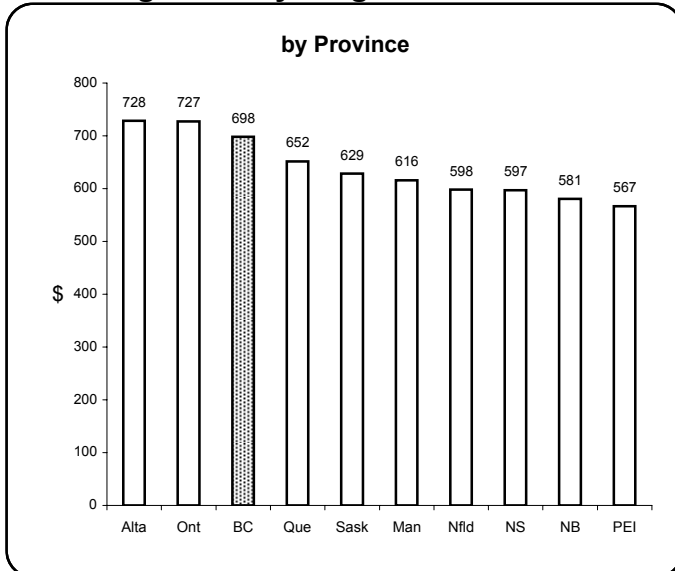
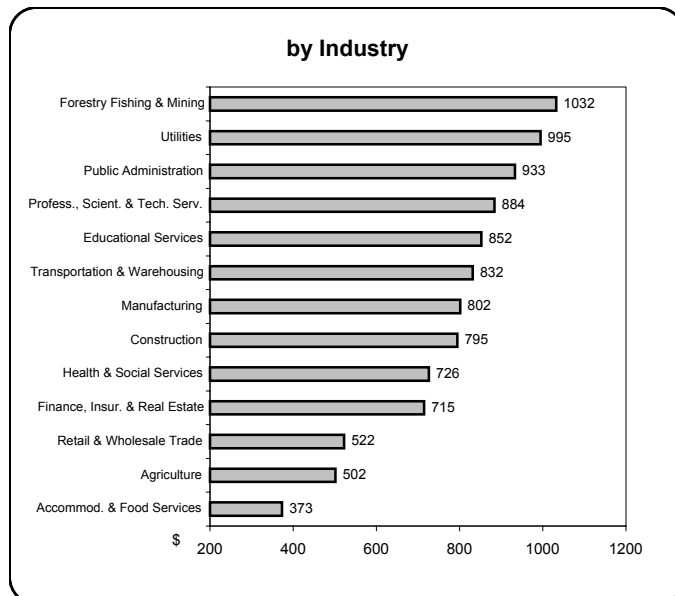
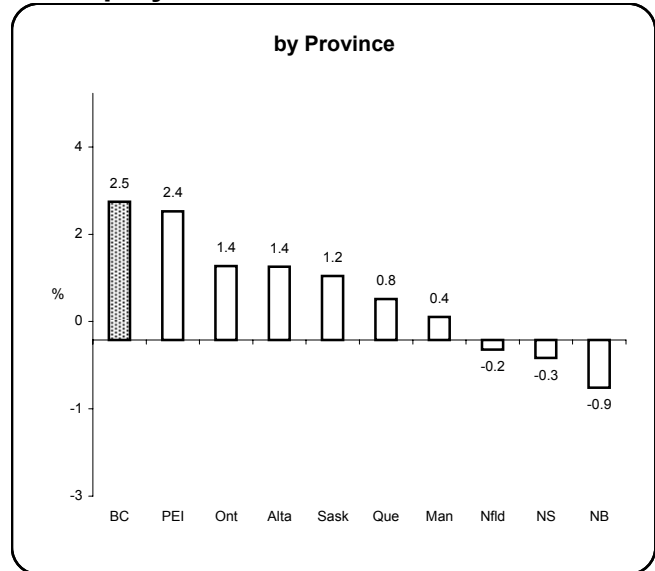


