

Student Transfer, Success, and Mobility in BC Post-Secondary Institutions

A Synthesis of Research

*Prepared by Bob Cowin
February 2013*



Research by

BCCAT

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Summary

British Columbia's post-secondary transfer system is distinctive in Canada, and is likely as extensive as any in the world. This report is a synopsis of what the BC Council on Admissions and Transfer (BCCAT) has learned about admissions and transfer in the BC public post-secondary system through research that BCCAT itself has sponsored and through research which others have done with the support of BCCAT.

The research outlined below shows that transition rates of BC high school graduates into post-secondary education are fairly high: roughly 50% transition within a year of graduation and another 25% after a gap of one or more years. At a minimum, another 5% enter a private institution or pursue studies out of province, making for an overall transition rate of 80% or higher.

Compared to immediate entry students, students who delay their post-secondary transition are more likely to choose institutions other than research universities. Delayed transition patterns are especially important in understanding the educational achievements of Aboriginal students.

Some preliminary analysis of non-high school graduates in post-secondary education suggests that about one quarter are in developmental or upgrading programs, one third in non-credit or continuing education programs, and close to 40% in undergraduate programs designed for high school graduates – evidence of the success of the level of access provided by BC's public post-secondary system.

Looking at what happens to students after they have entered a post-secondary institution, it appears that half return to their original institution the following year, around 20% move to another institution, a little over 10% exit with a credential, and 20% either drop out or stop out for at least a year.

As data sources have improved, better understanding of patterns of student movement among institutions and programs has fostered two major re-conceptualizations of the BC post-secondary system:

- multi-directional models of student movement have replaced older, uni-directional studies of students transferring into research universities from two year programs, and
- institution-specific understandings of retention and program completion have given way to a system perspective, i.e., a student who leaves an institution without a credential may not be a drop-out but simply a mover.

The subset of BCCAT research studies about student experiences and success in transferring course credits among institutions help to assess the efficiency and effectiveness of student mobility. The findings have been largely positive: most requests for credit transfer are granted, students are generally satisfied, academic outcomes have been good, and follow-up studies conducted one to five years after leaving post-secondary institutions reveal similar outcomes regardless of the educational pathway chosen.

Access to and efficient movement between BC's public post-secondary institutions is not perfect, and numerous areas are worthy of further investigation, but the extensive empirical evidence to date suggest that the environment is supportive of success for a wide range of students.

British Columbia's post-secondary transfer system is distinctive in Canada, and is likely as extensive as any in the world.

Introduction

A Distinctive Student Transfer Environment

British Columbia is distinctive in the North American post-secondary context because of its highly developed system for students not only to move among institutions but also to transfer credits. It is this aspect of BC post-secondary education that BCCAT strives to foster and enhance.¹

BC's transfer environment does resemble those in parts of the USA, especially in the west, but it is not identical:

- BC students are less academically and socioeconomically stratified across institutions and post-secondary sectors, so the prospect for student success after transfer is higher.²
- Because the province is geographically isolated from other jurisdictions, students are likely (in most of the province's regions) to complete their post-secondary education within BC. From a research perspective, this means that there is less "data leakage" as students move away. Also, the province's largely public post-secondary education system with few private providers (except in short vocational programs) means that it is possible to obtain a fairly comprehensive picture of student transfers and flows.

Thus patterns and data that may be familiar in other jurisdictions may or may not reflect the BC situation. Some patterns will, of course, be universal or similar. However, one should not simply assume that circumstances elsewhere also apply to BC.

So put away your preconceptions, start afresh, and let's see what BCCAT has been able to learn about student transfer, success and mobility in BC. By and large, the news is positive ...but the world is changing, so success should not be taken for granted. Educators need to be informed about the current situation if they are to plan effectively for the future.

British Columbia has taken the California model and developed it into what is possibly the most extensive credit accumulation and transfer arrangement in the world.

~ Bekhradnia Bahram,
Higher Education
Policy Institute,
United Kingdom, 2004]

¹ Since 1989 BCCAT has encouraged a system-wide cooperation through the maintenance of transfer agreements that ensure students who take equivalent courses and/or blocks of courses at one institution will be granted credit at another in order to continue their education.

² For example, the four BC colleges that have participated since 2010 in the Community College Survey of Student Engagement all had lower rates of remedial coursework in English and Mathematics, and three had higher levels of parental education, than the American average. Several of BC's colleges and teaching intensive universities were established more to address geographical than social and academic barriers to post-secondary participation.

BCCAT's Research Program

BCCAT's original desire for information about patterns of transfer student movement and success in the province was for a practical reason, which it described as follows:

IF it can be shown that students who first attend a college:

- 1. are able to transfer without difficulty, and*
- 2. subsequently perform well in their academic studies*

THEN

- the public will retain confidence in the community college system*
- degree granting institutions will readily accept community college students*
- and the entire system of post-secondary education can work in a more coordinated fashion to improve access for students in a cost-effective manner.*

BCCAT. Accountability of the BC Transfer System. 2005

BCCAT's research dates back to the early 1990s. Some topics have been studied a single time, while others have been repeated or updated periodically in light of changes in the post-secondary environment.

Council's early research centred on what were entitled "transfer student profile" reports. These studies examined mobility and transfer into research intensive universities, looking at such topics as the numbers of students and amounts of credit transferred, and comparisons of direct entry and transfer students in terms of academic success and credential completion. As other types of institutions came to confer bachelor's degrees, the focus broadened but the new studies had to be retrospective examinations of the pathways of graduates because these other institutions did not have a separate admissions category for incoming transfer students.

Questions of student success became more nuanced through such means as controlling for differences in high school grades, i.e., adjusting for the different mixes of academically strong and weak students choosing different post-secondary pathways.

Analyses of student survey results became a way of gathering qualitative data about student experiences of admissions and transfer, e.g., about their levels of satisfaction or about their academic and social engagement at university. Some of the results could be triangulated with objective assessments of transcripts that determined what credits did and did not transfer, or whether transfer students ended up completing more credits before earning their credential than did direct entry students.

Another early survey focus, that sought to assess the impacts and effectiveness of the transfer system from many angles, concerned outcomes after graduation.

Over the past five to seven years, new student-by-student databases such as the Ministry of Advanced Education, Innovation and Technology's Central Data Warehouse (CDW) and the collaborative Student Transitions Project (STP) have allowed knowledge of transfer students to be viewed in the larger context of the flow of "mobile" students to and from the full set of public institutions, and increasingly over an extended period of time.

Although this overview presents information thematically rather than chronologically, it is helpful to recognize that BCCAT not only seeks to extend and broaden its research, but also attempts to revisit and refine past findings in light of new perspectives and data sources. Rather than a fixed framework with successive studies filling gaps in the data, the nature of the research program is itself evolving.

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Scope of this Overview

The following highlights were excerpted from key documents that are publicly available on the BCCAT website in its Research and Publications section (www.bccat.ca/publications/) or on the websites of two other BC groups in which BCCAT plays an active role, both by contributing staff time in support of their research and commissioning studies using their data or established survey instruments. The groups are:

Student Transitions Project – a collaborative research project that link student records from the K – 12 system to those from the post-secondary system in a privacy protected manner (www.aved.gov.bc.ca/student_transitions/welcome.htm)

BC Student Outcomes – a consortium that surveys former students (outcomes.bcstats.gov.bc.ca/Default/Home.aspx)

Each of these groups collects data about the flow of students into and among post-secondary institutions. These aspects of their research are directly relevant to BCCAT’s mandate, and thus BCCAT supports them to avoid duplication of effort and to learn from their findings.

The scope of this paper is limited to students and their experiences in entering and moving among post-secondary institutions, plus their outcomes in terms of graduation and subsequent activities. Thus other aspects of BCCAT’s work, such as proposals for new policies and practices at institutions, are not described here. While this other work eventually affects the student experience, the focus here is on the students themselves.

The scope of this paper is limited to students and their experiences in entering and moving among post-secondary institutions, plus their outcomes in terms of graduation and subsequent activities.

This overview is intended as an introduction to both the findings and the studies themselves, falling somewhere between an annotated bibliography and a full synthesis. It references only the most recent or foundational reports, seeking to provide an adequate briefing for readers who will not be looking at the source documents while simultaneously providing a roadmap for those who will be seeking further information.

A NOTE ABOUT TERMINOLOGY

Transfer is simply a particular way of entering a post-secondary institution. To the extent the data permit, this paper uses *admission* to mean all entry to post-secondary institutions, *mobility* to mean admission to one institution after having recently attended another one, and *transfer* to mean the group of mobile students who receive credit at their subsequent institution for courses completed at their original institution.

When *mobile* students switch institutions, they may or may not transfer credits. In everyday parlance in British Columbia, *transfer student* has a narrow and a broad meaning. The narrow usage refers only to those students who were admitted to their subsequent post-secondary institution on the basis of a particular admissions category (typically requiring at least 24 credits of transferable courses with a GPA of at least 2.00). Other students who switched institutions and transferred courses (typically less than 24 credits) are excluded from studies of transfer students defined as such on the Transfer Basis of Admission. The broader meaning of transfer students includes all mobile students who transferred credits, regardless of their basis of admission.

Where important, this overview will distinguish between the narrow and broader definitions of transfer, but it avoids doing so as much as possible in the interest of readability. The distinction is usually spelled out carefully in the source documents.

