
Report on the Data-Readiness of Post-Secondary Access and Retention Programs for Under-Represented Groups

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I. Introduction

With over half of Canada's population aged 25 to 34 now holding a university degree or college diploma, young adults in Canada have the highest rates of educational attainment our country has ever seen.¹ However, educational success is not shared equally among subgroups of Canadians; recent research shows that little progress has been made in narrowing access gaps over the past two decades.² Aboriginal youth, youth from lower-income families and youth who are the first in their family to take part in tertiary education (i.e., first-generation students) continue to be under-represented in post-secondary institutions³—particularly in universities⁴—and are at greater risk of leaving without completing their degree or certificate program.⁵

According to the Association of Universities and Colleges of Canada (AUCC), post-secondary enrolment and completion among under-represented groups represent "... a critical driver of future labour market growth."⁶ Already facing skill shortages in some areas, Canada is challenged by an aging workforce and the prospect of declining enrolment in post-secondary education (PSE), as national PSE enrolment is projected to decrease by nine percent between 2012 and 2028.⁷ Effective strategies for promoting PSE access and completion for under-represented groups are thus necessary in order to ensure a competitive labour market for Canada. Just as important is the fact that it is well recognized that promoting equal access to PSE for all Canadians increases social inclusion and associated health and community benefits.

Over the past several years, Canada's post-secondary institutions have intensified their efforts to recruit, enrol and graduate students from under-represented backgrounds. At the core of universities' and colleges' mission is the goal of widening participation in higher education, and many institutions have developed innovative programs to promote student success. While these strategies appear promising, the Organisation for Economic Co-ordination and Development (OECD) notes that "there is little evidence about the effects of institutional support programmes on student outcomes."⁸

The Canada Millennium Scholarship Foundation ("the Foundation") recently commissioned the Social Research and Demonstration Corporation (SRDC) to conduct a study to review PSE access and success strategies for under-represented groups and report on institutional "data-readiness" in terms of assessing and supporting achievement of these strategies. The latter was assisted through the participation of five institutions with promising access and retention programs who invited SRDC on site to learn about both the program data they have and the data they would like to have.

This report presents the findings of the two-part study. The first section provides a synopsis of the international literature in this area and proposes an analytical framework for categorizing access and retention strategies. In the second section, findings from site visits at partner institutions and key informant interviews are presented, with an assessment of the data available to PSE institutions for developing, implementing and evaluating access and retention programs for under-represented students.

1. Statistics Canada, 2008.
2. Berger, Motte and Parkin, 2009.
3. Clement, 2008; Finnie and Mueller, 2008; Finnie, Sweetman and Usher, 2008.
4. de Broucker, 2005.
5. Clement, 2008.
6. AUCC, 2009.
7. Statistics Canada, 2007.
8. Santiago et al., 2008.

2. Methodology

The first part of this two-part study was a review of the international academic literature and an environmental scan of strategies to promote PSE access and success among under-represented groups. There were three groups of particular interest to this study: students from low-income households, Aboriginal Canadians and “first-generation” students—that is, those who would be first in their family to attend PSE.

The findings from the literature review were used to guide the development of an analytical framework for use in the second part of the study, in which SRDC staff made site visits to five post-secondary institutions to learn about the data they collect and use to support their access and retention programs. It is important to note that the small sample of partner sites is not intended to be representative; rather, their inclusion provides real-world illustrations of the realities and challenges of obtaining the data required to assess program success.

2.1 Literature Review and Environmental Scan

The international literature review commenced with searches of electronic journal databases including ERIC, Scholar’s Portal, Education Full Text, Expanded Academic Index and CBCA Education. Search terms included combinations using at least one of each of the following series:

- post-secondary, tertiary education, college, university;
- access, retention, success;
- under-represented, at-risk.

The scope of the review included:

- Canadian and international peer-reviewed literature on PSE access and retention;
- Canadian and international grey literature on PSE access and retention;

- environmental scan of existing strategies available to post-secondary institutions that seek to improve student outcomes; and
- review of evaluation research on PSE access and retention strategies and common indicators used.

Web-based searches were used to locate grey material and to conduct the environmental scan of examples of initiatives.

Journal articles, government and institutional reports, publications from higher education member associations and materials published by Canadian and international access and retention experts were reviewed for this study.

2.2 Analytical Framework

Following the extensive literature review and drawing on U.S. and Canadian models for student retention assessments⁹ and data holding audits,¹⁰ SRDC prepared an analytical framework to assess the data-readiness of the participating institutions to plan, implement and evaluate their PSE access and retention programs. In the context of the present study, “data-readiness” was viewed as a state in which the data collected are both adequate and available and are used in ways that enable institutions to report accurately on the impact of their initiatives to increase access and retention among under-represented students.

The framework (found in Appendix A) is divided into four sections: data collection, data availability, data adequacy and data use. Based on these four principal themes, SRDC designed a Data Readiness Survey to guide the data collection process at partner sites.

Data collection focused on identifying the types of information collected, the people responsible for collecting it, format (e.g., web-based, paper), collection period (e.g., coincidental with critical retention periods identified in the literature) and purpose (e.g., internal program evaluation purposes, reporting

9. Tinto (n.d.).

10. Paulson, 2002.

requirements to government). This section also identified the students for which data were being collected: current and/or graduated students, prospective students, applicants, non-enrolled applicants and non-completers/early leavers. Definitions for the under-represented groups were gathered to identify ambiguities around terminology. Finally, where applicable, this section of the survey sought to identify the benchmarks or indicators used to assess program results.

Survey questions on *data availability* were designed to identify underlying access/retention data-sharing mechanisms between university units or departments and between third parties such as application centres or national survey centres. The questions on availability focused on identifying the “holders” of collected data, data storage methods and the processes in place to make data available to others.

Questions in the *data adequacy* section of the survey focused on sampling methods and sample sizes, number of years of collected data and response rates. This was intended to give a clearer picture of the validity and reliability of the data currently held at partner institutions.

The *data use* section sought to identify how the data were being applied to support program planning and development. Partners were asked to identify their data use as being for descriptive, explanatory and/or improvement purposes. Descriptive data use was defined as reporting facts such as rate and distribution of student access or attrition across programs or faculties, institution-wide attrition rate or profiles of leavers versus those who persist. Explanatory data use was defined as the creation of associative models linking student access or attrition to specific types of student experiences. Data use for improvement was defined as measuring the impact of different policies and practices on access/retention statistics and changes in student behaviour arising from programs, strategies or institutional practices by means of rigorous research. Data use at this level explores causal links between program actions and student outcomes. The use of counterfactuals to provide a

comparison of the outcomes when no intervention is offered is an indicator of this level of data use.

The survey was shared with institutional partner staff prior to site visits to inform staff of the nature and scope of the study and to ensure sufficient time to arrange meetings with the appropriate team of people, including institutional researchers and program delivery staff. The survey captured information on large-scale formal data collection—for example, institution-wide data collected from all students by Registrar, Admissions and/or Institutional Research offices—as well as smaller initiatives held locally within specific access/retention programs and used for internal planning or reporting purposes.

2.3 Partner Institutions and Key Informants

The Foundation approached numerous post-secondary institutions about partnering in the study. Partners were identified based on having promising access and/or retention programs, staff available for site visits and interest in taking part in the study. A total of five institutions from Ontario and Manitoba—three universities and two colleges—agreed to partner in the study. Each was asked to put forward one or two key programs serving under-represented student populations. In some cases, selected programs targeted and served a specific under-represented student population, while other programs were offered to all students but accessed primarily by under-represented students. A list of partner institutions and their selected access/retention program(s) is provided in Appendix B. Additional phone interviews were held with representatives from PSE institutions in British Columbia and Quebec that, for various reasons, were not able to participate as full study partners but were nonetheless willing to act as sources of information.

As well, SRDC contacted staff at various levels of government and at other institutions involved in the collection and analysis of PSE data to help

contextualize the findings from the environmental scan and site visits. Topics included any plans to collect additional data, add under-represented group identifiers and/or otherwise modify instruments and potential linking opportunities to or among data sets containing PSE outcome variables. To this end, information was collected from the following organizations: Statistics Canada, Ontario Universities Application Centre (OUAC), Ontario College Application Services (OCAS), Ontario Student Assistance Program (OSAP), Ontario Ministry of Training, Colleges and Universities (MTCU), Manitoba Ministry of Adult Education and Literacy, Manitoba Student Aid and the Higher Education Quality Council of Ontario (HEQCO).

