examines the age-appropriate rate of school leavers over the five-year period, we can see the magnitude of the differences over the 1995–96 to 2000–01 period. Although they have improved, band schools have the lowest age-appropriate student rate of all school types, with federal schools leading the way (98.44%)—having increased by about 20%—and private schools losing ground by approximately 5% over the period in question.[9]

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Table 3: School leavers—age-appropriate students by school type, 1995–96 and 2000–01

	Federal	Provincial	Private	Band
1995–1996	78.46	49.24	70.12	45.39
2000–2001	98.44	73.20	65.47	61.27

As indicated, band students in provincially operated schools may have higher age-appropriate rates than those in band-operated schools, but they tend to withdraw in larger numbers. In 1995–96, under Grade 9, the age-appropriate rate for students in provincial schools was 92.8% and 86.0% for band schools. After Grade 9, the age-appropriate rate dropped to 62.0% for provincial schools and 43.8% for band schools. However, the withdrawal rate for provincial schools was 18.2% compared to 11.8% for band schools. Provincial schools accounted for about three-quarters of withdrawers and about one-quarter for band schools.

Language

The RCAP reports the extent of traditional language use in INAC controlled schools. It reported that 37.2% of all elementary and secondary school Aboriginal students under INAC funding in 1991–92 did *not* have an Aboriginal language used in their schooling in any way, and only 1.9% had an Aboriginal language as a subject and a full-time medium of instruction.[10] As our update on these figures indicates (Table 4), by 2000–01 this had dropped to 30.2% and 1.2% respectively.

Table 4: Extent of Aboriginal language instruction, 2000–01

None	30.24
½ Time	2.31
<½ Time	3.45
Subject	55.60
Subject P/T	7.15
Subject F/T	1.23

To address the relationship between educational success, as measured by the age-appropriate rate and extent of traditional language instruction, we examine the findings in Table 5. The results are, for the most part, inconclusive. Extent of Aboriginal language instruction has no systematic effects on the age-appropriate rates. There is, however, one finding worth noting: the age-appropriate rate, when traditional language is offered as a subject and full-time medium of instruction, is significantly higher than all of the other categories.

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Table 5: Age-appropriate students by extent of Aboriginal language instruction, 2000–01

	Age-appropriate
None	82.9
½ Time	88.8
<½ Time	83.2
Subject	81.7
Subject P/T	82.8
Subject F/T	94.0

To tease out the effects of language on educational success further, we introduce school type into the analysis. Table 6 provides a picture of age-appropriate rates by extent of Aboriginal language instruction and school type. Overall, students in provincial schools tend to have higher age-appropriate rates than band schools at various levels of Aboriginal language instruction.[11] Interestingly, at the highest level of Aboriginal language instruction, where it is provided as a subject and full-time medium of instruction, band schools have significantly higher age-appropriate rates than provincial schools. Age-appropriate rates do not appear to be affected in some systematic way at the various levels of language instruction in provincial schools, but band schools report higher age-appropriate rates with some component of language reflected in the curriculum. For band schools, the lowest age-appropriate rate (71.3%) is found when there is no form of language instruction, while the highest (95.2%) is found where it is provided as a subject and full-time medium of instruction. We observe two critical points in age-appropriate rates for band schools with respect to the extent of language instruction provided: the jump between "none" to some form of language instruction and the jump to subject and full-time medium of instruction.

