Electronic Transcript Exchange - Institutional Codes Survey

April 2018

Prepared by:

Ruth Blades

Jamie McCrory

Bonnie Stecyk

Susan Stein

Cathy van Soest

Acknowledgements

On behalf of the Canadian Postsecondary Electronic Standards Council User Group (CanPESC), we would like to acknowledge the Association of Registrars of the Universities and Colleges of Canada (ARUCC) for their partnership in the distribution of this institutional codes survey. ARUCC kindly translated this survey and the email distribution notice from English into French, and distributed both English and French versions to their membership. This was instrumental in getting member institutions to complete the survey. In particular, we would like to thank Charmaine Hack, President of ARUCC and University Registrar, Ryerson University, as well as the ARUCC Executive for their support of this initiative.

We would like to thank the following external reviewers for their feedback on the survey prior to distribution:

- Rob Adamoski, BC Council on Admissions & Transfer
- Joanne Duklas, Duklas Cornerstone Consulting
- Anna Tikina, BC Council on Admissions & Transfer

Thanks also to our CanPESC colleagues for their review and feedback of the survey before distribution.

Thanks as well to Leisa Wellsman, Conestoga College, and former CanPESC Co-Chair for her support and participation in the development of the survey.

We would like to thank the following reviewers for their feedback on the survey report:

- Joanne Duklas, Duklas Cornerstone Consulting
- Doug Holmes, Ontario Universities' Application Centre and CanPESC Co-Chair
- Sinisa Markovic, University of Toronto
- Joseph Minichini, University of Toronto
- Brian Patton, Ontario Universities' Application Centre

- Anna Tikina, BC Council on Admissions and Transfer
- Renée Verlaan, service régional d'admission du montréal métropolitain (SRAM)
- Leisa Wellsman, Conestoga College

With much appreciation,
CanPESC Institutional Codes Survey Sub-Group

- Ruth Blades, Operations Manager, Nova Scotia Council on Admission & Transfer
- Jamie McCrory, Associate Registrar, University of Saskatchewan
- Bonnie Stecyk, Business Systems Analyst, Saskatchewan Ministry of Education
- Susan Stein, Executive Director, Alberta Post-Secondary Application System
- Cathy van Soest, Manager, EducationPlannerBC Transcript Services, & Co-Chair, CanPESC

About the Canadian Postsecondary Electronic Standards Council User Group (CanPESC)

CanPESC is a voluntary, cross-Canada organization interested in applying technical standards to student information data exchange for educational purposes (for more information, visit http://www.pesc.org/canadian-pesc-user-group.html). ARUCC and PESC entered into a Memorandum of Understanding in 2013 to acknowledge the intention of working together towards the use of data exchange standards. CanPESC acts as a liaison between PESC and ARUCC.

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Acronyms

APAS – Alberta Post-Secondary Application System

ARUCC – Association of Registrars of the Universities and Colleges of Canada

CanPESC – Canadian Postsecondary Electronic Standards Council User Group

CSIS – College Student Information System (Statistics Canada)

CSV – Comma-Separated Values file format

EDI – Electronic Data Interchange

PDF – Portable Document Format

PESC – Postsecondary Electronic Standards Council

PESC GDM – PESC Global Data Mobility User Group

PESC GEO CODE – PESC Global Education Organization Code

PESC GEOCode – PESC global code set produced by the PESC GEO CODE Initiative

PSIS – Postsecondary Student Information System (Statistics Canada)

TXT – Text file format

URL – Universal Resource Locator

USIS – University Student Information System (Statistics Canada)

XLS – Microsoft ® Excel ® spreadsheet format

XML – eXtensible Markup Language

Executive Summary

In the spring of 2017, the Canadian Postsecondary Electronic Standards Council User Group (CanPESC) conducted a survey on the code sets used by universities, colleges, application centres and government ministries/departments to identify the high schools and post-secondary institutions within each province and territory in Canada, as well as those used to identify out-of-province and territory/international schools and institutions. This survey was done as part of CanPESC's goal to create a Canadian electronic transcript exchange network. Information on the types of institutional codes is important for the process of exchanging electronic transcripts across Canada and internationally.