2.4 Site Visits

During summer 2009, SRDC staff visited the partner institutions to learn about their data holdings on under-represented students and the initiatives formed to serve them. Meetings were held with a variety of staff, including institutional researchers, administrators, program coordinators and other program delivery staff, at times requiring up to three on-site visits. Follow-up questions were communicated by phone or email as required. During and following site visits, SRDC offered technical assistance to partners, providing feedback on their data collection and analysis practices. Suggestions were later written up and circulated to partner staff, along with the general program data framework proposed in Section 4.

3. Results

3.1 Literature Review and Typology of Strategies

SRDC's review of the literature found that little research has been published on access and retention strategies in the Canadian context for the three under-represented groups that are the focus of the current study.¹¹ The review also found a heavy focus in the literature on first-year students as a target for retention strategies and widespread agreement that the first year of enrolment is the most critical year for investment in measures that can boost the odds of successful completion of a degree or diploma program.

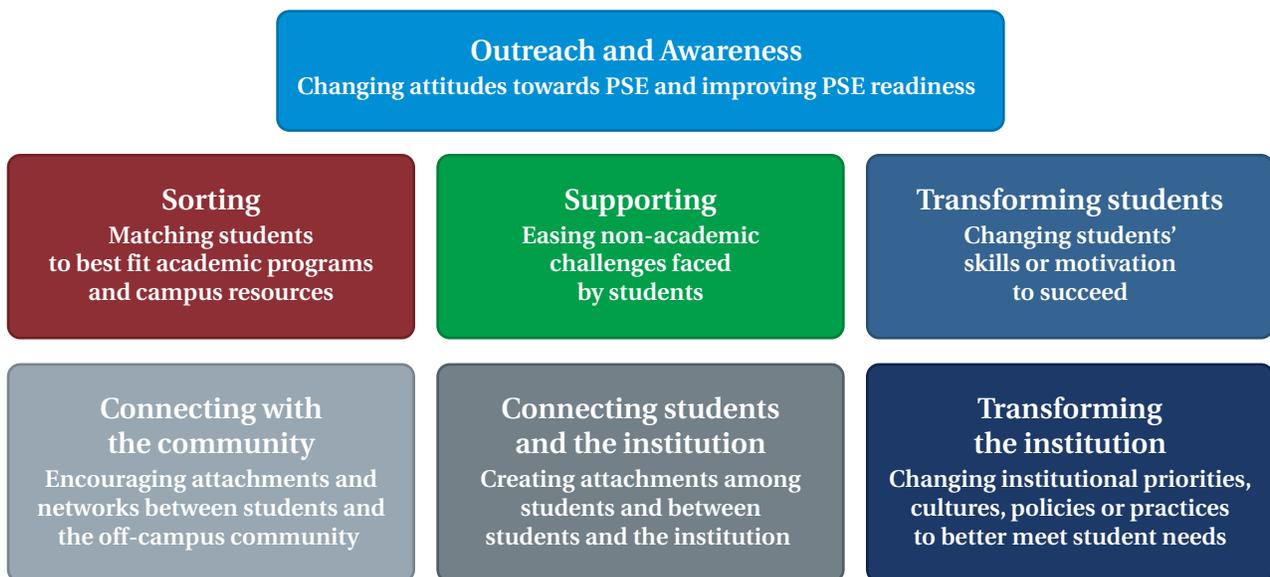
3.1.1 Revised Access and Retention Typology

Based on the literature review and environmental scan, SRDC proposed an expanded version of Beatty-Guenter's typology of access and retention strategies.¹² This revised typology comprised the following seven categories: outreach and awareness,

sorting students, supporting students, transforming students, connecting students with the community, connecting students with the institution and transforming the institution.

Outreach and awareness strategies are those designed to promote accessibility for under-represented students by encouraging positive attitudes toward PSE through outreach and awareness programs in partnership with high schools, elementary schools and community-based agencies or those that promote accessibility by improving the PSE-readiness of students through skill-building, academic workshops and other measures that serve as an introduction to the post-secondary environment.

Sorting strategies divide students into meaningful subsets in order to apply particular initiatives that might boost retention. Emphasis is placed on selecting students based on characteristics that can be used to identify and provide access to appropriate retention techniques, as opposed to sorting students based on unchangeable characteristics such as ethno-cultural background.



11. SRDC, 2009.

12. Beatty-Guenter, 1994.

Supporting strategies “strive to ease students’ problems with the aspects of everyday life, making it more likely that they will be able to maintain their status as students.”¹³ The defining characteristic of these strategies is that they “bridge the potential conflicts between students’ many roles.” To the degree that students are increasingly combining work and school, leaving and re-entering studies and, particularly among Aboriginal students, juggling parenthood and studies, these supportive measures have become even more critical to effective retention efforts.

Strategies that aim to *transform students* seek to modify alterable student characteristics such as skills, attitudes and motivation. These strategies may be particularly important for students without a history of academic success, older students and those from groups with historically low rates of PSE participation.

Strategies designed to *connect students with the community* describe community-based resources used to supplement the support systems available on campus, such as affordable housing and food banks for low-income students or language training for students who speak neither English nor French.

Strategies that *connect students with the institution* increase the sense of attachment that students have to the institution, faculty, staff and peers. Examples include programs that increase student-faculty interaction, programs to increase student peer interactions and policies that maintain strong connections between the institution and the student. Extracurricular activities, campus social events, programs in student residences, peer mentoring or counselling are all common examples of connecting approaches.

Institutionally transformative strategies are the only ones in which the individual student is not the primary locus of intervention. Transformational strategies might aim to change certain behaviours among students but primarily focus on changing the practices, policies and cultures of the PSE institution itself. Building learning communities, developing alternative teaching approaches, creating individualized programs or courses, involving teaching staff in development and research on retention initiatives and modifying institutional policies—for example, those related to withdrawal, late registration and scheduling—can promote retention in terms of improving responsiveness to student needs.

The most successful strategies, Beatty-Guenter argues, are those that ensure initiatives are underway in each of the areas of sorting, supporting, connecting and transforming. In her discussion of the implications for practice, Beatty-Guenter is quick to note that the above categories are not mutually exclusive and that many programs in fact straddle one or more of her typologies.

Appendix C contains a detailed description of each category of initiative in the revised Beatty-Guenter typology, as well as an expansive list of access and retention strategies identified through the literature review and site visits.

3.1.2 Strategy Type Seven: Transforming Institutions

Among the seven types of strategies identified, those that seek to transform the institution were of particular interest in the current study. Much of the existing research on PSE access considers interventions aimed at or engaging individual students and their families. Less attention has been paid to interventions aimed at transforming PSE institutions themselves.

The literature review and environmental scan revealed four qualities at the core of all transformational initiatives, especially those fostering institutional adaptation to under-represented groups.

The first was *clarity of vision and values* within the institution relating to student success. This included both the commitment to the mission from the institution’s leadership and staff’s personal investment in achieving results. Connecting access and/or success initiatives to persons of vision at all levels and creating visible position(s) dedicated to retention activity and research or central retention programs were found to be some of the most successful strategies.

The second value common across transformative institutions was a *commitment to improving programs through evaluation*. Examples include: adequate collection and analysis of data on student experiences and outcomes, initiatives developed and evaluated using theoretical models, rigorous evaluations using randomized control groups or other counterfactuals, methodological and statistical rigour, and data management systems producing longitudinal data and follow-up surveys.

13. Ibid., p. 117.

The third value was an *openness to innovation and flexible responses* to student needs. This innovation was seen in approaches to both administration (e.g., admissions policies) and teaching (e.g., curriculum design), admissions staff development to ensure the current profile of new students was recognized (e.g., non-traditional students, non-traditional pathways to higher education, new government funding policies) and delivery of timely information and support through “spiral induction”—i.e., induction and orientation activities that occur at the start of first term and then again at specified times during the student life cycle.

The fourth and final quality identified was the ability to *build bridges* spanning different groups within the institution (e.g., between those working on the administrative and academic sides of student affairs) and between the institution and external partners in the community. These bridges include clear communication strategies between departments and administrative services to share information obtained through early warning systems and safety nets.