Table 6: Age-appropriate students by extent of language instruction and school type, 2000–01

	Provincial	Band
None	84.9	71.3
½ Time	87.3	87.8
<½ Time	85.5	82.7
Subject	88.4	79.2
Subject P/T	88.5	82.6
Subject F/T	86.9	95.2

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School Leavers

The only Canada-wide assessment study on reasons for leaving school was produced by King (1993) for the RCAP. We have updated the data for the years 1995–01 in Table 7. As the table indicates, only 13% of school leavers in 1990–91 left because they graduated, 33% transferred, 32% withdrew, 21% moved off the reserve, and 1% died. By 1995–96, the percentages were as follows: 11.6% graduated, 12% transferred, 41.1% withdrew, 34.8% moved off the reserve, and 0.4% died. The magnitude of the differences between some of the categories of school leavers is worth noting. In particular, the transfer rate dropped by 21%, withdrawers increased by 9%, and those who moved off the reserve increased by 14%. Finally, five years later in 2000–01, 13.2% graduated secondary school, 16.9% transferred to another school, 30.3% withdrew, 39.1% moved off-reserve, and 0.48% died. Thus, our results indicate some trends over the time period among school leavers: the graduate rate from secondary school has remained constant at about 13%; the rate of transfers to other schools has tended to be somewhat volatile, with the percentage decreasing sharply and in more recent years increasing up to about 17%; withdrawals have tended to balloon up and down, but most recently hovered at the lower end with a value of about 30%; the percentage who moved off-reserve has increased and maintained at about 40%; and the deceased category has been consistent at about 0.5% since its initial drop between 1991–95.

Table 7: Reasons for leaving school, 1990–1991 and 1995–2001

	Graduated secondary school	Transfer to other school	Withdrew	Moved off-reserve	Deceased	Unknown
1990–1991*	13.00	33.00	32.00	21.00	1.00	0.00
1995–1996	11.64	12.04	41.13	34.79	0.41	0.00
1996–1997	13.23	2.18	41.69	39.71	0.47	2.72
1997–1998	13.03	6.41	42.72	37.37	0.48	0.00
1998–1999	12.76	12.32	31.37	43.08	0.47	0.00
1999–2000	12.78	18.12	27.32	41.29	0.49	0.01
2000–2001	13.19	16.92	30.31	39.10	0.48	0.00

* The data for 1990–91 was taken from King (1993).

The second part of our analysis related to school leavers poses the question of where these individuals end up upon exiting the educational system. We focus on two groups: graduates of secondary school and withdrawers. These two groups are important to our analysis as comparisons between them enable us to see the immediate effects of secondary school attainment on life chances, including employment, unemployment, and the pursuit of post-secondary education. Table 8 shows us that, in the period

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1995–96, of the 41.1% of students who withdrew from school, 18.5 % were unemployed, 3.7% gained employment, and a mere 0.5% went on to post-secondary education. The remaining 21.9% were in the "other" category. The figures for graduates of secondary school—who comprise 11.6% of school leavers—for the same time period are as follows: 11% were unemployed, 9% gained employment, 60% pursued post-secondary education, and 20% were classified in the "other" category. Five years later, in the period 2000–01, we find that the percentage of unemployed among withdrawers has increased significantly from two times to three times the rate of graduates from secondary school. The ratio of graduates from secondary school who were employed to those who withdrew decreased somewhat. The percentage pursuing post-secondary education among graduates of secondary school has dropped by about 10%. In regards to the "other" category, the unknown and deceased comprise the majority of it. The decrease of over 20% in the "other" category among withdrawers over the five-year period can be attributed to changes in the proportion of unknown and deceased.

Table 8: Destination of graduates and withdrawers, 1995–2001

	Unemployed		Employed		Post-Secondary		Other*	
	Graduated secondary school	Withdrew	Graduated secondary school	Withdrew	Graduated secondary school	Withdrew	Graduated secondary School	Withdrew
1995–1996	11.39	18.51	9.13	3.71	59.89	0.53	19.59	77.24
1996–1997	13.87	29.26	11.48	3.93	52.75	0.77	21.91	66.04
1997–1998	14.85	26.95	11.14	3.56	51.98	0.67	22.03	68.82
1998–1999	16.27	36.08	9.89	7.42	49.72	1.08	24.11	55.42
1999–2000	16.20	46.06	12.88	6.76	51.22	0.76	19.69	46.42
2000–2001	15.26	39.14	11.97	6.12	48.41	0.50	24.36	54.24

* The category "Other" comprises the following categories: "still in school," "job skills" and "unknown/deceased."