Admissions:

First Entry to a BC Post-Secondary Institution

Immediate and Delayed Transitions: The 50% and 75% Rules of Thumb

Heslop, Joanne. (2012). Student Transitions Project Research Results. June 2012.

One foundational task of BC's Student Transitions Project (STP) is to identify the proportion of the province's graduating Grade 12 class that enters a public post-secondary institution immediately after secondary school or, alternatively, after a delay of one or more years.

The annual immediate-entry transition rate has slowly, but steadily, increased from 51% for the 2001/02 high school graduates to 53% of the 2009/10 class. As a rule of thumb, it is helpful for planning purposes to think of half the graduating high school class as making an immediate transition into public post-secondary education.

Following the 2001/02 high school graduates for nine years, 77% eventually entered a BC public post-secondary institution. So in addition to the 50% rule of thumb for immediate transitions, another 25% or so wait before beginning post-secondary studies, making for a total transition rate, depending on the year of graduation, of around 75%. [See source document Fig. 5: *Immediate vs. Delayed-Entry Destinations by Post-secondary Institution Type.*]

Looking at the ratio between immediate and delayed transitions, two thirds of the graduates who made the transition into BC public post-secondary did so within a year of high school graduation. Of the one third who delayed their entry for up to a decade, most transitioned within the first three years following graduation.

Different student populations have different patterns of immediate and delayed entry. For example, Aboriginal high school graduates are less likely than non-Aboriginal graduates to make an immediate transition (40% compared to 54%). However, after five years, the gap narrows to only 7 percentage points (65% compared to 72%).

Transition rates also vary according to the region of the province. Close to 80% of those graduating from schools in the City of Vancouver enter BC public post-secondary education within five years, compared to 60% in the southeast region of the province (with its convenient access to Alberta institutions). Here, too, delayed transition plays an important role: the gap in immediate transitions rates between Vancouver (67%) and the East Kootenays (33%) narrowed over the ensuing 8 years to 19% (85% compared to 66%).

High school graduates vary in their academic readiness. The STP calculates an Academic GPA as a proxy for admissibility to a research university. It uses the student's English 12 mark combined with the other three best academic (i.e. what used to be provincially examinable) Grade 12 marks to obtain this GPA. A slight majority of graduates (52%) do not take sufficient academic Grade 12 courses to calculate the GPA. About one third (34%) had an Academic GPA of 75% or higher, and were therefore likely admissible to a research university.

One foundational task of BC's Student Transitions Project (STP) is to identify the proportion of the province's graduating Grade 12 class that enters a public post-secondary institution immediately after secondary school or, alternatively, after a delay of one or more years.

Immediate entry students were more inclined to enroll in a research university (38% of immediate entrants). Roughly equal numbers of immediate entrants went to colleges (30%) and teaching intensive universities (28%). For those students who delayed entry for one, two or three years, the patterns were different: 48% entered a college and only 11% entered a research university. However, some of those who started at a college would have ended up in a teaching intensive or research university later in their post-secondary career.

The proportion of immediate entry students choosing a research university has grown from 33% in 2002/03 to 38% in 2009/10, with proportional drops in choosing both colleges and teaching universities. In absolute numbers, the largest growth by credential type from 2002/03 for immediate entry students was in baccalaureate programs, reflecting in part the expansion of bachelor's degree programs throughout the public post-secondary system.

Private and Out-of-Province Institutions: The 5% Top-Up

The six-year cumulative transition rate for 2001/02 high school graduates reached at least 81%.

Heslop, Joanne. (2010). *Student Transitions into Post-Secondary Education Sectors – BC Public, BC Private and Non-BC Institutions. STP Research Results May 2010.*

The STP collects data only from public BC post-secondary institutions, largely because until very recently, private institutions were not authorized by legislation to assign the Personal Education Number that allows for the tracking of students among institutions. Using financial aid records for BC students at

private and out-of-province institutions, STP has attempted to estimate the number of students it is missing. At a minimum, an additional 2% of Grade 12 graduates enrolled immediately in BC private institutions and 3% in institutions outside of BC. These rates have remained relatively stable for the last six years.

Adding these private institution data to what was already known about transitions into BC public institutions, the six-year cumulative transition rate for 2001/02 high school graduates reached at least 81%.

Here again, students who delayed their transition exhibited somewhat different patterns: the longer students delayed their transition, the more likely they were to have enrolled in a BC private institution. Students enrolling in private institutions also tended to have lower grades in academic Grade 12 courses.

(Incidentally, roughly 1 in 8 (13%) of high school graduates took a gap year, or longer, before enrolling in post-secondary education. These “gappers” represented almost one quarter as many students as those who transitioned immediately.)

Of the graduates who left the province, Alberta and Ontario each received just under one third, and another 20% left the country altogether. Movement out of BC was highest for the most academically qualified.

Roughly one third of those who enrolled immediately in a BC private institution or outside BC subsequently entered the BC public system over the next five years.

Canadian Council on Learning. (2009). *Where Did They Go? Findings from a Survey of 2005/06 BC High School Graduates. British Columbia Council on Admissions and Transfer: Research Results, April 2009.*

Another method of estimating the number of transitions outside the BC public system was through a survey conducted by the Canadian Council on Learning in partnership with BCCAT. The data are not exactly comparable to those from the STP, but they confirm that the STP has been conservative in its estimates of transitions into private and out-of-province institutions.

The survey of high school graduates who had not registered in a public BC post-secondary institution after about 18 months found that 7% had enrolled in a private BC institution and 6% had left the province to study elsewhere. (Note: these percentages are not of all graduates, but rather of the 50% or so that had not shown up as transitioning in STP's records.) The Canadian Council on Learning concluded that the two-year transition rate into public BC institutions of 62% increased to over 75% when all post-secondary destinations were taken into account.

Consistent with STP's findings, students with high GPAs tended to leave the province, while those with lower GPAs were more likely to enroll in BC private institutions.

Special Populations

Aboriginal Students

Heslop, Joanne. (2009). *Education Achievements of Aboriginal Students in BC. Student Transitions Project, March 2009.*

Self- or parent-identified Aboriginal students of varying heritages represent 10% of all students enrolled in BC public and independent schools. The gap in junior and secondary high school success rates between Aboriginal and non-Aboriginal students has been well documented elsewhere, resulting in roughly 5% of all high school graduates being Aboriginal.

Of those Aboriginal students who did graduate from high school, they were more likely to have delayed their transition into public post-secondary institutions. Given sufficient time, the transition rate for Aboriginal graduates (65% after five years) approached that of non-Aboriginal graduates (72% after five years).

Aboriginal graduates were more mobile when entering a public post-secondary institution. They were more likely to enroll in small colleges (31% compared to 8% for non-Aboriginal graduates) and less likely to enroll in a research university (16% compared to 37%). They tended to enroll in shorter programs, being almost twice as likely to complete a one-year certificate as non-Aboriginal completers (56% compared to 30%). [See source document Fig 15: *Distribution of Post-Secondary Credentials Completed.*]

The transition rate for Aboriginal graduates (65% after five years) approached that of non-Aboriginal graduates (72% after five years).

International Students

STP Research Results. (2011). *International Students in BC's Education System. November 2011.*

The Ministry of Education does not directly identify international students, so STP used a proxy: non-residents of BC whose primary language spoken at home is not English. Using this definition, the number of international BC Grade 12 graduates has ranged from 700 to 1,100 in each of the eight years since 2001/02. During this period, the proportion of international graduates compared to all Grade 12 graduates fluctuated, from 1.6% in 2001/02 to 2.5% in 2004/05 and back to 2.3% in 2008/09.

International Grade 12 students from BC high schools transitioned into BC public post-secondary education at roughly two-thirds the rate of domestic students.

International Grade 12 students from BC high schools transitioned into BC public post-secondary education at roughly two-thirds the rate of domestic students.

In 2009/10, they represented 11% of all (28,100) international students in BC public post-secondary institutions. This proportion was relatively constant across sectors in 2009/10, ranging from 8% of all international students in institutes to 13% at research universities.

Each year, roughly 40% of all post-secondary international students are new to the public BC post-secondary system. Graduate programs account for only 12% of these new international students, but they have shown the largest rate of increase, doubling since 2002/03. [See source document Fig 3. *International Students Enrolled in BC Public Post-Secondary Institutions.*]

Secondary School Non-Graduates: Three Pathways into Post-Secondary Institutions

Beatty-Guenter, Patricia and Cowin, Bob. (2013). Post-Secondary Pathways of Non-Graduates from BC Grade 12. Forthcoming from the Student Transitions Project.

“Open door” admissions policies exist at most public institutions in BC, except the research universities. The policies do not mean that any student can take any course; rather, they enable students who lack Grade 12 graduation to nevertheless be admitted to the institution and take programs for which they have the pre-requisite courses or, alternatively, to take the courses needed to become admissible to a particular program. The passing of particular courses, rather than the earning of minimum grade point averages, is generally the means for accessing programs.

Rather than choosing among several different ways of identifying high school non-graduates, this first look at post-secondary students who lack high school graduation simply asked how many such students there were in post-secondary institutions and what they were studying. It is a first approximation because it was only partially able to address some technical challenges, such as the need to adjust for BC students who move away, graduate from high school elsewhere, and then return to BC for post-secondary studies, especially to enter research universities (colleges tend to attract a more local population).