The results of the survey, detailed in the following report, indicate differences from region to region, and little commonality across jurisdictions. Overall, we found that respondents use locally defined codes extensively for identifying both secondary and post-secondary institutions. Data sets were especially likely to be unique to an institution for out-of-province or out-of-country institutions. In some cases (particularly for in-province/territory public institutions), provincially/territorially assigned code sets rival locally defined sets in rates of use (Figure 1).
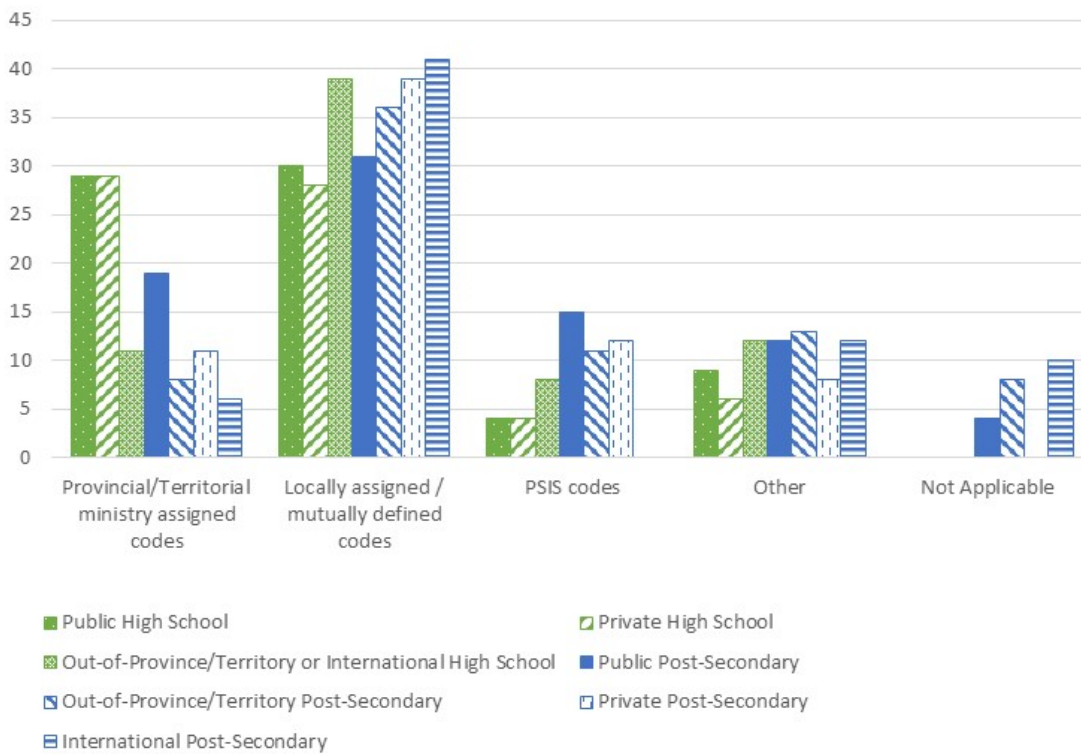
Figure 1 Summary of code sets used by post-secondary institutions to identify institutions

In addition, we found that there is a lack of alignment in structure of the code sets themselves with varying numbers of characters and different practices in the use of numbers and letters. As well, the published codes are not consistent in what they include or the format in which they are presented. No clear trends emerged by organization type or by province, pointing to further diversity in data-handling practices within respondent organizations.

The results of this survey highlight one of the challenges for electronic transcript exchange present within Canada. The adoption of a single common global identifier may mitigate the challenge of identifying institutions for data exchange and further the progress of developing a Canadian electronic transcript exchange network.