The second of these four qualities—commitment to program evaluation—was the focus of the second part of this study. This wave set out to explore the extent to which post-secondary institutions collect and analyze the data needed to inform the development, implementation and assessment of their access and student success programs.

3.2 Data-Readiness Assessment

As described in the previous section, the assessment of data readiness was conducted in accordance with the four themes of the analytical framework: data collection, data availability, data adequacy and data use. Within each of the four themes, information was gathered and an assessment made as to the extent to which institutions and programs are able to access and utilize the data required for rigorous evaluation. Synopses of the most salient findings from each theme are presented in this section.

The following section on data-readiness assessment presents the themes arising from the site visits to partner institutions and key informant interviews.

Although the focus was mainly on institution- and program-level data-readiness, the information collected also points to the important role governments play in improving data-readiness in the broader context. This includes building the legislative and legal infrastructures that enable data collecting and sharing while respecting information privacy laws and the implementation of provincial and/or national student identification numbers to follow students through their education trajectory.

3.2.1 Consistently Inconsistent: The Definition of Under-Represented Students

An assessment of data collection practices and their implications for data-readiness led to the identification of over 30 data collection instruments containing *at least* one question or indicator associated with low-income, Aboriginal or first-generation status. The instruments identified were categorized along three lines: program-level (i.e., instruments that were designed and/or implemented at the program level only), institution-level (i.e., instruments used to collect data on large sections of the university or college population at the institutional level only) and, finally, provincial/territorial and national level (i.e., instruments used across the province or across many provinces/territories). As illustrated in Appendix D, there was little commonality in the definitions used to collect data on under-represented students. Given the lack of universal definitions to designate these groups, defining each of these populations was most often a function of the question used in any given instrument. This has given rise to the use of varied definitions, each slightly different from the next, resulting in inconsistent reports on access and participation numbers.

Not surprisingly, divergent definitions of under-represented groups were commonly being used *within* institutions. This fact was alluded to during the site visits as a source of potential confusion and frustration for those tasked with reporting institution- or program-level outcomes on these groups. Feedback received from partner institutions also pointed to the difficulties experienced in identifying the definitions used by provincial agencies, as these definitions were seen to be in flux.

Each of the nine major program- and institution-level instruments measuring first-generation status captured “first generation” differently. For instance, first generation was variously defined as students who are the first in their family to *attend any* PSE, the first to *attend university* specifically, the first to *graduate* from PSE or the first to attend PSE *in Canada*. Some instruments record yes/no responses only, while others measure the level of education of one parent or both parents. Whereas certain instruments measure parental education levels, others do not differentiate between parental and sibling participation. Even where this distinction is specified, it remains to be seen how step-parents or guardians fit into these definitions. One partner college suspected that the Ontario College Student Engagement Survey (OCSES) was undercounting first-generation students, in light of a 20 percent gap between the number of first-generation students reported on the OCSES compared to those that self-identified upon receiving university services.

A similar situation arises with the definition of Aboriginal students. Some instruments measure Aboriginal ancestry, while others ask students about their Aboriginal identity and whether they “consider themselves to be Aboriginal.” Some instruments record categories such as Inuit, Metis, Non-Status and Status First Nations, although not all use that language. For instance, the National Survey of Student Engagement (NSSE) refers to “North American Indian,” while others leave the interpretation up to the student and record a simple yes/no response. Where the specification does not include “Non-Status,” some students may wonder if the definition applies to them.

The college partners in this study noted that in Ontario, application centre data was the primary source of Aboriginal student data, and they suspected that these data underestimate Aboriginal PSE access due to a reluctance to self-identify at the time of application. Applicants may have concerns about bias or prejudice and/or may simply not wish to be singled out. The adequacy of Aboriginal-specific data holdings was brought into question by one institution when it was noted, for instance, that the percentage of Aboriginal students varies considerably from year

to year according to application centre data, yet remains relatively constant according to NSSE results. Furthermore, both surveys report numbers lower than those cited as using on-campus Aboriginal student centres. Several partner programs expressed hesitation at asking students to provide personal information that would identify them as belonging to certain key groups, including Aboriginal, particularly at the time of application, when institutions have yet to form a strong relationship with students. The desire to collect information could not be reconciled with the overarching need to make students feel comfortable in their new university or college environment.

Designating low-income or low socio-economic status—a controversial and challenging task to begin with—is no clearer in this context. While provincial/federal financial aid application forms capture family income directly, the majority of surveys use various identifiers to determine low-income status. Some use indirect measures, such as matching student postal codes with Statistics Canada data to better understand neighbourhood income, education and employment rates, while others ask students to identify their level of financial stress. Similarly, certain instruments and institutions gauge the economic status of students themselves, while others focus exclusively on the household or family background. Several of the access and retention programs had asked or were planning to ask students income-specific questions, but there was widespread concern over alienating respondents due to the potentially sensitive nature of the questions.

3.2.2 Data Adequacy

Although the sheer number of instruments collecting data might lead one to think that there are sufficient data to adequately identify under-represented groups, there is nonetheless ongoing concern among institutional partners surrounding the need for more accurate and reliable data.

In addition to data quality concerns due to inconsistent definitions, it is also important to note that sampling methodologies for the major data collection tools may lead to the exclusion of a disproportionately high number of under-represented students. For example, sampling only full-time students enrolled

for the first time in a direct-entry, degree/diploma program can lead to systematic under-sampling of under-represented students, who may participate in relatively high proportions in college access programs or otherwise be admitted under non-regular student status. Some sampling protocols include students only from certain faculties, only those with “regular” student status or only those in direct-entry programs, which may not include students who are attending the institution in academic upgrading or college access programs. In the case of other instruments, sample sizes may be too small, thereby becoming problematic for analyses.

Sampling methodologies were therefore examined for gaps in the data holdings at any stage of student PSE participation: prospective, applicant, enrolled, current, early leaver, graduating and, finally, graduated students.

In terms of data collected on under-represented *prospective students*, there appears to be an important gap in institution-wide data holdings. Few data are being collected on under-represented groups who are potential students. Although several of the partner programs with outreach strategies did collect information on prospective PSE participants, the nature of the data (small sample sizes, anecdotal accounts) or the absence of a long-term tracking system makes the linking of these pockets of data to broader institutional access or retention outcomes problematic. A number of the partners indicated a gap in their knowledge of potential under-represented student populations at the regional level, thereby making it difficult to measure the effectiveness of their outreach and recruitment efforts.

Although post-secondary institutions in large cities or in smaller cities with large Aboriginal populations can obtain region-specific benchmark data on the Aboriginal population by age subgroup from Statistics Canada, many colleges and universities have catchment or recruitment areas for which Census data are not published on the Aboriginal population because of small sample sizes. These institutions’ outreach and access initiatives must often base their measures of success on absolute differences in the number of program participants over time, as opposed to

measures that are relative to changes in the size of the target population.

Data on under-represented university and college *applicants* are also compromised by systemic gaps. The main sources of income-related information that could identify low-income students are provincial/federal financial aid applications and institution-specific financial aid forms. Data collected by provincial/federal forms represent a detailed source of income information on parents and students. However, not every student in financial need applies for this type of funding, and those Aboriginal students whose education expenses are covered by their band but would otherwise be considered low-income students most likely do not apply. The most complete picture of low-income students could be obtained by linking the data collected through provincial/federal forms to Indian and Northern Affairs Canada (INAC) data for band-sponsored students and to the institution’s own financial aid office for institution-specific student financial aid. However, the current legislative environment does not allow the merging of these data sets. The result is a patchwork of income-related data, none of which provides a complete picture of financial need among under-represented students.

First-generation applicant student data in Ontario was not found at the provincial level, as it has historically not been collected via college and university application centres. However, in recent discussion with staff from MTCU and the Ontario application centres for colleges and universities (OCAS, OUAC), it was learned that a first-generation student question is being added to OCAS/OUAC application forms starting in October 2009. During site visits, staff at several of the study’s partner institutions expressed enthusiasm for this idea but were not aware that it was to be implemented in the next school year. In Manitoba and Quebec, both jurisdictions with decentralized application processes, there is also a lack of first-generation student data at the provincial level. Thus, in these two provinces at least, the presence or absence of these data at the institutional level has to date been contingent upon the institution including a first-generation student question on its application form.