About 35,000 students who attended a BC secondary school but who did not graduate from one, were enrolled in BC public post-secondary institutions in 2009/10. This number overstates what is commonly thought of as “high school dropouts” because some may have graduated outside BC, but it is a useful start towards identifying enrolment patterns: 60% went to colleges, 34% to teaching intensive universities and institutes, and 6% to research universities (some of whom may have followed the college transfer route or graduated outside BC).

About 35,000 students who attended a BC secondary school but who did not graduate from one, were enrolled in BC public post-secondary institutions in 2009/10.

The program distribution revealed three pathways into post-secondary institutions:

- 25% enrolled in developmental or upgrading programs
- 40% in post-secondary or undergraduate programs designed for high school graduates
- 35% in programs such as non-credit continuing education, contract training and other “contingent, non-core” programs that were often of quite short duration.

Longitudinal Study

A validation of the findings of the STP that large numbers of recent high school graduates eventually transition into post-secondary education comes from a very different type of study: tracking a sample of over 1,000 students from around the province who graduated from high school in 1989. Lesley Andres of UBC collected these longitudinal data, with BCCAT funding the publication of summary reports. (The BCCAT publications are part of a larger set of documents emerging from this longitudinal study and focus on the post-secondary admissions and participation aspects of the study).

While the size of the sample in the study decreased with time, as would be expected, it has the advantage of providing a comprehensive set of data about individuals, including enrolment at private and out-of-province institutions. The study began with a sample of 5,345 high school graduates. Ten years later, survey responses were received from 1,055 of the original sample. After 15 years, there were 733 respondents and after 22 years, 574.

Andres, Lesley. (2002). *Ten Years Out: Educational and Occupational Patterns of the Class of '88*. British Columbia Council on Admissions & Transfer: Research Results, July 2002.

Recognizing that studies relying on surveys and samples are not precise, but that they can nevertheless present very helpful general portrayals, a key finding from the *Paths on Life's Way* project was that post-secondary transition rates were even higher than those emerging from the STP. The immediate transition rates were higher, but more helpful are the data about delayed transitions: when tracked for a decade, 72% of the students who did not transition directly out of high school eventually became post-secondary participants.

*...after 15 years ...only
6% of those remaining
in the [Pathways] sample
had never started post-
secondary education.*

Immediately after high school graduation, one student enrolled in a private or out-of-province post-secondary institution for every seven who attended a BC public institution. After six years, the rate of attendance at BC private and out-of-province institutions increased, and after a decade, the ratio was closer to one in three. (A note of caution, however, is that the STP transition data concern only the *first* post-secondary institution attended, whereas the Andres data included all institutions *ever attended*. With the passing of time, it is normal for some BC residents to move out of BC for any number of reasons.)

Girls earned higher grades in high school than boys and were more likely to complete high school academic programs. They were more likely than males to begin their studies in a community college and within five years, had higher rates of bachelor degree completion.

Andres, Lesley. (2009). *The Dynamics of Post-Secondary Participation and Completion: A Fifteen Year Portrayal of BC Young Adults*. British Columbia Council on Admissions & Transfer: Research Results, December 2009.

The Pathways sample had declined considerably after 15 years, but by 2003, only 6% of those remaining in the sample had never started post-secondary education, and only 9% had failed to complete a credential of some sort if they started post-secondary studies. Many of these credentials had been completed in the previous few years, suggesting that a 10-year horizon for assessing post-secondary attainment is too short.

About 35% of the credentials earned by women were certificates and diplomas, compared to 25% for men – however, apprenticeship remained the purview of men and typically does not result in certificates or diplomas. About half had begun their post-secondary studies in an institution other than a university.

EDUCATIONAL ATTAINMENT 15 YEARS AFTER HIGH SCHOOL GRADUATION

Never attended post-secondary	6%
Attended post-secondary but did not complete	9%
Credential other than bachelor's degree	32%
Bachelor's degree	30%
Professional or graduate degree	23%

Respondents with at least one university-educated parent were the most likely to have made immediate post-secondary transitions, and these direct entry students were the most frequent to earn a bachelor's degree or higher (65% of men and 71% of women.) Twice as many women as men chose a university transfer route and they proceeded at a faster pace through their post-secondary studies.

Twice as many women as men chose a university transfer route and they proceeded at a faster pace through their post-secondary studies.

Andres, Lesley. (2012). *The Mosaic of Post-Secondary Institutional Attendance: A Twenty-Two Year Perspective*. British Columbia Council on Admissions & Transfer: Research Results, June 2012.

The 22-year follow-up provided more detailed analysis of the pathways than needs be reported here. Nevertheless, findings such as those who started post-secondary education at a research university were almost always enrolled continuously in post-secondary studies on a full or part-time basis for at least four years, will be of interest to some readers.

Implications

The research summarized here confirms that the goal of access has been substantially achieved in that the vast majority of high school graduates are eventually transitioning into post-secondary institutions. Survey data suggest that admissions barriers are minimal in BC, but more study is needed to determine whether improvements are advisable and possible. Subtler issues, like how students might better be matched with programs and institutions, and how success can best be facilitated once students are admitted may become more central in future research. Fortunately, the data indicate that a robust transfer system and good student mobility (as reported below) mean that any initial program or institutional mismatches can be rectified at a later time with minimal credit loss in the majority of cases.

The research summarized here confirms that the goal of access has been substantially achieved in that the vast majority of high school graduates are eventually transitioning into post-secondary institutions.

Relatively little is known about the varying processes, policies and business practices that institutions use to admit students. This makes it challenging to collect good quality data to understand the admissions experience of students. (For example, only research universities have prepared Transfer Student Profile reports because they alone have implemented the basis of admission concept that enables direct entry students to easily be distinguished from transfer students.)

To date, Council's research has mainly made visible what is occurring at the institutional level and not so much at the program level.

BCCAT's published research to date has not differentiated between the first-time entry of young students and the admission needs and goals of mature or returning students. This may become a more important consideration as the population ages and lifelong education continues to grow.

Also as the population ages, educational and labour market literature suggest that the private sector becomes a more important source of post-secondary instruction, often in the form of top- up or just-in-time learning. Information about this sector is scarce, and its role in serving traditionally under-represented populations is not well understood. Capturing the role of private and, out-of-province institutions, and online education within studies of BC enrolment patterns will likely be an increasingly important component of future research.

Finally, the continued evolution of high school graduation requirements and the growing popularity of broad based admissions policies are two potentially important waves of change which could be taken into consideration by BCCAT when developing its work plan related to admissions issues.

Student Mobility:

Entering a Subsequent Institution

Post-secondary students occasionally switch institutions and, when they do so, they frequently seek to transfer credits from the original institution to the subsequent one. This section examines the data available about the extent to which students move among institutions and later focuses on the subgroup that attempts to transfer course credits. [See *Transfer: Mobile Students Whose Course Credits are Accepted Elsewhere*, p. 23.]

Tracking the flow of students among numerous post-secondary institutions – what BCCAT calls the “mobility” of students – is complicated. The conceptual model for organizing the data, and the analytical tools for processing the data, are evolving as more robust data sets and computer technology emerge, as the structure of the BC post-secondary system changes with more institutions granting baccalaureate degrees, and as BCCAT and the Student Transitions Project develop more sophisticated ways of thinking about student flows. This section starts by describing findings from the way in which BCCAT had traditionally sought to identify mobility and concludes with the more sophisticated and complete information that is emerging at present.

Year over Year Mobility: The Original Perspective

Heslop, Joanne. (2008). *Mobility of BC Transfer Students – Fall 2006 to Calendar Year 2007. British Columbia Council on Admissions and Transfer: Research Summary, September 2008.*

Rather than consider all students who switched institutions, BCCAT traditionally limited its mobility analyses to students who had completed at least one course listed in the BC Transfer Guide. In Fall 2006, this “limited” set of students consisted of 60,000 students who were enrolled in institutions other than research universities. Of these, a little over one third (23,000) had completed 24 credits in courses listed in the Transfer Guide with a GPA of at least 2.00.

While not all these 23,000 students would want to move and transfer credits, or would necessarily be admissible at a research university, they became the focus of analysis because there is a good probability that most would have at least considered changing institutions and transferring credits. They were the students who would likely be admitted to research universities under the BC College basis of admission.

The traditional analysis looked at where students were enrolled in the following calendar year. In 2007, for example, roughly 4,000 had switched institutions since Fall 2006 and another 800 had switched in prior terms. The locations in 2007 of the 23,000 “potentially interested in transfer” students from Fall 2006 were as follows:

- 12% earned a credential and were no longer enrolled
- 50% stayed at their original institution
- 13% transferred to a research intensive university
- 5% transferred to another type of BC public post-secondary institution
- 21% were not enrolled anywhere in the BC public post-secondary system (both stop-outs and drop-outs in some unknown ratio.)

More than two-thirds of the students who eventually transferred to a research university stayed at their original institution to acquire more than the minimum number of credits needed for transfer.

Year over Year Mobility: A Recent Perspective

Heslop, Joanne. (2011). *Movers and Transfers in the BC Public Post-Secondary System. Student Transitions Project Research Results. February 2011.*

Close to 23,000 students changed institutions in 2008/09, one year to the next. (Note that this 23,000 students is a different population than the 23,000 in the previous section. It consists of all students in all institutions that moved, in contrast to students at a subset of institutions who met particular course and credit criteria.)