1. Introduction

The Canadian Postsecondary Electronic Standards Council User Group (CanPESC) conducted a survey on the code sets used by universities, colleges, application centres and government ministries/departments to identify the high schools and post-secondary institutions within each province and territory in Canada, as well as those used to identify out-of-province and territory international schools and institutions. This survey was done as part of CanPESC's goal to create a Canadian electronic transcript exchange network. Information on the types of institutional codes is important for the process of exchanging electronic transcripts across Canada and internationally.

This work relates to the efforts of the PESC Global Data Mobility User Group (GDM), which is analyzing current barriers in order to improve digitalization and interoperability of post-secondary education data across systems and borders. The GDM's first major project, the PESC Global Education Organization (GEO) Code (http://www.pesc.org/geo-code.html), is establishing a standardized, global school code list. The lack of a comprehensive and easily accessible list means that universities and colleges worldwide have to map and link various codes that reference the very same institution. As the number of students moving between institutions nationally and internationally grows each year, the manual labour and technical processes needed to secure and identify accurate school codes increases correspondingly, becoming more intensive and potentially creating identification errors.

The CanPESC Institutional Codes Survey dovetails with the directions that the Association of Registrars of the Universities and Colleges of Canada (ARUCC https://www.arucc.ca/) is undertaking. There has been significant work by ARUCC on a project to advance student mobility via trusted data exchange. This project is also embracing the principles developed by Groningen Declaration Network (http://www.groningendeclaration.org/), an initiative that is working with organizations worldwide to achieve international data portability to enable global student mobility. CanPESC has collaborated with ARUCC as part of the ARUCC Groningen and Student Mobility Task Force (2015-2016) and ARUCC Groningen & Student Mobility Project (2017-2018) to look at the broader issues and potential solutions to advance student data exchange effectively in Canada and internationally.

Why a Survey?

CanPESC members collectively have much experience with institutional code sets used by their organizations and in their jurisdictions. Prior to determining that a survey would be needed, CanPESC developed a working group to look at the problem of institutional codes and to identify strategies for collecting this information. This group was known as the CanPESC Institutional Codes Survey Sub-Group. We gathered information on lists available in Canadian provinces and also looked at what was

available nationally. While we were able to determine that there was a variety of lists of institutions available in Canada, it was clear that a range of different approaches were being used to identify institutions. For example, for public post-secondary institutions in Canada, Statistics Canada provides a national list with assigned codes. However, there does not appear to be single comprehensive national list for private post-secondary institutions or international post-secondary institutions, nor is there a specific code set that we could identify and apply for these types of institutions.

For public high schools in Canada, there are provincial lists of school codes. Similarly, we identified that there are lists of private or independent schools, with identification codes, in certain provinces.

It should also be noted that PESC has a number of code sets that have been included in their data exchange standards. These code sets are used by organizations for identifying institutions when exchanging electronic data via EDI or XML. By having a range of institution code sets available, users in various jurisdictions can select and use the code set of their choice. For example, PESC includes the Statistics Canada's PSIS code set for identifying Canadian public post-secondary institutions when transmitting electronic transcripts. A new institutional code set, APAS, requested by the Alberta Post-Secondary Application System has recently been accepted into the PESC standards. This set is available for use by any organization using the PESC standards. In addition, PESC has recently included a new code set, the GEOCode, which includes the institutions that the GEO CODE Initiative has collected from around the world. Each institution has been given a unique identification number, which should help with the issue where institutions and organizations are identified by multiple identification codes.

Why Institution Types?

CanPESC members were interested in identifying institutional codes applied by the type of institution. This is important because understanding the range of code sets will facilitate opportunities to work towards the development of a comprehensive approach for each institution type. This is also important for CanPESC since the members have different interests in the codes sets applied for a range of institution types. Some members are interested in high school identification codes, while others are only interested in post-secondary codes. Some members are interested in all codes applied to a range of institution types. To ensure that we were able to collect data relevant to the needs of CanPESC members was a very important goal of this survey. The data included in the results section reflects this requirement and shows the survey results by institution type.