Partner institutions reported little data collection on *non-applicants* and assigned less priority to exploring this particular source of data. It was viewed as being of interest but less critical than data on applicants or as simply not feasible given time, human and financial resource constraints.

The most comprehensive data are available for *current students*, whether first-year students, graduating students or all undergraduates. Widely used instruments such as the Canadian University Survey Consortium (CUSC) and National Survey of Student Engagement (NSSE) provide institutions with engagement data on their current students. When microdata are made available to the institution following third-party data collection, as is the case with the NSSE but not CUSC, these data can be combined with administrative data, providing potentially rich sources of information. According to study partners, the OCSES—often considered to be the college equivalent of the NSSE—is no longer mandatory for reports to government as of fall 2009. A planned addition of student engagement questions to the Key Performance Indicators (KPI) survey will likely help fill the gap in college engagement statistics left by the cessation of OCSES.

Although institutions participating in the CUSC and NSSE have data on students in their final year of study, none of the partner institutions identified data being collected specifically on under-represented *graduated* students. Furthermore, although all Ontario universities and colleges must report the graduate-related KPIs, the surveys do not have questions specifically pertaining to low income, Aboriginal or first generation status.

Study partners reported the collection of a limited amount of information on *early leavers* but noted that the response rates for this group are typically low. Although institutions have forms that students should complete prior to officially withdrawing from their program, in practice many students “leave” by simply not registering for the following semester and do not complete the form. Some institutions require students to have an interview in person or over the phone with an academic advisor or faculty

member at the time of leaving, but, again, participation rates are low.

3.2.3 Untapped Potential: Underutilized Data

Program staff cited a lack of resources, time or expertise as barriers to fully analyzing data sets transferred to institutions from third parties such as applicant centres. As well, program staff were not always aware that these data existed within their institution.

The study’s findings noted generally low levels of support provided to program delivery staff in the form of funding, expertise or time to collect and analyze data. This can result in heavy reliance on anecdotal or opportunistic data for reporting, especially among new or smaller programs. When instruments were administered on a smaller scale, as was often the case with the partner programs in this study, surveys and evaluation tools in paper format required a prohibitive amount of resources to manually enter information, leading to an accumulation of unanalysed data. The creation of more time- and cost-efficient collection formats was often not feasible, either because the cost of developing such instruments was beyond what the program could afford or the format was not appropriate given the target sample.

Program staff at the partner institutions for this study indicated that their use of program data was largely at a basic descriptive level. They noted both the importance and the difficulty of simply obtaining reliable participation rates—let alone, say, outcome data—that would help them assess program success. However, without exception, they indicated a desire and in some cases concrete plans to collect more data and use it for explanatory purposes. Several were already working together with their institutional researchers and/or administration to forge data linkages and learn more about how best to serve their target students. Ultimately, all wished to be able to collect and analyze more data to help them in program planning and future implementation.

3.2.4 The Picture of What Could Be: Potential Data Sources and Outcome Indicators

Despite the data gaps and challenges identified in the previous section, there are significant opportunities for institutions to coordinate their collection and reporting efforts and advance efforts to measure program success. This section presents indicators, potential data sources and barriers to data collection at various stages of the student life cycle.

Potential Students from Under-Represented Groups

Potential students are those who are not yet of PSE application age and/or do not, as of yet, have the necessary prerequisites to enter the PSE system. Therefore, these potential students are often the target population for access strategies. The following information is required in order to rigorously evaluate access programs:

1. Reliable, standardized baseline counts of target under-represented groups available at a regional level of analysis, both for those accessing and not accessing program services;
2. Benchmarks with respect to outreach activities;
3. Progress over time in recruiting students from different backgrounds.

Table 1 lists the indicators, potential data sources and barriers to reporting on potential students.

Applicants and Enrolled Students from Under-Represented Groups

Both the applicants and those who end up enrolling at institutions are of interest for evaluating the success of access and retention programs. The following information is required for this purpose:

1. Progress over time in recruiting students from different backgrounds;
2. Extent to which institutional resources are contributing to strategic objectives and whether resources are being better targeted over time;
3. Whether institutions are getting expected results from their investments in students and whether financial aid needs to be complemented by other forms of support;
4. Engagement and satisfaction levels of students from different backgrounds and comparison with general student population levels;
5. Whether gaps in academic achievement among different groups of students narrow or widen as under-represented students progress through their studies;
6. Success rates of students from different backgrounds and progress over time in equalizing those rates.

Table 1: Indicators and Potential Data Sources for Under-Represented Students among Potential PSE Students

Area of Focus	Indicator	Potential Data Sources	Barriers
Target group composition	<ul style="list-style-type: none"> • # and % of potential students 	<ul style="list-style-type: none"> • Census data • Access/retention program-level data 	<ul style="list-style-type: none"> • Region-specific Census data by age subgroup and under-represented student status difficult to obtain • Program forms lacking question or identifier; when question included, use of inconsistent definitions; perceived risk of alienating students

Table 2: Indicators and Potential Data Sources for Under-Represented Students among Applicants and Enrolled PSE Students

Area of Focus	Indicator	Potential Data Sources	Barriers
Target group composition	<ul style="list-style-type: none"> • # and % of applicants • # and % of entering (e.g., enrolled) students 	<ul style="list-style-type: none"> • Census data, Postsecondary Student Information System (PSIS) • Applicant survey or form¹⁴ 	<ul style="list-style-type: none"> • Identifying, tracking and sharing information while respecting privacy and personal information protection laws • For StatsCan data, sample sizes often too small to publicly report or for statistical purposes • Lack of available regional baseline counts for prospective pools (e.g., Census data) • Application forms lacking question or identifier; when question included, use of inconsistent definitions; perceived risk of alienating students • Unpopulated or non-existent fields to capture under-represented identifiers at the institutional level
Academic preparedness	<ul style="list-style-type: none"> • Grade point average upon application and admission 	<ul style="list-style-type: none"> • Applicant form or high school records 	<ul style="list-style-type: none"> • Unpopulated or non-existent fields to capture under-represented identifiers at the institutional level
Financial aid	<ul style="list-style-type: none"> • % of undergrad <i>institutional</i> financial aid <u>offered</u> and <u>delivered</u> on the basis of need or merit (incidence and amounts of award) • Demographic profile of students receiving aid (need-based vs. merit-based) • Impact of institutional financial aid on decision to attend • Persistence, graduation rates: <ul style="list-style-type: none"> • by source institutional vs. provincial) • by type (need-based vs. merit-based) • by student background 	<ul style="list-style-type: none"> • Institutional admissions and financial aid data • Provincial/federal financial aid data • CUSC, Youth in Transition Survey (YITS) • Institution-specific survey • Student record data (institution- or jurisdiction-level), PSIS 	<ul style="list-style-type: none"> • Inconsistent definition of “financial need” across institutions (for institutional aid) • Forms lacking question or identifier; when question included, use of inconsistent definitions • Lack of institution-level data on under-represented students, unless collected with an applicant survey (see composition barriers) • CUSC, YITS data available only in aggregate form; sample sizes for under-represented students often too small to make available or for reliable analysis • Potential bias in answers from students if questions asked by the institution providing the aid • Lack of institution-level data on under-represented students (see previous barriers)

14. In some provinces, such as Ontario, applications for admission to university or college are centrally processed using standardized forms, whereas in other provinces, such as Manitoba, institutions are responsible for creating and administering their own admission forms. Although not all of the latter have an application “office,” this term is nonetheless used in the present context to simplify the reporting of results.