A little over one quarter (6,400 students) of the institutional movers followed the traditional transfer pathway from other institutions into a research university. However, 4,800 students moved in the opposite direction, i.e., out of research universities and into colleges, institutes and teaching intensive universities. Thus the net flow into research universities was less than 2,000 students. Another 1,300 students simply switched research universities. [See source document Fig. 1: Student Mobility in the BC Public Post-Secondary System, 2007/08 to 2008/09.] Note that this diagram was updated in more recent STP mobility work. See *Mobility over Multiple Years: A New Model* (page 20.)

More generally, as illustrated in the cited diagram, it was becoming evident that large numbers of students were moving between all sectors and among institutions within the same sector. The student mobility and transfer system in BC was not as unidirectional as policy makers had sometimes envisaged it; rather, it was a multi-directional system. This led BCCAT to re-conceptualize its original model, from the somewhat hierarchical notions of sending and receiving institutions to a web of student pathways among all types of institutions.

The student mobility and transfer system in BC was not as unidirectional as policy makers had sometimes envisaged it; rather, it was a multi-directional system.

Mobility over Multiple Years: Tracking a Single Cohort

Lavin, Tracy. (2011). *The Time It Takes: A Longitudinal Study of the 2003 Cohort of Students Eligible to Transfer to a BC Research Intensive University. British Columbia Council on Admissions and Transfer: Research Results, June 2011.*

By 2011, BCCAT was looking beyond the year-over-year mobility of post-secondary students in an attempt to track students over a period of years. One such study started with the 23,500 students in Fall 2003 who had 24 Transfer Guide credits with a GPA of at least 2.00 from institutions other than research universities. These students were labeled as “eligible” to transfer and were followed until the 2009/10 academic year. The study found:

- 73% of “eligible” transfer students had earned some sort of credential by 2009/10.
- 10,900 (46% of the cohort) had earned bachelor’s degrees. Of those earning bachelor degrees, almost as many came from teaching intensive universities, colleges and institutes as came from research universities (incorporating only those degrees conferred by research universities to transfer students, not direct entry students).
- 5% were still enrolled.
- 22% were no longer enrolled in the public system but had not earned a credential. Some of these may have moved out of province or switched to a private institution.

One third of the original 2003 cohort had at some point enrolled in a research university. In total, 25% obtained a bachelor’s degree or higher from research universities, and a further 18% from teaching intensive universities.

Heslop, Joanne. (2011). *Following their Footsteps: What happens to Students who Move from Research Universities to Other BC Public Post-Secondary Institutions?* British Columbia Council on Admissions and Transfer: Research Results. August 2011.

By 2011, BCCAT was also focusing more intentionally on flows of students in directions other than *into* research universities. One such study, conducted by STP for BCCAT, examined the year-over-year flow *out* of the research universities and *into* other BC public post-secondary institutions. In 2008/09, 6,100 students had made such a switch of institutions. Two thirds of these also switched programs and one quarter completed a credential at the research university before moving.

By way of a longer-term view, the same study did some longitudinal cohort tracking, following 20,400 newly admitted 2002/03 students at research universities. 7,600 (37%) moved to another type of post-secondary institution, although 2,700 eventually returned to their original research university by 2009/10. The students who moved had significant experience in the research university, having taken courses there on a full- or part-time basis for an average of 2.5 academic years. Two thirds of the original 2003 entry cohort had earned a bachelor's degree or higher by 2009/10. [See source document Fig. 2: Destinations of new 2002/03 students to RIUs by 2009/10.]

Mobility over Multiple Years: A New Model

Heslop, Joanne. (2012). *Post-Secondary Student Mobility. Student Transitions Project Research Results. October 2012.*

Methodological improvements to the mobility model in 2012 allow all institutional switches in a year to be tracked, rather than only between single 'primary' institutions for each student in each time period. By looking at all previous enrolment periods, and not only the previous year, it is now possible to track stop-outs and to determine if the student has previously attended an institution into which they move.

With a more comprehensive analysis across years and capturing all institutional switches within a year, the number of student pathways captured has more than doubled. As a result, the mobility rate has been adjusted upwards from 14% under the old model to 18% in the new model. When the new methodology was applied to data from prior years, the 18% mobility rate, including those returning to an institution attended in the past, was found to have been stable for the past six years.

Students who switch institutions typically move to an institution in a different sector, e.g., from a university to an institute. However, the number of students moving from teaching-intensive universities to research universities is declining as students increasingly remain at the teaching-intensive university to complete their degrees.

The number of narrowly defined transfer students, i.e., those with a basis of admission of BC College or BC Associate Degree and at least 24 transferrable credits, has declined at the three large research universities. The number fluctuates annually, but the 5,400 transfer students in 2003/04 had dropped to 4,800 in 2010/11 despite overall enrolment growth in both sending and receiving institutions.

One such study ...examined the year-over-year flow out of the research universities and into other BC public post-secondary institutions. In 2008/09, 6,100 students had made such a switch of institutions.

Methodological improvements to the mobility model in 2012 allow all institutional switches in a year to be tracked, rather than only between single 'primary' institutions for each student in each time period.

The main message is that the flow of students is large both into and out of all sectors, resulting in relatively small net changes. [See source document Fig. 6: Student Mobility Between Institutions and Sectors in the BC Public Post-Secondary System (2010/11..)]

A note of caution when interpreting the above cited diagram is that it shows only movement into an institution and is silent as to how long students remained there or how many courses they took.

With different mixes of long and short programs across institutions, the same annual flows of students into and out of institutions can result in different compositions of the student body, as shown below.

COMPOSITION OF STUDENT BODY 2009/10				
	INSTITUTES	COLLEGES	TEACHING INTENSIVE UNIVERSITIES	RESEARCH UNIVERSITIES
<i>New students to BC post-secondary education</i>	35%	27%	29%	21%
<i>Continued in same institution from previous year</i>	40%	46%	54%	68%
<i>Stopped out and then continued at the same institution</i>	10%	8%	5%	3%
<i>Mobile students and other pathways</i>	15%	19%	12%	8%
TOTAL	100%	100%	100%	100%

Understanding the Motivations for Mobility

BC Stats. (2013). A Survey of Movers: Students who Move Between BC Public Post-Secondary Institutions. British Columbia Council on Admissions and Transfer, January 2013.

Some student mobility is as expected and is as the post-secondary system was designed, e.g. from two-year colleges to four-year universities. Other pathways are harder to assess: is the movement desirable or not? The administrative data used to identify the amount and directions of student flows are unable to answer the qualitative questions of why students move and how satisfied they were with both their original and subsequent institutions. BCCAT therefore commissioned a survey in 2011 to obtain feedback from students as to the meanings students gave to their own mobility.

The findings were affirming of the post-secondary system. Three quarters were satisfied with their original institution and 88 percent were satisfied with their subsequent institution. Seventy percent said their grades had been as expected or higher. Most students switched institutions, not due to dissatisfaction, but because they wanted to pursue a specific program not offered at the original institution, a program which seven out of ten said was related to their original program.

About one quarter of the respondents in the movers' survey said they had planned to transfer prior to enrolling at their original institution. The most commonly cited actions institutions could have taken to retain the movers were to offer a wider range of programs and courses.

Almost sixty percent (58%) reported having met their main goals by the time they left their original institution.

Twenty percent of movers expressed some dissatisfaction with the credit transfer process, most often those following non-traditional transfer pathways who found that not all of their credits were accepted as counting towards their new program. [See source document Graph: What the Original Institution Could Have Done Differently, p. 13.]

Most students switched institutions, not due to dissatisfaction, but because they wanted to pursue a specific program not offered at the original institution, a program which seven out of ten said was related to their original program.

Implications

Although just a portion of total enrolment (about 18%), significant numbers of students are moving between institutional sectors each year. The survey of movers and other previous surveys of short stay students and early leavers, reveal that students who leave institutions are satisfied with their original institution. Given the volume of movement and the satisfaction of students, BCCAT has recently re-conceptualized its understanding of the post-secondary system in terms of multi-directional student mobility, rather than focusing on the subset of students who participate in uni-directional transfer to research universities.

The research outlined above highlights the need to supplement institutionally-based analyses of enrolment patterns with system-based ones. From a system perspective, only about 20% of students either stopped out or dropped out of the BC public post-secondary system the following year. Of these, some would have continued their studies elsewhere and some were taking specific courses without seeking to complete an entire program. Thus although seeking to improve retention and completion rates should always be a task for institutions, the current situation seems to suggest effective support of student success on a system-wide basis.

...an effective transfer system allows students to extract the maximum benefit from the geographic and programmatic diversity of the province's post-secondary system in a manner that is flexible and efficient.

Analysis flowing from the STP is just starting to outline various educational pathways that students take within BC's post-secondary system. The emerging findings are calling into question the assumption that all mobile students were transfer students who sought to complete a credential at their subsequent institution. Research is beginning to illuminate the fact that students move between institutional sectors for a range of good reasons, and that an effective transfer system allows students to extract the maximum benefit from the geographic and programmatic diversity of the province's post-secondary system in a manner that is flexible and efficient.

These findings should inform institutions as they determine (1) where the volume of student flows are sufficient to justify pre-building pathways, (2) where case-by-case processes can be efficient and reasonably predictable for students and institutions, and (3) where movement simply is not likely to ever occur easily (and how a transparent transfer and articulation system allows students to be aware of this from the start.)

BCCAT has recently re-conceptualized its understanding of the post-secondary system in terms of multi-directional student mobility, rather than focusing on the subset of students who participate in uni-directional transfer to research universities.