Code Structure and Why This is Important

CanPESC was very interested in the way that various jurisdictions structure their institutional identifiers. For our pre-survey review of available lists, it seemed that a

variety of practices were in place. Some codes were numeric, while some were alphanumeric, and the codes varied in length. There was no shared practice with regard to how these were constructed. However, we recognized that most codes were developed to meet local needs, including numbers and letters that enabled local users to easily identify institutions. We also recognized that some codes were structured so that they could be accommodated by student information systems where there might be limited space for the number of characters for institutional identifiers.

Survey Participants

For the purposes of this survey, CanPESC decided to limit the distribution to public educational organizations. This was to focus the survey on how public organizations were applying institutional codes for a range of institutional types and to ensure that the scope of responses was manageable while at the same time providing the data required. The goal was to get information that would help CanPESC formulate strategies for developing congruence towards applicable code sets for future student data exchange. We identified a broad audience from the education and government sectors for this survey, including universities, colleges, provincial application centres and provincial/territorial government departments and ministries responsible for education. To invite responses from Canadian universities and colleges, we reached out to ARUCC to distribute the survey. To reach the remaining constituencies, the CanPESC Institutional Codes Survey Sub-Group contacted other educational organizations and government ministry/departments with an invitation to participate in this survey. We asked for one response from each organization to keep the scope of the survey responses at the organizational level.

2. Survey Methods

2.1 Survey Questions

The purpose of the survey was to discover the types of institutional codes used in Canada to identify high schools and post-secondary institutions. The questions were developed to elicit data specifically on how institutional codes are handled by public post-secondary institutions (i.e., colleges and universities), government ministries/departments, and application centres. Seven transcript sending institution types were included in the survey:

1. Public high schools
2. Private high schools
3. Out-of-province/international high schools
4. Public post-secondary institutions
5. Public out-of-province/territory post-secondary institutions
6. International post-secondary institutions
7. Private post-secondary institutions

The survey included questions to identify the following data:

- Source of institutional code sets
- Format of institutional codes
- Access to published code lists
- Format of published code lists
- Issuer of official transcripts

These questions were asked for each of the seven institutional types. In addition, each question contained choices from which respondents could select. There were no restrictions on the number of choices that could be selected. However, the survey used branching to direct respondents to the next appropriate question, based on question responses.

See Appendix B for the full survey.

2.2 Distribution and Timeframe

Distribution: An estimated total of 770 individuals received the invitation to respond to the survey. The distribution included colleges and universities across Canada, provincial application centres and provincial/territorial ministries and departments involved with education and advanced education. Where applicable, provincial registrar organizations were contacted and asked for their support to distribute the survey.

Some organizations may have received the survey more than once due to the distribution by both ARUCC and the CanPESC Institutional Codes Survey Sub-Group.

Therefore, it is not possible to identify a specific return rate since the actual numbers of organizations contacted for the survey is not specifically identifiable and participation was voluntary.

Time Frame: The survey was conducted from March to April 2017. One extension was provided to May 2017 to accommodate additional responses. The survey results were analyzed from May to October by the CanPESC Institutional Codes Survey Sub-Group and the report was written between October and December 2017. The report was subsequently sent to reviewers in January 2018 and the final version of the report was completed in April 2018.