Table 2: Indicators and Potential Data Sources for Under-Represented Students among Applicants and Enrolled PSE Students (continued)

Area of Focus	Indicator	Potential Data Sources	Barriers
Student engagement and satisfaction	Analyses of student engagement factors (decision to attend, adjustment to PSE, experience with PSE, social and academic engagement) and impact on student retention and success outcomes (completion/ time to completion, grade point average, etc.)	<ul style="list-style-type: none"> • NSSE, CUSC • Institutional or provincial student satisfaction survey (varies by jurisdiction) 	<ul style="list-style-type: none"> • Sample sizes for under-represented students often too small for statistical purposes • No widely used student engagement instrument across colleges since OCSES discontinued • CUSC provides aggregate data file only—no possibility of combining results with student admin records
Academic success, persistence, graduation rates	<ul style="list-style-type: none"> • Grade point average in each year of study • Pass/withdrawal, failure rates in key courses • Year-to-year persistence rates • # and % in graduating class 	<ul style="list-style-type: none"> • Admissions/registrar data • Institutional student record admin data • PSIS 	<ul style="list-style-type: none"> • Under-represented student identifier fields in institutional student record databases often underpopulated (data migration issues) • Unpopulated admissions grade point average field for some under-represented students

Graduated Students from Under-Represented Groups

Graduated students are those who have successfully completed their post-secondary studies (as opposed to graduating students who are in the final stages of their studies and are expected to graduate imminently). Information required to rigorously evaluate the outcomes of access and retention programs include:

1. Labour market outcomes of graduates;
2. Satisfaction levels of under-represented students compared to the general student population at the institution;
3. Debt load and debt repayment differences between under-represented students and general student population.

Table 3 below lists the indicators, potential data sources and barriers to reporting on graduated students.

Table 3: Indicators and Potential Data Sources for Under-Represented Students among PSE Graduates

Area of Focus	Indicator	Potential Data Sources	Barriers
Labour market outcomes	• Under-represented students' graduate employment rate, 6 months and 2 years out	<ul style="list-style-type: none"> • Institution-specific survey (if applicable) • Graduate satisfaction surveys 	• Program forms lacking question or identifier; when question included, use of inconsistent definitions
Student satisfaction	• Satisfaction levels with institution, program and services		
Institutional aid	• Debt load and debt repayment	• Graduate satisfaction surveys	

4. Program Data Framework

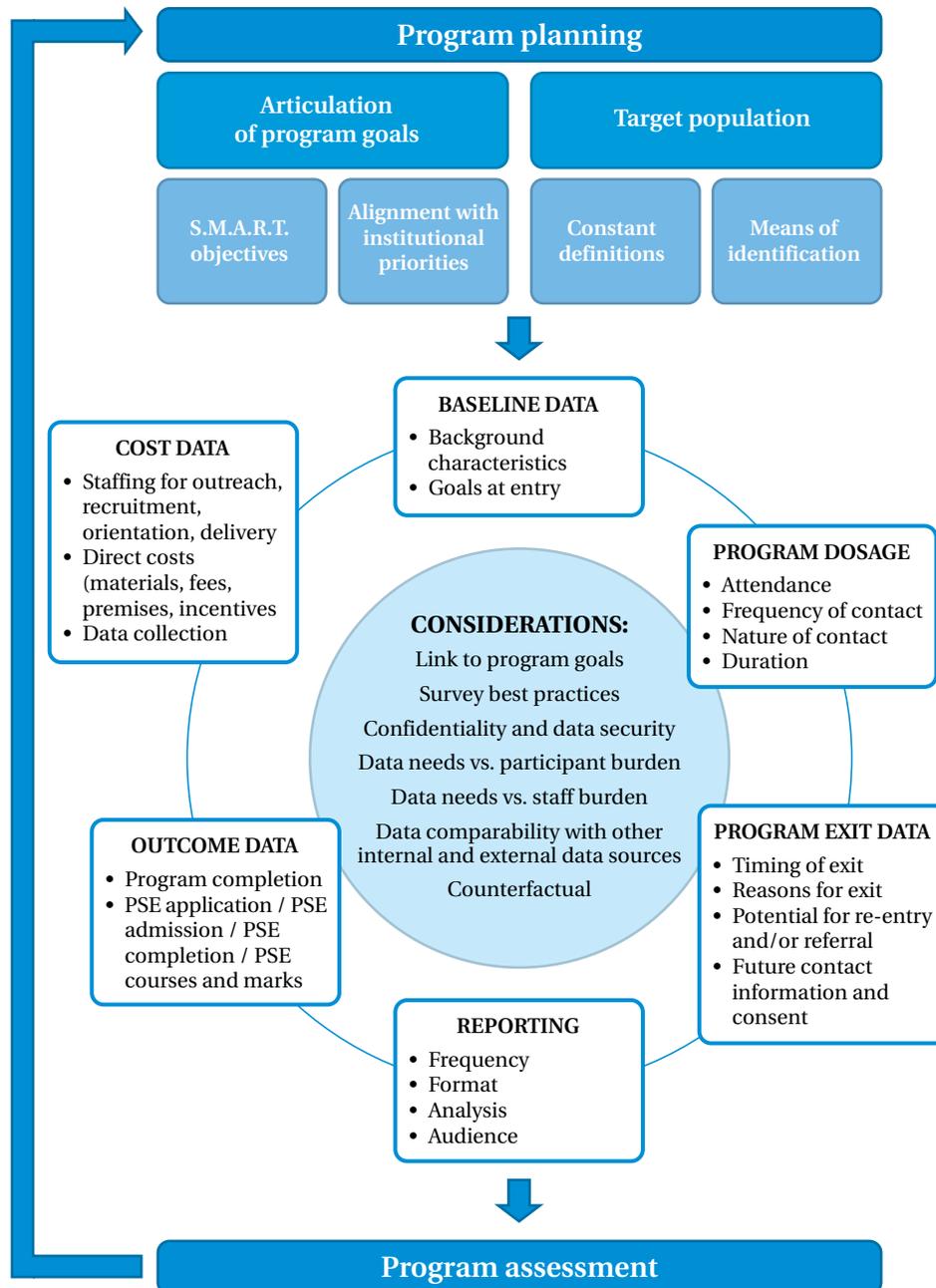
SRDC prepared the following program data framework based on the findings of the environmental scan and the site visits. This framework is intended as a broadly applicable tool to guide institutions as they develop, implement and assess program success.

The cycle begins at the top, with the clear articulation of program goals and the target population. The various types of program data that can support program assessment are shown in rectangles around a non-directional circle. The collection and analysis of these data are not linear but rather can occur at multiple points throughout program implementation. Factors to be considered are found in the centre of the circle; for example, “survey best practices” should be followed on all surveys, whether at baseline, exit or other times. When considering the amount and type of outcome data to be collected, consideration should be given to, for instance, the relative value of these data compared to any burden of collection placed on staff or participants. As shown at the bottom of the circle, the reporting leads to program assessment, which then feeds into ongoing planning and implementation.

Program assessment involves comparing program data to program goals. Thus, clear articulation of these goals is essential. Goals should be developed as a function of institutional objectives and formulated to be “S.M.A.R.T.”—specific (S), measurable (M), attainable (A), relevant (R) and time-bound (T)¹⁵—and are key to developing strategic plans for data collection and analysis. *Specific* objectives indicate what they are meant to achieve using terms that are concrete and well defined, free from jargon and specific enough so that involved persons know that they are included. Objectives designed to be *measurable* provide a clear indication of what progress or success will look like. *Attainable* objectives are known to be measurable and have a realistic chance of being achieved, given the context in which the program operates. Objectives that are *relevant* are clearly tied to the program’s overall goal(s) and readily identified as such. And, lastly, objectives expressing a *time*-sensitive component are explicit about when achievement is expected.

15. Doran, 1981.

Program Data Framework



5. Policy Considerations

The findings of this study point to some key considerations for institutions and policy-makers seeking to improve the current state of data-readiness as it pertains to access and retention of under-represented students in Canada.

5.1 Transformative Institutions

In addition to developing and implementing innovative support programs and strategies, improving the access and retention of under-represented students in Canadian PSE also requires a commitment to evaluating and measuring the impacts of these investments. Institutions themselves can demonstrate such commitment by ensuring that their vision and objectives for access and retention are clearly articulated and broadly communicated, thus enabling program delivery staff to design their evaluation questions and data collection instruments so that generated data “feeds” naturally into the institution’s access and retention objectives.

Where possible, it is preferable to add an access or retention specialist position to act as the “hub” for facilitating action and allocating resources to program delivery staff to develop and conduct more rigorous evaluations. Doing so signals an essential shift, effectively placing measurement at the forefront as a “must have”—as opposed to “nice to have”—program component.