Transfer:

Mobile Students Whose Course Credits are Accepted Elsewhere

This section begins with a study a decade ago that frames how Council used to approach transfer studies, namely by comparing transfer students into research universities with those who entered directly from secondary school. As new types of degree-granting institutions came along, they began to be incorporated into the research agenda.

Feedback from students regarding the transfer process, and from institutions regarding the number of transferable credits they were able to accept and the integration of transfer students into their new learning environment, helps to complete the picture.

Transfer to Research Universities

Heslop, Joanne. (2002). *Analysis of Applications, Admissions and Registrations of BC College Transfer Applicants to BC Universities 2001/02. British Columbia Council on Admissions and Transfer, December 2002.*

This study examined the admissions experience from the point of view of the research universities who received applications from prospective students. The numbers and percentages have likely fluctuated over time, but the general pattern from a decade ago is nevertheless informative. The report also illustrates the focus of BCCAT research before more developed mobility studies became available.

In 2001/02, 8,800 college transfer students each submitted an average of 1.16 applications to BC research universities. 7,500 were evaluated by the universities to be qualified for admission, of which 85% received an admission offer and 70% actually registered in courses. 15% met minimum academic requirements, but did not meet the admission requirements for a particular university or program.

Compared to applicants directly from BC high schools, transfer students:

- Submitted fewer applications (1.16 compared to 1.76 on average)
- Received as many admission offers (85% of qualified applicants)
- More frequently enrolled if they did receive an offer of admission (82% compared to 76%)

[See source document: Chart A, p. 7.]

Lambert-Maberly, Ashley. (2010). *Profile of BC College Transfer Students 2003/04 to 2007/08. BC Council on Admissions and Transfer: Research Results, April 2010.*

BCCAT's largest body of research, stretching back over two decades, is the *Profile of College Transfer Students* series. The publications began as studies at individual research universities that identified inputs such as the number of transfer students, demographics, program choice, and the number of credits transferred. Output data included credentials earned, Grade Point Averages as well as grades in selected, high enrolment courses. A number of data elements were reported on a college-by-college basis, and many comparisons were made with students who entered university directly from high school.

The *Transfer Student Profile* reports generally examined a five-year period, partly to show trends and to obtain sufficient numbers of students in small programs and from small colleges, and partly because of the work involved in preparing very substantive reports. The focus was on students whose basis of admission was BC College Transfer or BC Associate Degree.

After the first reports were produced, Council began trying to synthesize the findings at a system level, leading to further methodological enhancements to improve comparability in light of varying academic practices across institutions. Greater consistency in the five-year time frames was also achieved.

The following data come from a summary of the most recent system synthesis and are just the tip of the iceberg. (Extensive detail is available in the source reports from individual universities.) The data refer to the University of British Columbia (Vancouver campus), Simon Fraser University, the University of Victoria, the University of Northern British Columbia and Thompson Rivers University.

The number of students transferring to the five universities from 2003/04 to 2007/08 ranged from 5,100 annually to 6,200. Typically, students stayed close to home, transferring from their college to the closest university.

[See source document Fig. B: Transfers by Year.]

Five institutions (Langara, Kwantlen, Douglas, Camosun and Capilano) were the source of three quarters of all transfer students. SFU, with 40% of the transfer students, enrolled the most transfer students, followed by UBC (27%) and UVic (25%). At some institutions, there have been nearly as many transfer students from BC colleges as direct-entrants from BC high schools, e.g., the proportion at SFU was 46/54.

The majority of transfer students were between 20 and 24 years of age, and 60% were female. A slight majority (55%) studied part-time at university. Students from the north of BC had the highest grades at college, while those from the Lower Mainland had the lowest. The majority sought a Bachelor of Arts degree or had declared an interest in the Humanities or Social Sciences. Compared to direct-entrants to university, transfer students were more likely to be female, study part-time, pursue Arts degrees and be older.

While students typically needed only 24 credits to be eligible for admission to university, in the College Transfer basis of admission (which has its own enrolment quotas separate from other admission categories), the majority of students transferred with 40 or more credits.

Students typically experienced a drop in grades in their first semester at university, with direct entry students dropping more than college transfer students. Grades for both cohorts improved throughout their period of study.

In terms of academic performance, the twenty years of research has found that although transfer students represent a different academic pool of students than direct entrants, their achievements resembled those of direct entry students.

The 2010 synthesis concluded:

Grades for both cohorts increase over time from first session to completion, and by graduation transfer students' grades are on average higher than their admission average and only slightly below direct entrants' grades....When grades in specific courses are examined, transfer students on average earned lower grades than did direct entrants enrolled in the same class (with a few exceptions) which would be expected given the higher high school grades of direct entrants. Nevertheless, the most striking result is that transfer students and direct entrants have remarkably similar average grades at completion, demonstrating that the transfer system works...

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CHANGE IN GPA AT SELECTED UNIVERSITIES	SFU		UBC	
	Transfer Students	Direct Entrants	Transfer Students	Direct Entrants
At admission	2.9	3.6	75%	87%
After first session	2.5	2.6	71%	69%
At completion	2.9	3.1	73%	73%

Transfer to New Types of Degree-Granting Institutions

Church, Roderick and Holubeshen, Moufida. (2005).

Transfer Credits and Transfer Students at the University Colleges of British Columbia:

A Study of the Baccalaureate Graduates of 1998 – 2001.

British Columbia Council on Admissions and Transfer, May 2005.

BC's original five university colleges, all of which became teaching intensive universities in 2008, did not have a "transfer" admission category, nor did they routinely track transfer credits at the point of admission. The university colleges therefore could not replicate the Transfer Student Profile methodology in the preceding section. They instead looked at more than 5,000 baccalaureate graduates to assess the role that transfer credits played in meeting graduation requirements.

The overall conclusion was that transfer was alive and well at university colleges, although only about half as frequent as at what are now research universities.

About 18% of lower-division credits of university college graduates came from transfer. Over 50% of graduates had some transfer credit and over 33% of graduates had 15 or more transfer credits. In other words, almost one quarter of graduates could have been admitted as transfer students had such a category existed – a proportion consistent with that found at UBC and UVic in the 2003/04 to 2007/08 period. (See Lambert-Maberley (2010) above.)

Demographically, students with a significant number of transfer credits differed from direct entry students in much the same way, but to a greater extent, as at research universities. They tended to have higher GPAs at graduation than direct entry students, the reverse of the situation in research universities.

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Student Feedback about the Transfer Experience

The public post-secondary institutions, in collaboration with the Ministry of Advanced Education, Innovation and Technology, annually conduct several surveys of former students (collectively known as Student Outcomes surveys). BCCAT has been able to include some questions in a number of these surveys and has funded special analyses of the results to address particular issues about admissions and transfer.

BC Stats. (2012). 2011 Admissions and Transfer Experiences of Students Continuing their Post-Secondary Studies in British Columbia. British Columbia Council on Admissions and Transfer: Research Results, March 2012.

A small set of transfer questions is asked annually in the Diploma, Associate Degree and Certificate Student Outcomes (DACSO) survey, supplemented every three years by a fuller set. The 2011 administration represented the fifth iteration of the fuller set of questions. It collected data from almost 5,500 students who had left their original program and continued their studies in another program or institution about a year prior to the survey.

Over the past decade, about three quarters of former Arts & Science students who completed at least 24 credits and left their original program went on to enroll elsewhere. The continuation rate for former students from Applied programs was also stable, but the rate was lower at about 33% (as would be expected in that many Applied programs are designed for job entry rather than transfer).

The proportion of program leavers staying at the same institution for further studies, however, has risen, particularly for former Applied program students and for students at teaching intensive universities and institutes. When Applied students continued their education, 61% stayed at their original institution, compared to 19% in the Arts and Sciences. Movers tended to originate in colleges and to transfer to one of the five BC research universities.

Of the respondents in 2011 who transferred to a different BC public post-secondary institution:

- 86% were accepted into their institution of choice (a drop from over 90% in past years)
- 94% accessed their preferred program of study
- 85% were able to register in all the courses they wanted (i.e., few instances of no seats being available in courses, or of timetable conflicts)
- 80% were “very satisfied” or “satisfied” with the admission services and application processes at their new institution.

Although only 8% of the students who expected to transfer credits reported being dissatisfied with their overall transfer experience, BCCAT monitors these data carefully (see next section.) [See source document Fig. 6: Respondents' satisfaction with admission services.]

Fourteen percent of respondents who expected to transfer credits did not get all of the transfer credit they had expected. The main reasons were that their original program had not been designed for transfer to their new institution or that some courses could not be used toward their particular degree. Over one third of the 14% said they received some unassigned credit rather than specific credit.

BC Stats. (2012). Improving the BC Transfer Experience: Feedback from Students. British Columbia Council on Admissions and Transfer: Research Results, May 2012.

The 2011 DACSO survey found that 79% of the respondents who continued their studies at a different institution expected to transfer credits, with the expectation being highest (92%) for those moving to BC research-intensive universities. 86% said they received all their expected transfer credits.

The proportion of program leavers staying at the same institution for further studies ...has risen, particularly for former Applied program students and for students at teaching intensive universities and institutes.

Despite high levels of satisfaction and success with credit transfer, 8% nevertheless reported being dissatisfied (consistent with past years.) The top two reasons for dissatisfaction were difficulty with understanding the transfer process and difficulty in getting information when they sought it.