2.3 Survey Respondents

There was a total of sixty-six respondents from sixty-five organizations. Two responses from one organization were combined into one collective response. A total of thirty-four universities, twenty-one colleges, six government ministries and four provincial application centres participated in this survey (Figure 2). All responding organizations were from the public sector since only public organizations were sent information about the survey.
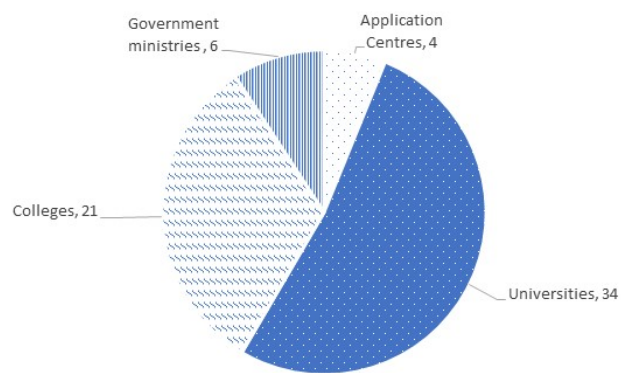
Figure 2 Survey respondents by organization type

As shown here in Figure 3, responses were received from all ten provinces and two of three territories.
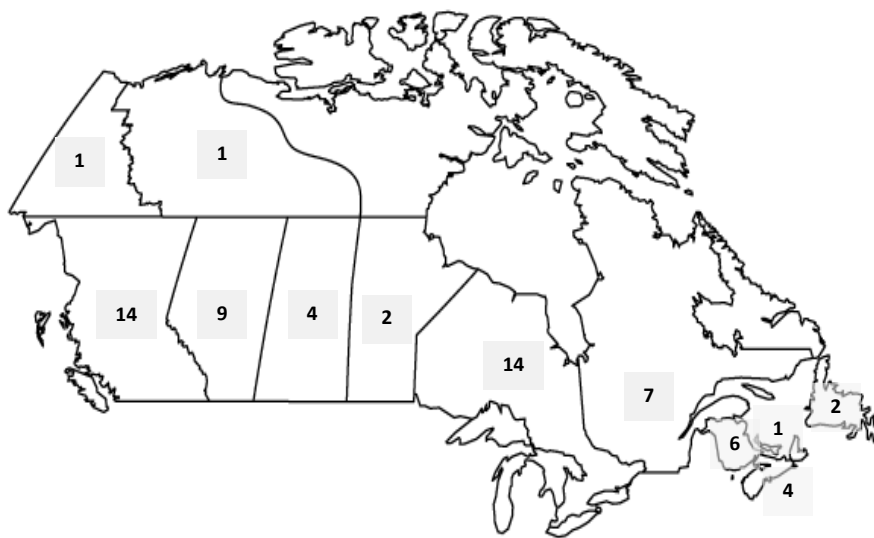
Figure 3 Survey respondents by province/territory

2.4 Survey Data Analysis

The survey results were analyzed using the following methodology:

Step 1: Total responses by question

- The results for each question were tallied, and percentages calculated for each response choice.

Step 2: Total responses by specific response and organization type

- The respondents were categorized by the type of organization:
  - Application centre
  - College
  - University
  - Government (ministry/department)
- Responses were tallied, and percentages calculated, by organization type.

Step 3: Total responses by response choice, organization type and province/territory

- Responses were tallied by province within each organization type.

Step 4: Additional comments

- Additional comments were reviewed to identify specific and unique responses.

3. Results Summary

In this section, a summary of the survey results is provided, organized by transcript sending institution type. As identified in Section 1, identifying institutional code practices for the seven institution types is important for CanPESC members to understand the practices that exist and also to provide information on code set practices for one or more specific institution types.

Many questions did not receive any responses, or received very few responses (e.g., fewer than five), and therefore are not being reported here. Only questions that received sufficient responses to allow analysis are reported. However, in a few cases, we reported on fewer than five responses or on a single response where we felt this information would be beneficial to the results. This type of information might provide some insight into assumptions about institutional code practices and help us identify gaps to address in future.

In addition, due to the number of survey respondents, the results do not show statistically significant findings. However, they help identify patterns for institutional code application. The results summarized below provide some indicators of practices occurring and generate questions that we could look at in the future.