Discussion/Policy Implications

The importance of ecology is underscored in this paper. We found that there is a relationship between the distance from a band to a major centre and attendance at different types of schools. Excluding isolated communities, we found communities that are the closest and furthest away from a major centre have higher rates of provincial attendance than band attendance. This is important because schools differ in terms of the educational success of their students. These trends require further study for any solid conclusions to be made. Our understanding of the role of human ecology in educational outcomes is especially salient in the context of First Nations, given the vastly different degrees of isolation. In those communities where there is no

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permanent link to the general Canadian economy and population centres, we would expect the economy and resources to be at a general disadvantage compared to those bands with more interaction. This appears to be the case when we compare provincial and band schools.

What are the sources of difference in this study between school types in terms of educational success? First, provincially operated schools tend to be reluctant to hold students in the same grade for more than one school year, even if their grades are below passing level. For this reason it is likely that provincial schools have higher age-appropriate rates than band operated schools. However, using a base age of seven years in our age-appropriate calculation should have accounted for some of these differences. Second, being further from economically developed centres, as in the case of band schools, tends to isolate the community from the greater society and the benefits therein. For example, given the higher educational rates in urban centres relative to rural areas, the emphasis on educational attainment would probably be less in the latter. Most importantly, band schools tend to suffer from, and are affected by, the poor socioeconomic status characteristic of so many First Nations communities; hence, it is no surprise that rates of educational success in terms of age-appropriate rates were found to be lower than provincial and federal and/or private schools.

Practically speaking, policy-makers cannot change the distance from a band or band school to a major centre. What they can do, however, is identify the implications of such distance, and use this information to increase the resources available to the communities in a manner that would foster increased educational success. Further research on the spacing of bands and schools from major centres is needed. Our documentation of the trends of school types by band proximity to a major centre is a mere starting point for further analysis.

Our analysis suggests that Aboriginal language does have an impact on educational attainment, but further study is needed to discover what factors are involved before any concrete conclusions can be made. The tables document trends in the relationship between language and age-appropriate rates, where both provincial and band schools report higher age-appropriate rates of graduation with some component of language reflected in the curriculum. Students in provincial schools have higher age-appropriate graduation rates than band schools at all levels of Aboriginal language instruction, except where it is provided as a subject and full-time medium of instruction. The latter group has the highest age-appropriate graduation rate out of both school types —98.04%! This is probably because of the congruence between the school and the cultural milieu and isolation of the community. Given the relatively high isolation of band schools from major centres, compared to other types of schools, the cultural component of the institution is probably crucial to maintaining students interest.

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The differences between provincial and band schools in terms of age-appropriate students must be interpreted cautiously. What this tells us is that more resources must be allocated to support band schools. Only by articulating differences between the two types of schools (e.g., resources) and the communities in which they function, can we make solid conclusions regarding the effectiveness of band schools and provincial schools. What such an analysis would suggest is that educational policy can only be examined in the context of other social policy.

Our data on educational success, in terms of age-appropriate rate by extent of Aboriginal language instruction, was revealing but simplistic. When we introduced school type into the analysis, we gained a better understanding of the effects of language on age-appropriate rates. First, higher age-appropriate rates were observed with some form of Aboriginal language instruction, although this was more conclusive with band schools. This concurs with earlier research that schools should include some form of cultural content, as indicated by language instruction, that reflects the Aboriginal communities they serve. Indeed, students will be more likely to succeed in an institution that bears some relevance to them. Second, provincial schools do not appear to be affected nearly as much by the extent of Aboriginal language instruction as band schools. This finding can be explained, in part, by the geographical location and characteristics of the populations attending these two types of schools. Band schools tend to be more isolated from major centres than provincial schools, and so the effects of such distance tend to make many parts of the educational system seem somewhat irrelevant to students. Hence, the importance of including some form of cultural content into the curriculum would increase interest and, consequently, age-appropriate rates. On the other hand, provincial schools are demographically more diverse and closer to major economic centres than band schools. Thus, content of the educational system tends be more applicable and the relevance of cultural content, as indicated by traditional language instruction, may be mitigated. Finally, we observed that the effects of having some language instruction, and language as a subject and full-time medium of instruction, are critical points in terms of the positive effects on age-appropriate rates. Further study of these critical "points" by researchers may spur policy-makers to implement language programs accordingly. What these findings also confirm is that provincial and band schools are different; therefore, these differences must be reflected in future research and policy.