Andres, Lesley. (1999). *Investigating Transfer: The Student's Perspective*. British Columbia Council on Admissions and Transfer: Research Report, July 1999.

As resources permit, BCCAT has occasionally sponsored qualitative research to understand why students made certain decisions and how they experienced the transfer process. The studies build on research about “what” the enrolment patterns have been by addressing questions as to how and why the patterns came about.

In the late 1990s, Lesley Andres of UBC conducted a three-phase study that involved in-depth interviews of several dozen students. The findings from the three phases were summarized in a single issue *Research Report*.

For community college students contemplating transfer, “intent to transfer” was multifaceted. Some students entered college knowing they wanted to eventually transfer to a specific institution. For others, the intent was present but vague, and resources available at that time to facilitate the transfer experience were underutilized. Most students were taking an unfocused or un-systematic approach to transfer. Yet despite complaints about the lack of resources and confusing advice, the students did not appear particularly perplexed – the general sentiment was that the system would ensure everything would work out in the end.

For students who had already transferred to university, the majority had intended to do so all along. Their reasons for starting at a college varied: college was seen as a “stepping” stone that eased the transition into university, tuition fees were lower, they felt they had a better chance of earning good marks, or they simply lacked the high school courses or marks for direct entry to university.

These students tended to be attentive to transfer issues while at college, but some still found the process complex while others described it as quite straightforward. Regardless, most students satisfactorily transferred most or all of their credits.

Of all the issues associated with transfer, the frequent initial decline in GPA at university caused the students the most anxiety. (Other BCCAT research shows that direct entry students from high school experience an even greater “university entrance shock” in terms of GPA than do transfer students, providing empirical support for the notion of college as a stepping stone.) Academic rigour, different grading systems and larger classes were the most frequent reasons students gave for their drop in grades.

Despite university entrance shock, most transfer students still enthusiastically felt they had made the right decision by beginning their post-secondary studies at college. College was described as having provided a solid preparation that eased the transition to university – the major advantage reported of the transfer system.

Lack of knowledge about the transfer system, or in gaining access to transfer information, was a persistent theme in the study. BCCAT subsequently took steps to address this issue.

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Transcript Assessment

Karlinski, Jean. (2000). *Transcript Assessment Studies: What Transfers? What Doesn't?* British Columbia Council on Admissions and Transfer: Research Results, October 2000.

Student satisfaction and self-reports are useful, and more so when they can be augmented with data from other sources. By examining the transcripts of a sample of transfer students at BC's largest universities, it became possible to determine whether the infrequent but persistent expression of student dissatisfaction reflected large or small problems from the perspectives of institutions.

This transcript assessment identified the extent to which credits earned at sending institutions were accepted by receiving institutions, and when transfer credit was not granted, the reasons why.

BC college transfer students received transfer credit for 85% of the credits they earned at college. The percentage was lowest in Science, ranging from 79% to 83% across the universities, and highest in Arts, Human Kinetics, and Fine Arts (Fine Arts had a high of 93% at the University of Victoria.)

The 15% of transfer credit not granted represented between 7.0 and 8.5 credits at the various universities – less than three college courses not accepted for transfer. The most significant reason, representing almost half of the credits denied, was that the college courses were not designed for transfer. The other important reason, relevant in about one quarter of the credit denials, was differences in the credit weighting of courses among institutions, e.g., Science courses were sometimes assigned four or more credits at college but translated only into a three-credit course at university.

A variety of other reasons accounted for the remaining quarter of credit denials. More frequent than outright denial of transfer credit was the practice of granting unassigned course credit, which at the time ranged from about 15% at SFU to 30% at UBC. (The UBC figure probably includes instances where a one-semester college course needed to be combined with another course to equate to a specific full-year course at UBC.) A challenge that unassigned credit presents for students is that some of those credits may not be useful for meeting the specific requirements of a particular program, e.g., a student might have nine unassigned credits that can be used to meet elective requirements but the program allows for only six. [See source document Fig. 2: Type of credit.]

Pendleton, Sham. (2010). *Credits to Graduation: A Comparison of Transfer Graduates and Secondary School Graduates at BC Research Universities*. British Columbia Council on Admissions and Transfer: Research Results, December 2010.

One indicator of the effectiveness of the transfer route is its efficiency in reducing or eliminating the need for students to repeat curriculum they have previously mastered, and minimizing the number of credits taken which are not applicable to the program which the student ultimately completes. The transfer route does not seem to disadvantage students in that transfer students graduate with approximately the same number of credits as direct entry students, accounting for total credits awarded at the sending institutions as well as credits completed at receiving institutions.

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If anything, graduates who followed the transfer pathway complete slightly fewer credits on average than those admitted on the basis of their secondary school record. An in-depth analysis at UBC, the only research university that recorded transfer courses denied in addition to those accepted, and an institution accounting for one third of the students in the study, found this situation to hold with little variation by program.

AVERAGE TOTAL CREDITS AT GRADUATION TRANSFER CREDITS AWARDED PLUS CREDITS EARNED AT UNIVERSITY	Average for All Students		
	Direct Entry Students	Transfer Students	Average for All Students
SFU	131	128	129
UBC	137	132	136
UNBC	128	130	129
UVic	131	131	131
TOTAL	134	130	133

The sequencing of pre-requisites and other program requirements did not appear to present gaps in transfer students' progress towards degree completion, and there was virtually no evidence of having to "catch-up" at the receiving institution.

Examining the GPAs of graduates in senior level courses, i.e., third year and higher, transfer graduates performed as well academically as direct entry students with only very small variations by university and program. At SFU, for example, transfer students did ever so slightly better and in Arts at UBC, the grades were identical.

Suggestions for Improvement

Finlay, Finola and Box, Dale. (2008). Moving from Case-By-Case Transfer to Formal Articulation: Assessing the Business Case. British Columbia Council on Admissions and Transfer: Research Results, September 2008.

Only a portion of all courses which students could potentially transfer appear in the BC Transfer Guide because monitoring curriculum changes at other institutions to determine where transfer credit could be granted automatically is time consuming. On the other hand, so too is examining the comparability of courses on an individual basis when students seek to transfer a course that does not appear in the BC Transfer Guide. A study Council conducted in 2008 sought to identify areas where it appeared that the volume of students switching institutions was sufficiently high that it might be more efficient for institutions to formally articulate some courses in the Transfer Guide than to deal with them case-by-case.

Most of the students who changed institutions between 2004 and 2006 had taken courses in Arts, Science and Business at their original institution. 70% of all courses at the original institution were at the first or second year level.

The largest flow was among Lower Mainland institutions, with BCIT being both the origin and destination for the greatest number of courses carried (a reflection of both the number of students and the number of courses each student took at their original institution.)

The conclusion was that there might be a good argument for moving selected courses at some institutions from case-by-case transfer to an articulated (automatic) basis.

Other Transfer Studies

**Pendleton, Sham. (2006). *Transfer Students: What Universities Need to Know*.
British Columbia Council on Admissions and Transfer:
Research Results, December 2006.**

A special analysis of UBC's Undergraduate Survey on Student Satisfaction and Engagement, administered to its Arts and Science students, examined whether transfer students behaved differently and had different levels of satisfaction than did direct entry students. Based on responses to all the key questions that emphasized the academic experience, transfer students were found to be more academically engaged than were direct entry students. They were also more satisfied with their overall academic and educational experiences. [See source document, Fig. 1.]

Based on responses to all the key questions that emphasized the academic experience, transfer students were found to be more academically engaged than were direct entry students.

Transfer students, however, were less satisfied with their overall social experience at UBC, suggesting competition for their time from external forces. They were less likely to participate in co-curricular activities in every category: academic, social, political or athletic. This is consistent with the finding that they were more likely to cite financial pressures or work obligations as the biggest obstacle to their academic progress.

The findings of this study stand in contrast to the experience of transfer students in the USA, where the National Survey of Student Engagement concluded that transfer students were less engaged in effective educational activities.

Heslop, Joanne. (2004). *Alternate Paths to SFU: A Comparative Academic Performance Study of BC College Transfer Students and BC Direct Entry Secondary School Students Admitted to SFU from 1992 to 1999*. British Columbia Council on Admissions and Transfer: Research Results, October 2004.

Council's *Transfer Student Profile* studies have usually found that upon graduation from their bachelor degree programs, transfer students do as well or nearly as well as students who entered research universities directly from high school. This is usually taken as a great success for the sending institutions in that many of the transfer students were not initially admissible to university due to missing courses and/or low marks in Grade 12 courses.

The purpose of the *Alternate Paths* study was to determine whether differences in graduating grade point averages for bachelor degrees between transfer and direct entry students still exist when controlling for secondary school performance. The point was that direct entry students all performed well in high school, whereas transfer students were a mix of low and high performing students. (On average, SFU transfer students' Grade 12 provincial exam scores were 69% compared to 78% for direct entry students.) [See source document Fig 2: *Distribution of BC12 and BCCOL Cohorts by High School Achievement*.]

Looking at several SFU academic performance indicators, the study concluded:

- For low achievers in high school (high school grades below 75%), transfer students did as well or better than direct entrants at SFU.
- For high achievers in high school, both groups did equally well.

Furthermore, the seven-year degree completion rate (i.e. seven years after high school graduation) was similar at about 72% for each group. When controlling for high school achievement, failure rates were the same.

The conclusion was that the transfer route is desirable for students who are less prepared initially and makes no difference for strong students.