Earnings & Employment Trends ♦ June 2005

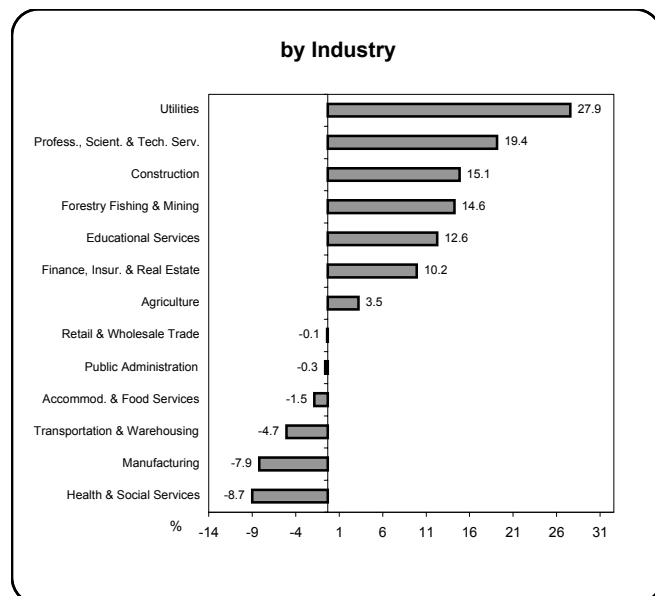
Average Weekly Wage Rate* - June 2005



Employment Growth* - June 2005



* Latest 12 month average



* Month over same month previous year (unadjusted)

Prepared by: BC STATS

Source: Statistics Canada Labour Force Survey

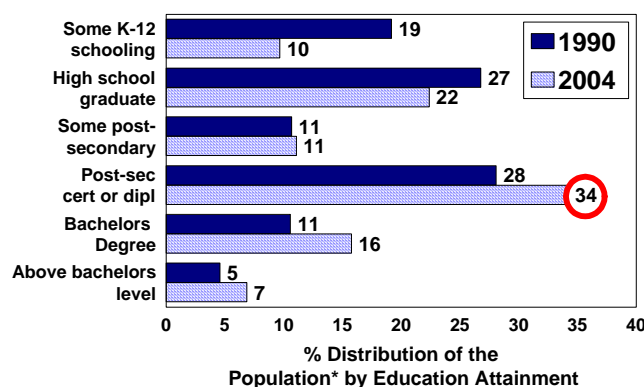
Feature Article: The Value of BC's Certificate and Diploma Post-Secondary System

The Value of BC's Certificate and Diploma Post-Secondary System

Introduction

In recent years, there has been a considerable shift in the level of education attainment of the BC population. Having a post-secondary credential of some form or another has become the norm among the prime working-age population, with 57 per cent now claiming either a university degree or a post-secondary certificate/diploma¹.

More than one-third of BC's population now have a post secondary certificate or diploma as their highest level of education, by far the largest grouping.



*British Columbia Population, age 25-54,
Data Source: Statistics Canada, Labour Force Survey

Research on this large sub-sector of the population most often profiles university degree holders—the hierarchy of degrees is highly structured, and, hence, relatively easy to categorize and analyze. Where we fall short in our understanding of the post-secondary system is of the attributes and characteristics of those who have a post-secondary certificate or diploma. The

¹ 'Post-secondary Certificates/Diplomas' terminology is used throughout this paper and usually denotes credentials obtained through the public "colleges, university colleges and institutes", through private institutions, and through the universities at the undergraduate level. Statistics Canada data includes all these groups. However, when reference is made to data from the College and Institute Student Outcomes (CISO) database, the private institutes and university certificates/diplomas are not included, nor are the apprenticeship certificate/diplomas from the colleges.

adjacent chart shows that every third person falls into this category, which is now, by far, the largest group.

The main reason we do not know much about this group is that data are usually only available on the group as a whole, primarily because it is so difficult to categorize it into manageable sub-groups. College graduates' skill types and skill levels are extremely heterogeneous and credentials are accredited by a myriad of diverse public and private institutions. For example, within the public college and institute system in 2004, there were 1,120 different programs offered by the 22 different institutions. These programs covered close to 300 different fields of study² at different levels, levels which can best be categorized according to the length of time it takes to obtain the credential. In the public sector, certificate/diploma programs range in duration from one month to three years. As well, the 'programs' offered are very fluid from one year to the next, with new ones being added and others being taken off the roster continually. And these numbers cover only the public portion of the system.

While the college and institutes system poses challenges for analysts, its diversity and lack of rigid structure is its strength. It is essential that the institutions at the college level have the flexibility to be able to respond quickly to the emerging needs of local employers for skilled labour and adjust their program mix accordingly.