3.1 High Schools

3.1.1 Public High Schools

Code Sets: A total of fifty-nine respondents provided seventy-two unique responses to the question of which code set is used to identify public high schools. Of this total, 42% indicate the use of locally assigned codes, and 40% indicate the use of provincial/territorial assigned codes to identify public high schools (Figure 4).
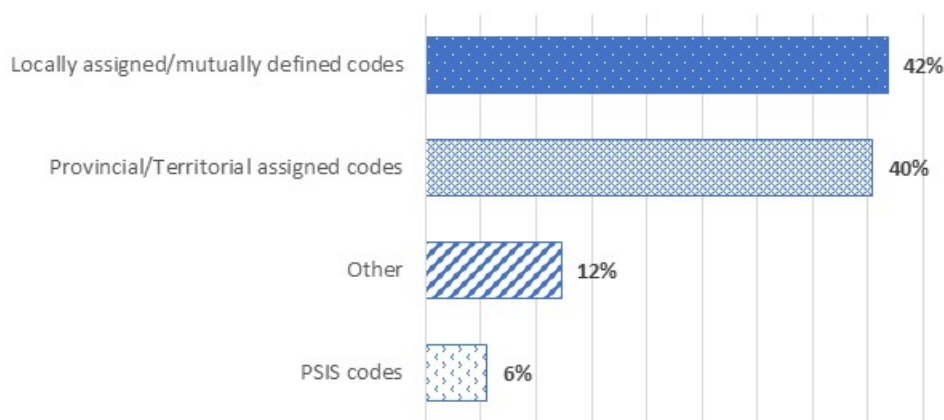

Figure 4 Code set used to identify public high schools in home province

Published Code Format: When asked to identify the format of the published lists of codes, 62% of fifteen respondents publish their code sets in XLS, 6% publish in CSV, 13% publish in PDF, 13% publish in TXT, and 6% of the code sets are published online. The majority of the respondents did not comment on the question of their ability or willingness to change the format of the published list of codes. Most respondents identified that their published lists include school code, school name, mailing address, phone, type of school, email contact and grade taught (fewer than half include a URL for the school).

Transcript Issuing Organization: When asked to identify the organization that was responsible for issuing official public high school transcripts, close to half of the eighty-two responses, 46%, indicated that the ministry/department was responsible; 39% indicated that this was the responsibility of individual schools; and, 14% indicated that records were issued by a local school authority or board (Figure 5).
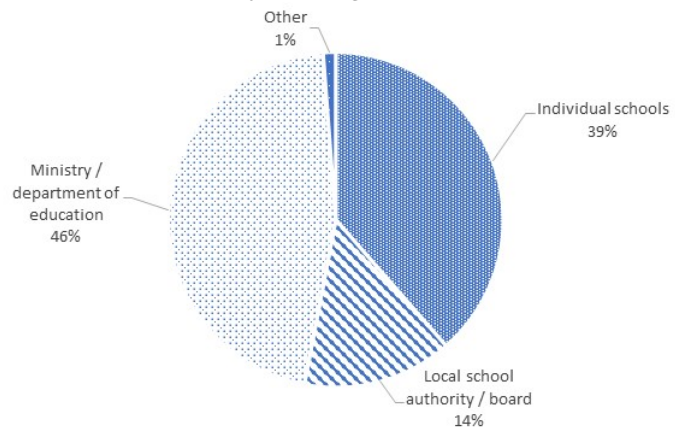
Figure 5 Public high school transcript issuer

3.1.2 Private High Schools

Code Sets: The survey results indicate that of the sixty-seven responses, the receiving institutions use an equal proportion of provincial (43%) and locally assigned (42%) codes, and that while all respondents used numeric codes to identify private high schools, the length of the code varied between four and twelve characters.

Transcript Issuing Organization: A slight majority of the seventy-two responses (47%) indicated that the individual schools issue the transcripts, followed closely by the ministry/department of education (42%).