Our updated work on school leavers reveals that not much has changed over the years in terms of graduate rates, but withdrawal rates have tended to fluctuate between 1990–91 and 2000–01. Unfortunately, there has been no significant increase in school leavers who graduate or a significant decrease in withdrawers, although the span of the data makes us weary of overstating any long-term trends. However, what we can see from the evidence provided in this study is that graduates from secondary school have several advantages;

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that is, they tend to gain employment at a higher rate, suffer from unemployment at a lower rate, and, most importantly, are very likely to pursue a post-secondary education. Hence, these findings confirm the evidence articulating the payoffs of attaining a secondary school education.

Employment, unemployment, and the pursuit of post-secondary education can be used as indicators, or proxy measures, for many other outcomes in a community, including socioeconomic status and health status. Ensuring the retention of students in the educational system must continue to be a policy priority. Overall, the results of this empirical study confirm those of qualitative research and studies in the U.S.: education policy changes and incentives that keep children who live on-reserve in school until graduation are necessary and worthwhile. Policy must continue to foster higher graduation rates and lower withdrawal rates, given that graduates will tend to be productive citizens and readily able to contribute to the socio-economic development of the community.

The decrease in graduates attending post-secondary school is worthy of closer examination. The accumulation of human capital at post-secondary institutions is an important ingredient for individual and community success. It appears as though graduates of secondary school who do not attend a post-secondary institution are accounted for primarily in the "Other" category, somewhat in the unemployed, and little in the employed categories.

We acknowledge that interpretations of the trends related to unemployment, employment, and the desire to pursue post-secondary education should also consider the influences of the broader cultural, economic, and political forces of society. This could be the basis for a study with a focus on the structural barriers and incentives to pursuing post-secondary school among First Nations.

Our analysis shows that using different indicators of attainment and success can yield somewhat different results, for example, our comparison of age-appropriate rates and withdrawal rates among provincial and band schools. This finding is important as it demonstrates the utility of using multiple measures to evaluate the success or failure of policies and programs. Thus, we do not advocate that researchers and policy-makers use only one indicator of success as it may be capturing an incomplete picture of the trends. Further, we have illustrated that traditional indicators of success, such as the Canadian Test of Basic Skills, can be supplemented or supplanted by alternative measures of success, such as those presented in this paper.

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Conclusion

Our understanding of the factors associated with educational attainment can help us to identify and stimulate further research specific to each of the variables outlined in this paper. This work should be seen as a starting point for further analyses. Indeed, we have outlined avenues for further research throughout our discussion. What we can identify from our work is two courses of research warranting great attention. First, qualitative investigations that assess the differences between provincial and band schools, as well as the experiences of Aboriginal students in different settings, must be done. This is the only way we can understand the social processes generating educational outcomes, as well as the similarities and differences in educational success between students, schools, and the communities from which they come. Further, this type of research is necessary to arrive at comprehensive and meaningful criteria in order to evaluate schools.