² According to the US Dept of Education's Classification of Instructional Programs (CIP's)

So, although it is only possible to do analysis at a fairly general level on this sector, this report will attempt to shed light on the labour market success of the BC population who hold post-secondary certificates or diplomas. But first, a brief summary is provided of the system itself.

The Structure of the Public College and Institute System in BC

To understand how large and diverse the public college and institute system is in BC, this section outlines the number and program distribution of students flowing through the system each year.

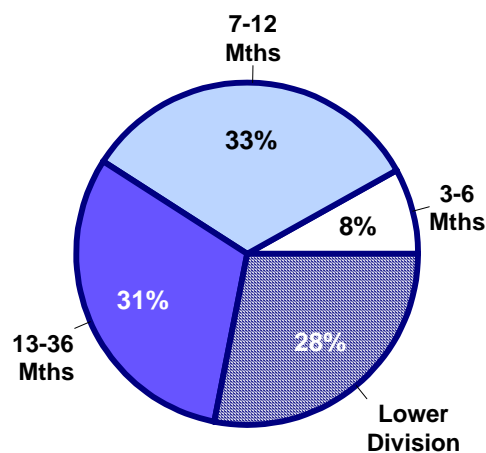
On average, between 2001 and 2004, the BC colleges and institutes produced approximately 27,500 graduates³ per year across a wide range of programs. As well, approximately 2,000 apprentices complete the education module towards their trades ticket each year. About one in four completed the Lower Division of an Arts and Sciences program which in many cases is used as credit towards a university degree. The remainder completed applied programs most of which are designed to prepare students to directly enter the job market.

In each of the program areas shown in the adjacent table, except for the Arts and Sciences program, there is a vast array of programs available, and those range in duration, and hence skill levels achieved.

% Distribution By Certificate/Diploma Program Area of Graduates* from the Public Colleges, University Colleges and Institutes System of BC		
4 Year Annual Average 2001 - 2004		
	<u>Number</u>	<u>% Distribution</u>
Total	27658	100.0
Arts and Sciences	7666	27.7
Business and Management	4347	15.7
Health Related (Excluding Nursing)	2072	7.5
Mechanical and Related	1801	6.5
Recreation, Tourism, Hospitality and Service	1738	6.3
Engineering, Electrical and Electronics	1737	6.3
Legal and Social	1619	5.9
Construction and Precision Production	1498	5.4
Education and Library Science	1153	4.2
Visual, Performing and Fine Arts	991	3.6
Nursing	958	3.5
Computer and Information Services	893	3.2
Agriculture, Natural Resources and Science †	687	2.5
Communications	425	1.5
Transportation	75	0.3

*Graduates & near graduates from the BC Colleges and Institutes - 2001-2004 excluding those completing an Apprenticeship program.
Source: College and Institutes Outcome Survey database, BC STATS

% Distribution of Graduates by Length of Program



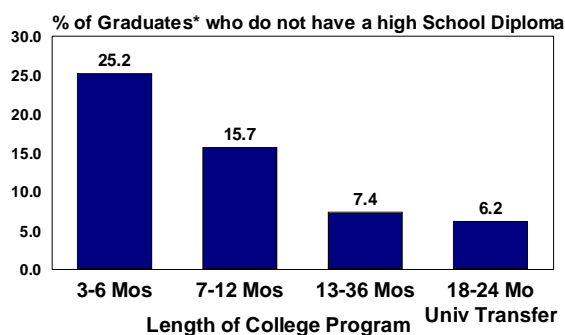
Source: College and Institutes Outcome Survey database, BC STATS

The distribution across the system by duration of program is shown in the pie chart above. Four out of 10 students go through programs of one year or less and a full 8 per cent are graduates from programs of less than 7 months. The Lower Division category covers the two year program for the Arts and Sciences university transfer program.

³ Included in the definition of 'graduates' are those that completed a substantial portion of their program. In some cases, it is difficult to determine which students actually did complete their program, particularly among Arts and Science students who sometimes do not apply for their credential because they are going directly on to a degree program at one of the universities.

Within the groupings of program areas listed above, students taking the shorter programs of a year or less are concentrated in the Health Related area, which trains many Home Support/Resident Care Attendants and related; the Mechanical & Related and Construction & Related program areas, most of which are Entry Level Trade Training programs designed to prepare students to enter apprenticeship programs; and the Business and Management area where a large number of students are in the lower level Accounting programs and Secretarial Services. The graduates of these shorter-term programs may very well never have graduated from high school.