Communication and sharing of data within the institution could be further encouraged by the creation of access- or retention-specific working groups to build bridges across the various stakeholders: administrative and academic sides of student affairs, access/retention program heads, student representatives, etc. Communication strategies that work to provide timely and relevant data or information both vertically and horizontally across the various units working in the area of access and/or retention

encourages collaborative partnerships and reduces the likelihood of duplication of efforts.

5.2 A Purposeful and Coordinated Strategy

Understanding the pathways to, through and after PSE for Canada’s under-represented groups requires that the data collected on these groups be systematic and part of a coordinated strategy. Individual institutions can go a long way in ensuring the use of consistent definitions across programs and data collection instruments but measuring collective progress toward increasing participation rates of under-represented groups requires a coordinated strategy at a broader level.

In the United States, the Education Trust has launched an ambitious project to close the gaps in both access and completion between low-income and minority students and other students by at least 50 percent by 2015.¹⁶ The Access to Success Initiative (A2S) brings together 390 campuses, representing a total of three million students, and as they each work to achieve their own overall improvement targets, all participation systems have agreed on a common set of metrics to evaluate progress. As would be the case if a similar initiative were launched in Canada, some of the information to be published annually by the Education Trust for A2S has never before been made public, including attendance and graduation rates for some sections of under-represented student populations.

In Canada, the first steps toward creating a similar national strategy might include the creation of a task force with membership from provincial/federal, national, PSE institutional and educational leaders whose purpose it would be to hold broad consultations to begin articulating a national data strategy.

Outcomes of such a strategy would likely include the adoption of standardized questions to identify

16. The Education Trust, 2009.

low-income, first-generation and Aboriginal students that are carried through the data collection instruments used and worded in ways that are mindful of the issue of identification versus alienation. Transparency—that is, providing context and purpose for requesting self-identifying information—would be included in the move toward standardization. In provinces like Ontario where there is a centralized application centre, questions on under-represented students included on application forms are now aiding institutions in collecting these data without having to implement their own instrument.

A task force could recommend ways in which a broader strategy could be implemented so that institutions would not be penalized for accepting greater proportions of under-represented students. As some of the partner institutions in this study noted, tension continues to exist between creating an “accessible” school that admits students who may be less well prepared academically and the reduction in funding that comes with having higher proportions of early leavers. This can also have a negative impact on school rankings in an environment of accountability frameworks.

5.3 Investment in Institutional Infrastructure

Improvements to the current state of reporting on under-represented students in PSE will require infrastructure investment in or by institutions for

the implementation and evaluation of access and retention programs. This includes support for staff who run the programs but often have little time or human resource capacity to implement rigorous evaluations of program outcomes. Many of these programs have few reliable baseline data—for example, consistent year-to-year measures of the number of first-generation students at their institution or a measure of the number of potential students at a regional or provincial level—that could serve as benchmark data. Even when such benchmark data do exist, making full use of them remains a problem due to a lack of available resources to conduct analyses and/or lack of awareness of potential data linking opportunities with other data sets held institutionally.

Efforts to improve data-readiness by investing in institutional infrastructure might include funding for an administrative position tasked with responsibility for access/retention initiatives. The mandate of this position would be to coordinate the collection and dissemination of data both internally and externally and to undertake strategic planning to address institution-specific access and retention challenges. Such a position could also encourage more rigorous program evaluations by providing separate funding or incentives to programs specifically for evaluation, partnerships with faculty who can lead evaluation efforts or other innovative approaches to evaluation. In such a scenario, funding could be tied to progress made in the implementation of institutional strategies and improvements on reporting and/or research on under-represented students.

6. Conclusion

Through this research we have learned about the existence of numerous innovative access and retention programs for under-represented groups at Canadian post-secondary institutions. The strategies adopted by the five partner institutions span almost three-quarters of the nearly 160 strategies identified in the typology developed from the literature review. Equally impressive was the demonstrated commitment of institution staff and community partners and institutional willingness to evolve so that students from all backgrounds can feel they belong on their campuses.

The findings from this study indicate, however, that post-secondary institutions in Canada likely do not have the data necessary to fully assess the effectiveness of their access and retention programs for under-represented students. They may not be able to identify these students, to access and link to data previously collected about them, to track them through all stages from application to enrolment to graduation or discontinuation or to measure the effects of specific programs on their success. The availability of data to establish baseline measures and to link student information from different databases is limited by the regulatory and legislative environment.

The inconsistent use of definitions for under-represented students appears to be problematic for program delivery and institutional research staff. The lack of uniformity results in differences in reported access and participation rates for these students, making comparisons between and even within institutions unreliable. Concerns exist regarding the accuracy and reliability of the data collected, specifically as it pertains to estimation of under-represented student population sizes. While centralized application centres have internal consistency in the forms used for data collection, inconsistencies remain across centres.

This study identified a number of potential sources of data that, in their current form, do not include questions that could be used to identify low-income, first-generation or Aboriginal students. The addition of such questions—accompanied by an explanation of their rationale to allay any student concerns—would provide for a richer data set from which much more could be learned about the educational pathways of these students. In addition, there are ongoing challenges in making full use of existing data sets due to having only aggregate or anonymous survey data or lacking common identifiers to merge data from different sources.

There is evidence of progress: for example, the upcoming addition of a first-generation student question on OUAC/OCAS application forms will provide a new source of province-wide first-generation student data for Ontario. As well, the HEQCO and MTCU are continuing discussions and initiatives to advance the state of data-readiness of Ontario institutions. In Manitoba, the Council on Post-Secondary Education, in collaboration with Manitoba Advanced Education and Literacy, post-secondary institutions and the K-12 government sector, are working toward a new provincial data system comprised of over 90 elements taken from the PSIS so that the province can begin in earnest to study the long-term educational outcomes of its students. Similar initiatives are undoubtedly underway in other provincial and territorial jurisdictions.

The study also found that program delivery staff tended to be primarily and necessarily occupied with running their programs and attending to participant needs, with little support in the form of funding, expertise or time to collect and analyze data. Where more rigorous data are not available, there continues to be reliance on anecdotal or opportunistic data for reporting, particularly for new and/or small-scale

programs. However, the partners in this study showed not only keen interest in collecting more data for rigorous assessment of their programs but were at various stages of conducting additional data collection and analyses.

Improving the current state of data collection and reporting on PSE participation among Canada's under-represented students is a vital step to measuring the effectiveness of the support programs being

offered to them. As one segment of the population seen to be a critical driver of future labour market growth, it is vital to gain a better understanding of the pathways in, through and after PSE for under-represented students. It is hoped that the findings of this study will help to demonstrate the importance of a coordinated data-readiness strategy to support programs in achieving their goals.

List of Acronyms

A2S	Access to Success
AUCC	Association of Universities and Colleges of Canada
CUSC	Canadian University Survey Consortium
HEQCO	Higher Education Quality Council of Ontario
INAC	Indian and Northern Affairs Canada
KPI	Key Performance Indicators
MTCU	Ministry of Training, Colleges and Universities
NSSE	National Survey of Student Engagement
OCAS	Ontario College Application Service
OCSES	Ontario College Student Engagement Survey
OECD	Organisation for Economic Co-operation and Development
OSAP	Ontario Student Assistance Program
OUAC	Ontario University Application Centre
PSE	Post-secondary education
PSIS	Post-secondary Student Information System
SRDC	Social Research and Demonstration Corporation
YITS	Youth in Transition Survey

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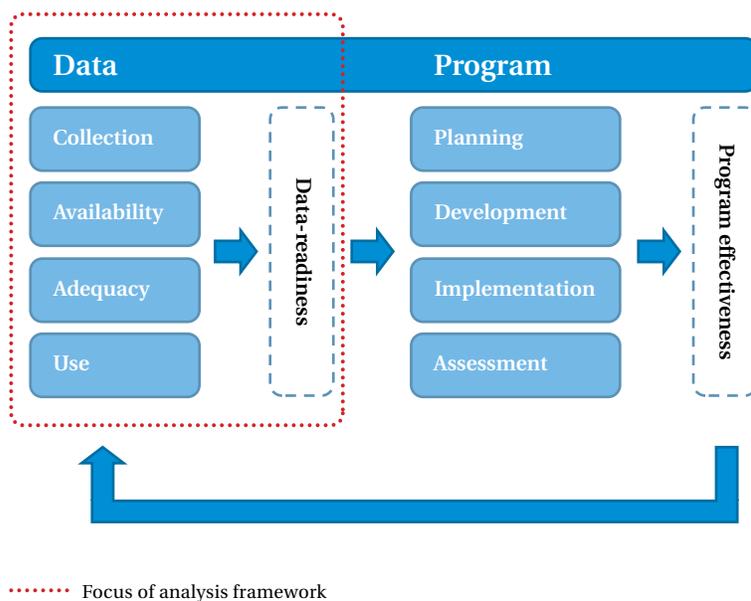
Appendix A: Data-Readiness Analysis Framework

This Review of Post-Secondary Access and Success Programs was designed to provide a better understanding of data collection and use in relation to access and student success in PSE. The analytical framework described in Section 2.2 and illustrated in Figure 1 was used to assess the data-readiness of participating institutions by examining whether they are collecting and analyzing the data needed to develop, implement and evaluate effective programs, as well as organizing and interpreting program

information. The framework is divided into four sections: data collection, data availability, data adequacy and data use.