Implications

The key finding, concluded in numerous studies conducted over time and in various ways, is that the transfer system works well: most students transfer successfully despite fluctuating enrolment quotas and GPA thresholds. Nevertheless, refinements can and are being made. Efforts continue to make the transfer system efficient for institutions and easy to navigate for students.

BCCAT has encouraged greater consistency in the amount of credits awarded at different institutions for the same transferable course. It is encouraging the provision of more accessible information to students about instances where credits may not be accepted for transfer, e.g., because the original program was not designed for transfer or where there are caps on the number of credits that can be counted towards completion of a new program. Other ways in which it is seeking to streamline the transfer process include the flexible pre-major and block transfer. The recent “Enabling” initiative will see more transparent pathways for students moving outside of the traditional transfer pathways.

The focus of transfer studies to date has been on the traditional route into research universities. Given that mobility studies show movement through a variety of other routes, a possible area for future research may be to investigate how prior learning is formally recognized at other types of institutions and the levels of satisfaction of students who follow these other pathways. BCCAT’s “enabling” initiative that allows all institutions to be both sending and receiving institutions is a step in this direction. There may still be some programs, especially in applied fields, and some institutions where it might make sense to include (articulate) more courses in the BC Transfer Guide rather than have institutions deal with them on a student-by-student basis.

The body of research on BC’s distinctive and effective transfer system highlights the importance of adopting a systemic view of retention and student success.

The finding that students who are less prepared initially, benefitted from the transfer route to research universities helps to highlight the challenge of effectively matching students with programs and institutions. The role of colleges as a stepping-stone, foundational to the establishment of BC’s community college system, remains important, even as more institutions become degree granting.

The body of research on BC’s distinctive and effective transfer system highlights the importance of adopting a systemic view of retention and student success.

The key finding ...is that the transfer system works well: most students transfer successfully despite fluctuating enrolment quotas and GPA thresholds.

Outcomes

Credentials

Heslop, Joanne. (2010). *Post-Secondary Credential Completion of BC Grade 12 Graduates. Student Transitions Project Research Results. August 2010.*

One way of looking at the success of post-secondary students is the credential completion rate, recognizing that credentials are not especially relevant in some programs (e.g., those designed as transfer programs) and in many sub-baccalaureate occupations for which licensing is not required to work in the field. From BCCAT's perspective, a particular interest is how switching programs or institutions, affects the earning of a credential.

This report considered credentials of all types: one-year certificates, two-year diplomas and associate degrees, and four-year bachelor's degrees.

Not only are students mobile among institutions, but they also switch programs (both at their original and in their new institutions).

Within five years of entering post-secondary education, 42% of Grade 12 graduates have earned a credential. The figure rises to 58% when the 2001/02 immediate entrants are tracked for seven years. Half the credential completers earned a bachelor's degree, 25% a diploma, 20% a certificate and the remaining 5% completed some other credential, e.g., a citation.

Not only are students mobile among institutions, but they also switch programs (both at their original and in their new institutions). A minority (38%) of students who began and completed a credential within five years attained their credential in the same program area as where they initially began. Bachelor's recipients did not frequently switch institutions: 95% completed in the same institution as where they began.

Karlinski, Jean. (2007). *Associate Degrees Awarded in British Columbia, 1993/94 to 2005-06. British Columbia Council on Admissions and Transfer, April 2007.*

The two-year associate degree credential was approved in BC in 1991. It was intended to promote a rigorous and balanced academic program of study that, among other things, would prepare students well for transfer to upper division baccalaureate studies. Council monitored trends in the number of associate degrees awarded to see if they were affecting transfer patterns.

The number of associate degrees grew at an increasing rate from 1993/94 until 2003/04, reaching a maximum of 1,880 annually. Thereafter they declined rapidly, to 1,120 in 2005/06.

Speculation as to the reasons for the drop in associate degrees was that SFU was no longer giving priority to associate degree holders (the university was being inundated, making less room for applicants in other admissions categories) and a drop in university entry requirements across the province in light of softening enrolment demand.

Subsequent Activities

Karlinski, Jean. (2007). *BC University Outcomes for Direct Entry and Transfer Students: Comparison of the Class of 2000 and Class of 1996 Five Years after Graduation. British Columbia Council on Admissions and Transfer: Research Results, September 2007.*

In addition to ensuring that students are able to transfer successfully into institutions, BCCAT has used data from Student Outcomes surveys of former students to ensure that the transfer route continues to serve students well as they transition out of post-secondary education and into their subsequent lives.

The Baccalaureate Graduates Survey contacts students two years after graduation, but sometimes also five years after graduation from selected institutions (principally research universities). The following data refer to students five years after receiving a bachelor's degree from a research university, and compare students who did all their studies at university to those who transferred into university from another institution.

The five-year follow-up of the class of 1996 found no major differences between direct entrants and college transfers on most key outcomes, including satisfaction with their university experience, continuation of studies, unemployment rates, salaries, and social engagement. The differences that did emerge were in the area of student financing and debt: transfer students relied more on student loans and less on financial support from family, consistent with their older average age.

A similar study of the class of 2000 reached similar conclusions, with the main differences again related to student finance and a greater propensity of direct entry students to study full-time. Satisfaction and levels of professional employment were comparable, regardless of the route taken to the degree.

University Colleges of BC. (2004). Comparison of Outcomes of BC. University College and University Baccalaureate Graduates. British Columbia Council on Admissions and Transfer: Research Results, May 2004.

When some former community colleges became university colleges and received authority to provide third and fourth year courses leading to bachelor's degrees, former student survey data were analyzed to see if differences emerged between those who had studied at what are today research universities and those at what are now teaching-intensive universities. Only a few differences were apparent between the two groups two years after graduation.

Both groups had very positive labour market outcomes, life-long learning orientation, and satisfaction levels. Within this context of generally positive results, university college graduates had higher program satisfaction (47% "very satisfied" compared to 36% at the research universities) and education-related employment, while university graduates were more likely to on to further studies and carried slightly less debt. 80% of university college graduates said they would take the same program again, compared to 73% of university graduates.

Demographically, university college students were a little older and more often female (70% compared to 61%). [See source document Fig. C : Average Salary of Graduates Employed Full Time.]

Implications

The results of two and five year follow-up surveys suggest equally positive outcomes for both direct entry and transfer students. The most appropriate route is best understood through consideration of students' life circumstances and personal characteristics.

Some movement of students among programs, either because they need to complete prerequisites for entry to another program or because they have changed their mind, is normal and desirable. It occurs among students who transfer, and among those who remain within a single institution, and a good proportion of students are able to complete a baccalaureate credential in a timely manner notwithstanding a program change.

Credential completion rates may or may not matter depending on the field of study and the student's stage of life (e.g., well educated, mature students who enroll in selected courses for upgrading purposes may never intend to complete a full program.) Nevertheless, the lack of a definitive credential framework for shorter, non-degree programs, and the resulting variability in the length and learning outcomes associated with diplomas and certificates in particular, complicate analyses of this topic.

The number of bachelor and post-baccalaureate programs is growing, as is the number of institutions offering such programs. BCCAT may wish to further investigate the impact of changing program mixes at institutions on admissions and transfer.

The five-year follow-up of the class of 1996 found no major differences between direct entrants and college transfers on most key outcomes...

Miscellaneous Studies

Heslop, Joanne. (Various Years). Student Transitions Project. Fast Facts. (Annual).

The STP Fast Facts are a series of graphs and tables, rather than a report or newsletter, that present some relevant information about transition rates and enrolment patterns. The Fast Facts also provide some helpful contextual data for post-secondary education, e.g., the number of students graduating from BC public and independent high schools grew from 43,400 in 2001/02 to 47,000 in 2010/11.

Roughly 15% of high school graduates who make an immediate transition into post-secondary education within a year of high school graduation skip the Fall term and enter in the Winter/Spring or Summer terms. They can be viewed as “mini delayed entry” or “mini gappers” within the immediate entry category.

Delayed transitions decline rapidly: four or more years after high school graduation, the proportion of graduates making their first entry to BC public post-secondary education is just 1 – 2% annually.

Immediate and delayed entry students choose different institutional destinations as found below.

BC PUBLIC POST-SECONDARY IMMEDIATE VS. DELAYED ENTRY DESTINATIONS OF ALL GRADE 12 GRADUATES	Immediate Entry Destinations	Delayed Entry (1 – 3 Years) Destinations
	(5-Yr Avg: 2004/05 – 2008/09 Grads)	(5-Yr Avg: 2001/02 – 2005/06 Grads)
Research universities	38%	12%
Teaching universities	29%	31%
Colleges	28%	44%
Institutes	5%	13%

Cowin, Bob. (2009.) How Much Academic Instruction Occurs Outside Research Universities in BC? British Columbia Council on Admissions and Transfer. Research Results: December 2009.

Institutions in BC that were established as community colleges in the 1960s and 1970s offer a comprehensive range of programs. Some programs consist entirely of university-transferable academic courses. Many programs include no such courses, but others incorporate a few academic courses, e.g. in English, Psychology, Biology or Mathematics for students who are not university-bound. This study sought to determine the proportion of all credit instruction offered at these institutions that is academic in nature.

Defining “academic” as the 9,700 courses that were listed in 2009 in the *BC Transfer Guide*, it appears that about one third of all instruction outside the research universities is academic. While not unique in North America, this stands in marked contrast to the vocational/technical orientation of colleges in most Canadian jurisdictions. As more institutions offer more degree programs, and enroll more students in those degree programs, the proportion of academic instruction throughout the system may well increase. Furthermore, the boundaries between applied and academic programs continue to blur.