The College Outcomes data show that the shorter the program, the higher the probability that the graduate does not have a high school diploma.



*Graduates & near graduates from the BC Colleges and Institutes - 2001-2004
Source: College and Institutes Outcome Survey, BC STATS

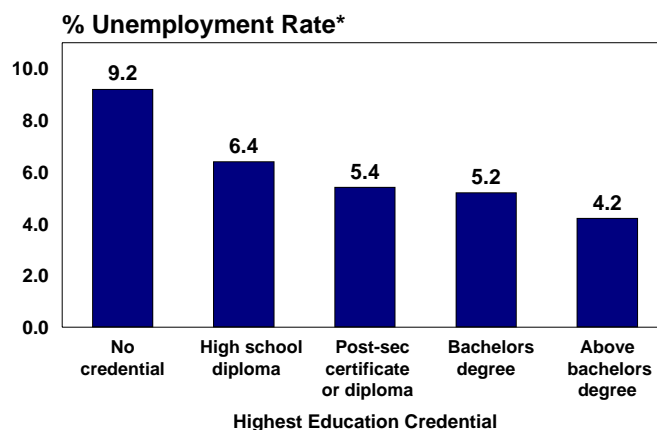
The remainder of this report examines post-secondary certificate/diploma holders, including those who have not obtained a high school diploma. The data from Statistics Canada's Labour Force Survey provides strong evidence that splitting the population who have a college level credential into two groups—those with a high school diploma and those without—provides an effective delineation of this very large group into the lesser skilled and the more skilled. It is not perfect, but it is a way to start dividing the group into more homogeneous levels of education and skills.

How are those with a Post-Secondary Certificate/Diploma performing in the Work Place?

The main performance measure usually used to evaluate graduates' success in the labour market is their unemployment rates (whether or not those who want a job are able to find a job). The theory is that the higher the skill level, the easier it will be to find a job and once in a job, the more likely it will be a permanent job. Canadian data consistently back up the theory.

The next chart shows the unemployment rate associated with the standard ranking of the level of education. To the right, along the horizontal axis, the education level increases. As one would expect, the probability of being unemployed declines with the attainment of a post-secondary credential. An unemployment rate in 2004 of 5.4 per cent for those with a post-secondary certificate or diploma, indicates that this group was about 1 percentage point less likely to be unemployed than those with a high school diploma and only slightly more likely (0.2 percentage points) than those holding a bachelor's degree.

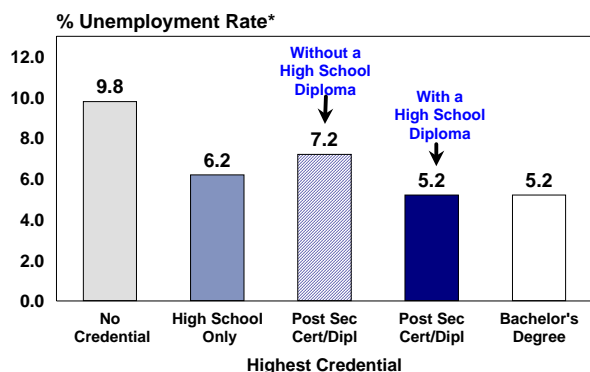
As one would expect, the higher the level of education, the better the labour market outcome.



*For the BC Labour Force, Age 25+ -- 2004
Data Source: Statistics Canada, Labour Force Survey

There are no surprises in the chart, but the picture changes considerably when the post-secondary certificate/diploma group is split into those with a high school diploma and those without, as below. This shows that the attainment of a high school diploma significantly impacts the outcomes of college graduates—the former has an unemployment rate of 7.2 per cent and the latter a rate 2 percentage points lower at 5.2 per cent.

Among persons with a Post Secondary Certificate/Diploma, those without a high school diploma find it considerably more difficult to find work than those who have one.