In the context of the present study, data-readiness can be seen as a state in which collected data are both adequate and available and are used in ways that enable institutions to accurately report on the impacts of their programs or initiatives to increase access and retention among under-represented students.

Figure 3 — Diagram of Data-Readiness Analysis Framework



Appendix B: Partner Programs and Institutions

Five colleges and universities partnered in this study: Carleton University, Confederation College, George Brown College, the University of Winnipeg and York University. Partner institutions were selected largely through funder contacts with colleagues at post-secondary institutions known to have access and retention initiatives for under-represented groups.

Each of the five partner institutions was asked to put forward one or two key programs serving their under-represented student populations. In some cases, the programs selected were designed to serve one under-represented student population (e.g., Aboriginal Enriched Support Program), while others were open to all students but used primarily by a range of under-represented student groups (e.g., Advanced Upgrading).

The programs vary in their length of implementation, ranging from being newly designed to having been in place for 17 years. They also vary in the number and type of students they serve, including

elementary or high school students (prospective PSE students), first-year PSE students and upper-year PSE students. The programs selected by partner institutions are as follows:

- | | |
|---------------------------|---|
| • Carleton University: | First in the Family
Aboriginal Enriched Support Program |
| • Confederation College: | First Nation Youth Flight Camp
First Nation Natural Resources Youth Employment Program |
| • George Brown College: | Academic Upgrading
LEADS |
| • University of Winnipeg: | Eco-U Program Series
Model School |
| • York University: | Westview Partnership programs |
-

Appendix C: Typology of Access and Retention Strategies

Access and Retention Strategies

Outreach and awareness:

changing attitudes toward PSE and improving PSE-readiness

- Early tuition commitment programs for high school students
- On-campus experiences for high school students
- Career and education planning for high school students
- Participating in fairs and education symposiums
- Presentations at elementary and high schools
- Presentations at Aboriginal gatherings or events
- Organized on-campus visits for young students
- Student ambassadors to high schools/ community events
- Online and print material with content specific to Aboriginal or first-generation students
- Advertising in Aboriginal media
- Summer camps for young students organized around educational themes
- Academic workshops
- Education-based programs for youth on campus
- Parent outreach
- Assistance with application and/or registration process

Sorting:

matching students to the most suitable academic programs and campus resources

- Preparatory courses for students with weak entry grades
- Advising interventions with selected student populations
- Diagnostic academic skills test(s)
- Early warning system
- Mid-term progress reports
- Attendance monitoring
- Recruitment and admissions: a highly visible single point of contact for all program inquiries
- Recruitment: pre-enrolment system that begins 15 months before start of classes
- Recruitment: get-together for students who have been accepted but have not yet formally enrolled; pre-admission lunch, interview and campus tour
- Pre-enrolment: neutral pre-entry advice and guidance by staff in the target program
- Initial student assessment by institution: screening for literacy and numeracy followed by advice, referral and effective support
- Induction: adjusting students' expectations to demands of target program
- Support for students in "wrong" program: advice and assistance in changing to new program

Access and Retention Strategies (continued)

- Student tracking and follow-up: support system for re-entry after drop-out or stop-out

Supporting:

easing non-academic challenges faced by students

- Induction and support through program: peer mentoring to provide social and emotional support (non-academic)
- Need-based financial aid for tuition/other education costs
- Targeted need-based financial aid for first-generation or Aboriginal students
- One-on-one help in completing student aid applications
- Support for at-risk students: intervention by classroom teacher; personal referral for support by academic staff
- Induction (first term): highly visible participation by student support staff in orientation week
- Induction (first term and beyond): spiral induction—offering information about services at more than one point in the student life cycle
- Induction and orientation: student ambassadors (temporary paid position) from second and third year

Connecting students and the institution:

creating attachments among students and between students and the institution

- Telephone contact and counselling for students with poor attendance (attendance monitoring)
- Pre-enrolment orientation
- Learning communities
- Supplemental instruction
- Organized student study groups
- Recreation/intramural activities

- Cultural activities program
- Academic advising centres

Connecting students with the community:

encouraging attachments and networks between students and the off-campus community

- Community member mentoring
- Directing students to affordable housing
- Directing students to language training
- Directing students to services not offered on campus
- Directing students to Aboriginal Friendship Centres
- Cooperative education opportunities, internships, etc.
- Partnerships with business community for program development
- Inviting Elders/community members on campus for counselling, lecturing, program development, consultation, etc.

Transforming students:

changing students' skills or motivation to succeed

- Values inventory
- Remedial/developmental coursework (required)
- Tutoring program
- Study skills course, program or centre
- Peer mentoring
- Time management course/program
- Curriculum design/support for at-risk students: preparatory, access or foundation courses; pre-course workshops; course preparation sessions; credit and non-credit options to ensure students are prepared for demands of program

Access and Retention Strategies (continued)

- Mentoring/tutoring: peer mentoring (academic) to provide support for traditionally difficult courses, provided by second- or third-year students to first-year students; various names, including SI (supplemental instruction) and PASS (peer-assisted study sessions or study support)
- Tutoring: subject-specific workshops or sessions offered at regular, convenient times by peer mentors or self-selected faculty (e.g., WISER at UCLan—most popular sessions are math)
- Leadership development

Transforming the institution:

changing institutional priorities, cultures, policies or practices to better meet student needs

- More advising staff
- Advisor training
- Integration of advising with first-year transition programs
- Diversity information/training
- Application of technology to advising
- Teaching techniques (as part of a faculty development program)
- Outcomes assessment
- Freshman interest groups (FIGs)
- Intervention strategy: may involve telephoning, writing or approaching students with questions and information
- Spiral induction: induction and orientation activities that occur in first term and then again at specified times during students' life cycle incorporating new information required by students at different stages
- Promotion and information dissemination: incorporation of student input and student talent in design of brochures, posters, websites, etc.
- Mentoring/support through program: personal tutor—faculty member appointed as students'

first point of contact for guidance and other inquiries who remains their personal tutor throughout the program

- Central retention program: faculty hired to research, design, implement and evaluate retention and student success initiatives across the institution
- School- or department-based retention position: faculty seconded on a part-time basis to provide leadership within a department or unit
- Pro-active institutional approach: policy that comes from the top and is espoused by management; usually includes adoption of a retention model
- Centralized information centre: purpose-built, highly visible location for many student services
- Staff development to raise awareness of complexity of student cohort
- Staff development: new staff mentoring; curriculum development to improve access to material by students with disabilities; IT support; etc.
- Support for formalized non-class interaction time between faculty and students: recognition of hours for providing feedback (oral or written) in office or via e-mail, small group or telephone advising
- Action research (Version 1): longitudinal or short-term quantitative and/or qualitative research in which at least a portion of the research design, data collection and analysis is provided by an independent researcher contracted from outside the organization
- Action research (Version 2): longitudinal quantitative research carried out by the organization to collect consistent data over a number of years to support decisions about retention initiatives
- Action research (Version 3): small scale faculty-led research, usually based within one department or program, to collect data on a specific, narrow aspect of retention

Access and Retention Strategies (continued)

- Provision of physical space for student interaction for academic purposes: e.g., resource rooms, meeting rooms
- Data management systems that produce longitudinal data using first-year student surveys and follow-up surveys; multiple factor analysis; “deep” data collection that extends from school to program to course to module; more than one type of analysis for multiple audiences
- Curriculum design: wide variety of curriculum and lesson plan designs; most focus on increasing involvement of students in learning process