Half of all academic instruction was in the Arts and Sciences, and about one quarter in Business. [See source document Fig 2 or Fig 3: Number or percentage of course registrations by program.]

Implications

Non-academic courses, i.e., courses that are not offered at research universities, represent the majority of instruction at teaching intensive universities, colleges and institutes. Further research may be required to address the movement of students in applied programs. On the other hand, many of these programs are only one or two years in duration, so transfer may be of lesser importance.

Other Overviews of BCCAT Research

Before reading the specific studies and papers that BCCAT has commissioned, readers interested in more summaries and syntheses than appear in this paper might choose to consult one or more of the following publications. (A few other syntheses have been prepared over the years, but the following are good starting points.) The reports are presented here in chronological order.

Special Report from the Transfer Innovations Committee. (1999). *Transfer: What's the Problem?* British Columbia Council on Admissions and Transfer, April 1999.

This report noted that in the late 1990s, over 5,000 students were annually transferring over 60,000 courses to the three largest universities alone. It commented on the growing complexity facing sending institutions as they attempted to align curriculum to that of several receiving institutions (at that time, 14 of 28 public post-secondary institutions were granting bachelor's degrees). It also observed that almost a third of 14,000 students annually who were continuing their education after leaving a college program came from programs not originally designed for university transfer; further education by students from supposedly terminal Applied programs seemed to be a growing trend.

The 1999 document referenced a survey conducted in 1997 of advisors in colleges and universities, i.e. personnel at both sending and receiving institutions. At that time, the advisors gave good ratings to the transfer system and noted only a very small percentage of "real" or "major" transfer problems, but they rated students' knowledge of the transfer system as fair or poor. Sometimes the lack of understanding was due to a lack of attention by students, but sometimes it seemed to do with the availability and clarity of information. BCCAT therefore began attending more closely to communicating information to students and not simply ensuring that a robust transfer system was in place.

BCCAT ...began attending more closely to communicating information to students and not simply ensuring that a robust transfer system was in place.

Transfer and Articulation Committee. (2000). *Transfer: Some Solutions.* British Columbia Council on Admissions and Transfer: Special Report, April 2000.

This newsletter was a follow-up to the 1999 Special Report: *Transfer: What's the Problem?* While it concentrated on actions BCCAT was taking to address minor problems, it also drew attention to research about the student experiences. In particular, it noted that fulfilling the requirements of the pre-major had become the single most problematic area of transfer for academic students. The newsletter also described block transfer, of which about 300 agreements were then listed in the *BC Transfer Guide*.

Cowin, Bob. (2004). *Transfer in British Columbia: What Does the Research Tell Us?* British Columbia Council on Admissions and Transfer: Research Results, April 2004.

The newsletter was only four pages long and focused on transfer. Several of its points have already been covered and will not be repeated here.

During the 1990s, BC's three largest universities admitted three college transfer students for every five who came directly from secondary school. The role of university colleges (now teaching intensive universities) and BCIT in baccalaureate education had grown to the point that almost 20% of undergraduate degrees in BC were awarded by these institutions.

The newsletter concluded by noting that Council would be shifting its research agenda to focus more on admissions, and that future transfer studies would be done in the broader context of all students flows among institutions. [See source document Fig 1: *Distribution...by Destination Faculty.*]

British Columbia Council on Admissions and Transfer. (2005). Accountability of the BC Transfer System.

A longer document (14 pages) than the previous year's overview, this paper was a combination of data about student enrolment patterns, processes (such as assigning Provincial Education Numbers to applicants and sharing enrolment planning information) in which BCCAT was involved, and plans for new research. Among the data reporting was the finding that if average provincial Grade 12 exam scores were used to determine SFU admission eligibility in the 1990s, roughly three quarters of college transfer students would not have been eligible. The transfer route provided them with access to SFU and transfer students were ultimately as successful at SFU as direct entrants.

British Columbia Council on Admissions and Transfer. (2006). Annotated Bibliography of BCCAT Research.

This 19-page report described all BCCAT research reports (not only those describing students and their enrolment experiences) published between September 1994 and September 2006. The reports were grouped in nine categories:

- Admissions Issues
- Analysis of Student Tracking Data
- Public Policy
- Profiles of BC College Transfer Students
- Student Surveys
- Transcript Assessment Studies
- Transfer Models
- Surveys of Institutional Personnel
- Other

Waterhouse, John. (2010). An Assessment of BCCAT Research. British Columbia Council on Admissions and Transfer, 2010.

If Cowin's 2004 newsletter represents the quick, descriptive end of the BCCAT research syntheses spectrum, then Waterhouse's 2010 evaluation and recommendations to guide future research represent the more critical and interpretive end. Although the body of the report is less than twenty pages, it is not a quick read because it situates the reporting of key research findings in the context of public policy – an approach that merits measured, thoughtful consideration by the reader.

Examining 67 research papers, reports and newsletters relative to the criterion of decision usefulness, Waterhouse concluded that BCCAT's research agenda has been effective in providing a multifaceted view of transfer students and the transfer system:

There is a substantial body of evidence provided by a range of studies utilizing different but similar data and different but similar methods that provides consistent and strong evidence on the success of students who utilize the transfer system... The reviewed research appears to be both coherent and contingent on BCCAT's sponsorship....That said, it is important that the research respond to the evolving needs of stakeholders and to changes in circumstances and context of the system... To this end, seven recommendations for future BCCAT research are presented.

There is a substantial body of evidence ...that provides consistent and strong evidence on the success of students who utilize the transfer system.

Conclusion

The research outlined in this synopsis paints a rich portrait of BC's education system. The rate of transition of BC high school graduates over time is very respectable, and many sub-groups, including those who do not graduate from high school, have transition pathways available which appear to function well.

Research also shows that BC's differentiated and well-articulated public post-secondary system works effectively and efficiently with respect to student flows between institutions.

An important finding of BCCAT's research is that the pathways taken by individual students are highly variable. While many follow the ladder programs designed by institutions, changing objectives and circumstances lead many to choose more creative pathways. Whether framed in terms of student choice or of social and geographical access, the notion of students determining their pathways has been implicit in all of BCCAT's work as it seeks to foster pathways that are efficient, flexible and convenient for students. This philosophy would be strengthened by:

- Continued work with institutions to maintain efficient and sustainable articulation and transfer processes.
- Working with institutions to develop resources to assist students in informing themselves about program admission standards and enrolment quotas, and course planning (both within and across institutions). Research to date suggests that the students who were the least satisfied with the current system of admissions and transfer were also the least informed.
- Maintaining a research program to ensure pathways are working well, e.g., in terms of academic preparation, ease of movement among institutions, and recognizing the varying life circumstances of students.

Ongoing research provides transparency and accountability about student experiences as students move into, within, and out of, the system. Findings also affirm the quality of the preparation that students receive in BC's public post-secondary system by documenting their success at subsequent institutions in terms of academic achievement, credential completion, and successful career transition. BC's transfer system helps to ensure that consistent, high quality education across a variety of institutions and programs will remain a strength of the BC post-secondary environment.

Research also shows that BC's differentiated and well-articulated public post-secondary system works effectively and efficiently with respect to student flows between institutions.

Glossary

Academic GPA – a secondary school GPA calculated by the Student Transitions Project as a rough proxy for admissibility to a research university. It consists of the English 12 mark and best marks from three other academic (what used to be provincially examinable) Grade 12 courses. Not all students take sufficient academic Grade 12 courses to have an Academic GPA.

Admission – entry to a post-secondary institution, regardless of whether it is the first institution the student has attended.

Basis of Admission – admissions categories used by research universities and some other post-secondary institutions that involve different entrance criteria and which may have distinct enrolment quotas. Of particular relevance to BCCAT research studies are the BC Colleges basis of admission (e.g., a GPA of at least 2.00 in 24 credits of transferrable courses), BC Grade 12 (admission on the basis of secondary school courses and marks), and Associate Degree (admission on the basis of having earned this two-year post-secondary credential).

Central Data Warehouse (CDW) – a central database managed by the BC Ministry of Advanced Education, Innovation and Technology to which all public post-secondary institutions except the research universities submit student and course information.

Delayed Entry – entry to a post-secondary institution following a gap of one or more years after leaving secondary school, normally within a year of high school graduation.

Direct Entry – entry to a research university following secondary school or having taken very few transferable courses at another type of post-secondary institution.

Immediate Entry – entry to a post-secondary institution within a year of leaving secondary school.

Mobile Student – a student who moves from one post-secondary institution to another, regardless of whether credits are transferred.

Stop-Out – a gap of one or more years in enrolment after having started studies at a post-secondary institution.

Student Outcomes – a set of annual surveys of former students, two of which (the Baccalaureate Graduates Survey and the Diploma, Associate Degree and Certificate Student Outcomes) have been data sources for BCCAT analyses and two of which (Apprenticeship Student Outcomes and Developmental Student Outcomes) have not.

Student Transitions Project (STP) – an ongoing project that links data from BC's public and independent secondary schools with student records from BC's public post-secondary institutions. It identifies student flows into and among post-secondary institutions.

Transfer Student – a student who moves from one post-secondary institution to another, receiving credit at the subsequent institution for courses completed at the former institution. In some studies, only transfer students who were admitted under certain bases of admission (see above) are included.

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