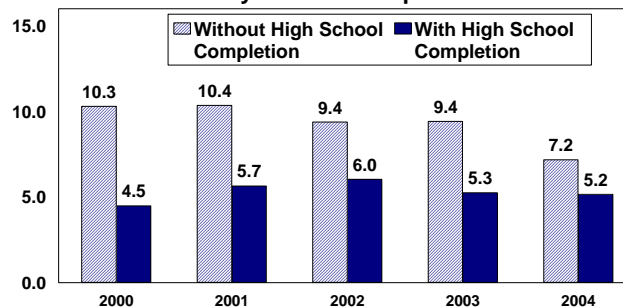
*For the Non-Student BC Labour Force aged 25-54 -- 2004
Data Source: Statistics Canada, Labour Force Survey

The next chart shows that this discrepancy is consistent over time. In fact, in 2004 the difference is not nearly as pronounced as it had been historically. That could have something to do with the buoyancy of the labour market in 2004 compared to the previous four years.⁴ But, suffice it to say that in BC, as well as every other province across Canada, there has been a consistently significant gap, since at least 1990, in the unemployment rate between these two groups.

⁴ In a tight labour market where labour shortages begin to appear among the more highly skilled workforce, the lesser skilled are hired in lieu and the gap between the two groups diminishes.

For those with a post secondary certificate/diploma, there is a consistently large gap in the unemployment rates between those who have a high school diploma and those who don't.

Unemployment Rate (%) for those with a Post Secondary Certificate/Diploma



*For the Non-Student BC Population aged 25-54 with Incomplete Post Secondary Education-- 2004
Data Source: Statistics Canada, Labour Force Survey

The adjacent chart also reveals that when the college level credential is split into two, it no longer is unequivocal that a bachelor's degree significantly improves the probability of finding work compared to a college level credential, at least for the better educated sub-group. Both had an unemployment rate of 5.2 per cent. In the four years leading up to 2004, two of the years saw a higher rate for the bachelor's degree and the other two for the certificate/diploma sub-group. On average over the five years, the certificate/diploma group had a slightly lower unemployment rate.

Another important finding presented in the adjacent chart is how a post-secondary certificate or diploma, at least on average, is not a substitute for a high school diploma in providing stable employment. Between 2000 and 2004, the average unemployment rate for those with a high school diploma only (6.7%), was lower than the rate for those with a post-secondary certificate or diploma but no high school completion (9.3%). This pattern is similar right across Canada.

The size of this population who have completed post-secondary but never completed high school is not very

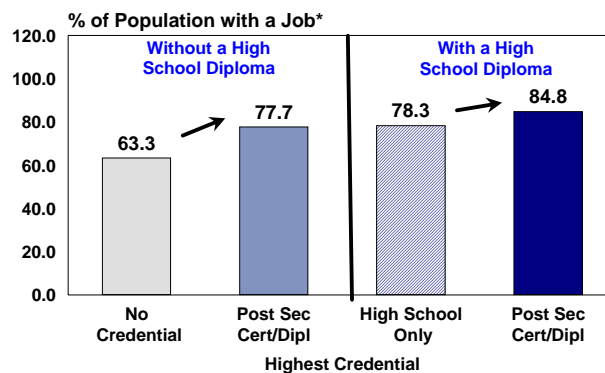
significant in the overall scheme of things. In terms of the prime working-age population, those aged 25–54, the proportion in these circumstances has remained fairly constant at between 4 to 5 per cent over the last 15 years. Among college graduates, about one in ten has not completed high school.

The fact that this population is not as successful in finding and holding jobs as those who have completed high school and not completed post-secondary, in no way detracts from the value of this type of post-secondary credential. There are many programs in the college system that do not require a high school diploma as a prerequisite, allowing persons who were unable to complete high school, for whatever reason, the chance to improve their earning potential and quality of life. The next section demonstrates what an important role the colleges/institutes play in providing these second chances to people who are at high risk of spending their working lives either chasing non-permanent, low-paid jobs and/or having to rely on the public safety net.

What are the benefits of obtaining a Post-Secondary Certificate or Diploma?

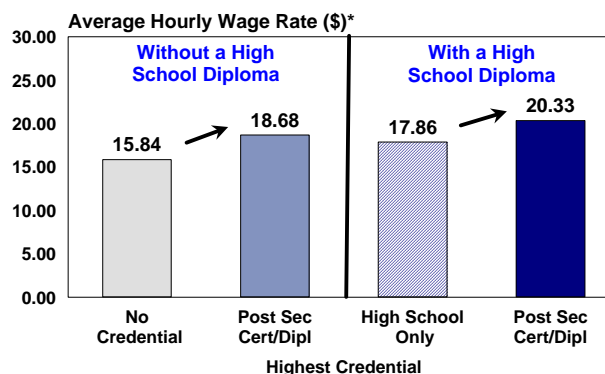
The additional amount of work available and the improved wages earned by those with a post-secondary certificate or diploma are displayed in the following three charts. These charts are designed to draw attention to the two main routes available for attaining a post-secondary certificate or diploma to emphasize the benefits of the credential compared to the alternative. The data cover the 5-year period of 2000 to 2004. The first chart shows the average probability of having a job and the second one the average wage rate for the groups.