Appendix D: Comparison of Indicators and Definitions Used to Identify Under-Represented Students

Low-Income/SES

Questions or Identifiers Used in Institution- and Program-Level Instruments	Source	
Employment during current academic term (excluding co-op)	Yes/no	CUSC Undergraduate, First-Year and Graduating Surveys
	# of hours/week, paid employment, off-campus, retrospective	NSSE
	# of hours/week, paid employment, on-campus, retrospective	NSSE
	# of hours/week, paid employment, on- or off-campus not specified, prospective/intention	Student Survey (ESP and AESP) OCSES
	Most important reason for employment, including “money for essentials,” “spending money” and “debt repayment”	Student Survey (ESP and AESP)
From low-income family (self-declared)	Are you from any of the following under-represented groups? Check all that apply (responses include “low-income family”).	Opportunities Fund Bursary Program application form
Interest in student aid	Are you interested in finding out more about financial assistance?	Student Needs Assessment (LEADS)
Applied/applying/intend to apply for or financial assistance	Did you apply for a bursary or student loan? Yes/no. If yes, approx. amount for each.	Student Survey (ESP and AESP)
	Did you apply for financial assistance (OSAP)? Yes—and I will be receiving it; Yes—and I will not be receiving it; No—I haven’t applied.	Son of FITS
	Do you intend to apply for financial assistance from OSAP?	OUAC application form
	Have you ever applied for student loans?	CUSC First-Year Survey
Receiving financial assistance	Have you ever had a Canada Student Loan, Ontario Student Loan or Canada-Ontario Integrated Student Loan?	OSAP application form
	Have you ever received an academic scholarship from this university?	CUSC Undergraduate and Graduating Surveys
	Are you receiving OSAP?	Work Study Program application form

Low-Income/SES

Questions or Identifiers Used in Institution- and Program-Level Instruments		Source
Total income	Enter your total income as indicated on line 150 of your (YEAR) Canadian income tax return.	Canada Student Loan/Manitoba Student Loan application forms OSAP application form
	Direct income measure to determine financial need (revenue minus expenses)	Opportunities Fund Bursary Program application form Work Study Program application form
	Household income (voluntary declaration)	University of Winnipeg application form
	Father's (or parent 1) total income as indicated on line 150 of his (YEAR) Canadian income tax return. Mother's? Spouse's?	Canada Student Loan/Manitoba Student Loan application forms OSAP application form
Sources of financing	From which of the following sources are you receiving the most money? Choose one only: parents, other people (First Nations funding), loans, scholarships, employment.	OCSES
	If you are receiving money from loans to fund your education, what types of loans? Choose all that apply: "not receiving money from loans," "government-sponsored/student loan," "bank loan or line of credit," "loan from parents or family members."	OCSES
	Indicate which of the following sources of money you plan to use or are using to fund your current program of study (includes "money from LOANS (OSAP, credit cards, parent, etc.)).	OCSES
	Thinking about the current academic year, please indicate which of the following sources you are using to help pay for your university education. Then provide the approximate amount you have received from each.	CUSC Undergraduate Survey
	What was your main source of financial support? Check one: private loan, government student loan, parents or other family members, savings, work during current school year.	Student Survey (ESP and AESP)
	Level of concern	How concerned are you about having sufficient funding to complete your university education?
	How confident are you in your ability to meet the financial costs of your education and living expenses while attending Confederation College? Extremely, somewhat, not at all.	Son of FITS
	I am worried or stressed out about my student loans and credit card debt.	Student Needs Assessment (LEADS program)
	Paying for my education is NOT going to be a problem for me this semester. 5-point Likert scale from strongly disagree to strongly agree.	OCSES
	Rate your level of concern with the following: having enough money to pay for your college studies and living expenses this year; the amount of debt you think you will have by the time you complete your PSE; your ability to repay any student debt you accumulate within a reasonable timeframe.	OCSES
Debt load	How much repayable debt have you acquired to help finance your university education?	CUSC Graduating Survey
	To date, about how much repayable debt (if any) have you acquired to help finance your university education from the following sources?	CUSC Undergraduate Survey

Low-Income/SES

Questions or Identifiers Used in Institution- and Program-Level Instruments		Source
Other	Postal code	Canada Student Loan/Manitoba Student Loan application forms OSAP application form OCAS application form OUAC application form
	Would you have been able to attend university without financial assistance from this university?	CUISC First-Year Survey
	Are you having difficulty fulfilling the course load needed to keep your loans or bursaries?	CUISC Undergraduate, First-Year and Graduating Surveys
	TOTAL number of indicators/definitions: 33	

Aboriginal

Questions or Identifiers Used in Institution- and Program-Level Instruments		Source
Aboriginal ancestry	Aboriginal ancestry (question not yet developed)	University of Winnipeg Applicant Survey
	Do you consider yourself to be a person of Aboriginal or Native ancestry (for example, First Nations, North American Indian, Inuit, Métis, etc.)? Yes/no.	NSSE
	If you are of Aboriginal ancestry, please specify: First Nations status, First Nations non-status, Inuit, Métis, other.	Opportunities Fund Bursary Program application form
	If you are of Aboriginal ancestry, please specify: First Nations status, First Nations non-status, Inuit, Métis, other (includes note about identifying students for services and possible funding).	University of Winnipeg Applicant Survey
	To which ethnic or cultural group(s) did your ancestors belong? Specify as many groups as applicable (open-ended).	NSSE
Aboriginal with specification	Are you an Aboriginal applicant (voluntary declaration)? First Nation, Métis, Inuit.	OUAC application form
	Select all that apply: Are you Métis, Inuit, North American Indian, other (other is not open-ended)?	NSSE
	Do you consider yourself to be an Aboriginal person? First Nations, Métis, Inuit, non-status.	CUISC First-Year and Graduating Surveys
	Do you describe yourself as an Aboriginal person? Yes, no, no answer. First Nation, Métis, Inuit, other.	Son of FITS
	If you are of Aboriginal status, identify your ancestry. Inuit, Métis, non-status First Nation, status First Nation.	OCAS application form
	Please indicate below if you are Métis, non-status Aboriginal, treaty/status or Inuit (includes note about identifying students for services and possible funding).	Canada Student Loan/Manitoba Student Loan application forms
Aboriginal without specification	To which ethnic or cultural group do you belong? Check all that apply (includes Aboriginal).	CUISC Undergraduate Survey
Band-sponsored	Are you sponsored? Yes/no. If yes, name agency.	OCAS Application Form
	Are you receiving money from other people that you don't have to pay back (e.g., First Nations funding, WSIB, EI, etc.)?	OCSES
	Funding from band council, Indian Affairs, tribal council or Manitoba Métis Federation.	Canada Student Loan/Manitoba Student Loan application forms
	My fees will be paid by: parent/guardian or sponsoring agency. Provide sponsoring agency address and email.	University of Winnipeg application form
TOTAL number of indicators/definitions: 19		

First-Generation

Questions or Identifiers Used in Institution- and Program-Level Instruments	Source
First in family to enrol in PSE ("family" unspecified)	First member of family to enrol in PSE? Yes/no. Opportunities Fund Bursary Program application form
First in family to pursue PSE, not including siblings	Are you the first in your family to pursue PSE in Canada (not including your siblings)? Student Needs Assessment (LEADS)
First in family to attend PSE	Who in your family has attended at least some college or university? Mother, father, both, neither. Son of FITS
	Did either of your parents attend college/university? Yes/no. Prospective Student Scratchpad
Parental education level (open-ended)	Parents' level of education University of Winnipeg Applicant Survey
Highest level of education attained by mother and father	What is the highest level of education attained by your parents/guardian? Father? Mother? 11 categories. OCSES
Highest level of education completed by mother and father	What is the highest level of education that your mother completed? Father? (7 categories) NSSE Student Survey (ESP and AESP)
	What is the highest level of education that your mother completed? Father? (9 categories) CUSC Undergraduate Survey
	What is or was the highest level of education completed by your parents? Mother? Father? (open-ended) CUSC First-Year Survey
TOTAL number of indicators/definitions: 10	