The striking point about the Canadian assessments of First Nation and Aboriginal education is the lack of any real modelling of reasons for the particular patterns of educational attainment. Much more work has been done studying the U.S. Native population and key U.S. ethnic minorities (including Hispanics and Blacks). Indeed, the second course of research we identify as a priority is related to modelling community characteristics on educational outcomes. The accrued benefits of high educational attainment are significant for any band. Educational attainment is a primary determinant of many community outcomes, including economic development and population health. Thus, improving the rates of educational success of Aboriginal students at all levels of the system is paramount. We know that the structural components of society impact greatly on the decisions individuals make in their day-to-day lives, as decisions are always made in a given social context. If that social context is not supportive or conducive to staying in school then we can expect educational attainment to lag behind the rest of the Canadian population. Educational attainment, therefore, must be assessed within the context of the community in which it is embedded. We are currently pursuing this avenue of research and believe that it must be a basis for policy making.

There are many variables that influence the success or failure of policies and programs; identifying the decisive ones is essential. Policies and programs will have to be fluid and able to meet the new challenges of Aboriginal students as society continues to change. The efficiency of these programs and policies in ameliorating social problems will be as good as the research that informs them. Thus, we strongly advocate the allocation of resources towards further research in the area of education among First Nations communities. We are only beginning to scratch the surface in terms of understanding the complexities of this issue.

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Endnotes

1. See http://justice.gc.calen/const/annex_e.html, for a copy of the Act.
2. The federal government subsequently enacted the *Indian Act* and has maintained that its statutory authority in education extends only to those individuals defined as "Indians—persons with status—within the terms of the *Indian Act.*" Federal responsibility is limited by 91(24) and by the Indian Act section 4(3). Sections 114–122, which further assigns jurisdiction, is based on residence.
3. It should be noted that all appropriate safeguards were in place to ensure the confidentiality of the data records. No individual files have names attached and only aggregate data for each community were used in analysis. Communities, where the population was under 100, were excluded from the report as it was felt that small numbers might pose confidentiality issues.
4. This work is the first part of the process. The next step would be a comparison between band-controlled government curriculum and community-controlled curriculum.
5. The 1971 statement of National Indian Brotherhood, "Indian control of Indian education," was the most succinct statement of First Nations attitude towards local control, involvement in curriculum, training in teaching and counselling, and establishing day schools in communities. (White and Cook 1976).
6. The White Paper was put forth by then Minister of Indian Affairs, Jean Chretien, as a "statement of the government of Canada on Aboriginal Policy." The focus was threefold: eliminate treaty rights, eliminate DIAND and the *Indian Act*, and transfer responsibility of natives to the Provinces. The Native Chiefs of Alberta countered this statement in 1970 with the "Red Paper." The Red Paper called for increased protection of existing rights and enhancement of federal government First Nations negotiations.
7. The Saskatchewan Department of Education has special agreements with some urban school boards to provide special financial and other support to community schools for meeting the needs of the more needy students, including First Nations students, in their schools. Nineteen schools in Regina, Saskatoon, and Prince Albert are in the program and the Roman Catholic Board of Saskatoon has established Joe Daquette High School, which is an alternative high school for Aboriginal students (King 1993).

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8. The equation for the age-appropriate measure:

   Total = Age-appropriate + Not Age-appropriate

   Age-appropriate = (Age-7) - Grade < 0

   Not age-appropriate = (Age-7) - Grade >=0.

   We used a more generous 7 years, instead of the usual 6 years, as our age-appropriate base level for Grade 1 in order to account for the likelihood that students on-reserve would not be age-appropriate compared to the rest of the population as a result of a higher rate of absenteeism.

9. The federal and private school types account for only about 4% of the total age-appropriate students.

10. Traditional language use is an indicator of the degree of culture reflected in the educational system. Schools are examined on the amount of time dedicated to First Nation language activities. There are six categories for this variable: not used, more than ½ time, less than ½ time, subject only, subject and part-time medium of communication, and subject and full-time medium of communication.

11. Although there are a small proportion of the cases in the categories ½ time, less than ½ time, subject and part-time medium of instruction, and subject and full-time medium of instruction, we will still interpret the data.

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