The attainment of a post secondary certificate/diploma, increases the probability of having a job by 14 percentage points for a non-high school grad and by 7 percentage points for a high school grad.



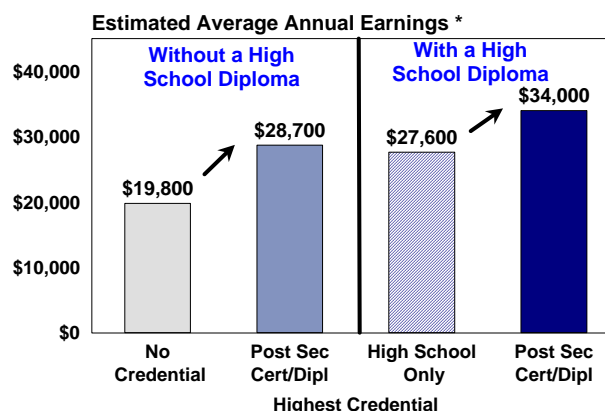
*Among the Non-Student Population aged 25-54 -- 2000-2004 5 year average. Data Source: Statistics Canada, Labour Force Survey

Once on the job, those with a post secondary certificate/diploma, on average, earn \$2.80 and \$2.50 more per hour than what they could earn without the credential.



*Among Non-Student Employees, aged 25-54 -- 2000-2004 5 year average. Data Source: Statistics Canada, Labour Force Survey

A post secondary certificate/diploma, increases potential annual earnings by a substantial amount, over and above what could be earned without the credential.



*Among the Non-Student Population, aged 25-54 -- 2000-2004 5 year average. Data Source: Statistics Canada, Labour Force Survey

By combining the data from these two charts, the annual earning potential can be estimated. The method is to convert the employment rate into the per cent of hours of work available in a year multiplied by the wage rate for each of the four groups.⁵

For those without a high school diploma, the attainment of a college credential increases earning potential by approximately \$9,000 per year over the remainder of their working life. For those with a high school diploma, to continue on and get a college credential increases earnings by \$6,400 per year.

Besides the benefits accrued to the individual, the returns to society as a whole would potentially be substantial. There would not just be the additional tax revenue earned on the additional earnings per year, but in the case of high school dropouts, the extra income earned per year from a post-secondary certificate or diploma could raise the individual out of poverty and reduce the high social costs associated with poverty, such as income assistance, poor health and increased crime.

At the time of the 2001 Census, 20 per cent, or one in five people age 25–54 had no educational credential of any kind. That 20 per cent represents a very large under-utilized resource in our economy that potentially could become productive workers with a college/institute training program of less than a year. While that 20 per cent seems fairly high for the overall population, it is nothing compared to the situation amongst Aboriginal people. Close to one half (45%) of First Nations living on reserve had no credential. For Aboriginal people living off reserve, their rate was less severe but still, at 36 per cent, every third person did not have an educational credential.⁶

With the BC economy expected to boom in the years leading up to the 2010 games and labour shortages already becoming a reality, particularly in the construction trades, now may be the opportune time to encourage those without a credential to obtain an applied college certificate or diploma.

⁵ The average number of hours worked per year for this prime working age group is approximately 38 hours per week. The calculation used here to determine the earnings for those without a credential is $38 \text{ hrs} \times 52 \text{ weeks} \times .633 \times \$15.84 \text{ per hour} = \sim \$19,800$ annual earnings. Note that using a constant of 38 hours across all different levels of education is not the preferred methodology. One would expect the lesser the education level, the fewer hours of work per week would be available, so the difference in potential earnings as education levels rise as presented above, is most probably understated. The appropriate data would have to be ordered through a custom tabulation from Statistics Canada to further refine these estimates of annual earnings potential.

⁶ A supplementary report, soon to be available, provides a brief overview of Aboriginal people's participation and potential to participate in the BC College and Institute system.