Published Code Format: When asked to identify the format of the published lists of codes, of the fifteen respondents, 67% publish their code set in XLS format, and 7% use CSV format; a much smaller percentage use PDF or TXT. Unfortunately, the majority of the respondents did not comment on the ability or willingness to change the format of the published list of codes. The published lists for private high schools are very similar in content to those for public high schools.

3.1.3 Out-of-Province/International High Schools

Code Sets: Unlike public and private high school codes, 56% of seventy responses indicated that out-of-province/territory high school codes are assigned locally rather than by the province/territory. There is an almost even split between the use of numeric and alphanumeric codes, and the range of characters for these codes is anywhere from four to twelve.

Published List Format: Very few respondents answered with regard to whether the published lists were available; however, for those that did their answers were very similar to those for public and private high schools.

3.2 Post-Secondary Institutions

3.2.1 Public Institutions

Code Sets: There were eighty-one responses from sixty-four respondents concerning the types of codes used by institutions. Figure 6 shows that most respondents (38%) identified that they use locally assigned/mutually defined codes to identify public post-secondary institutions. These included respondents from seventeen universities, ten colleges, and two application centres across Canada. This was followed by the use of provincial/territorial ministry assigned codes (23%), which are used by five universities, eight colleges, two application centres, and one government ministry.
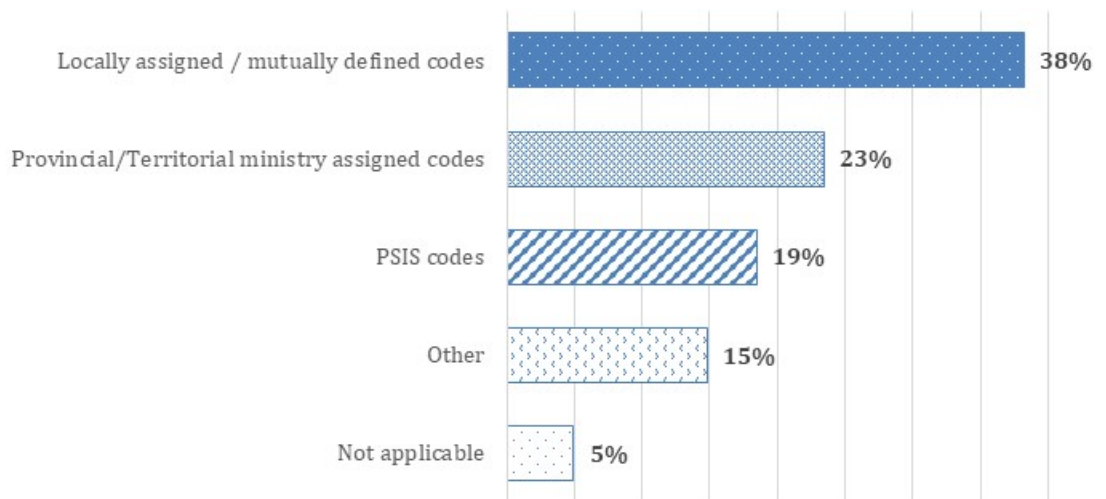

Figure 6 Code set used to identify public post-secondary institutions in home province

The use of PSIS codes, a code set provided by Statistics Canada for identifying Canadian post-secondary institutions, was less common at 19%. The PSIS codes were used by three application centres as well as four colleges, all in British Columbia, and a total of

seven universities from British Columbia, Alberta, Ontario and Nova Scotia. One government respondent also identified using PSIS codes.

There were a range of other codes identified by colleges, universities and one government ministry/department including other national identifiers (CSIS, USIS and federal government codes); provincial identifiers; and internally defined codes, which may be interpreted the same as locally defined codes.

Code Format: There were nineteen responses with regard to the format of the provincial/territorial ministry assigned codes; 79% use numeric codes, 16% use alphabetic codes, and 11% use alphanumeric codes.

With regard to the number of characters for provincial/territorial ministry codes, there were thirteen responses. An eight-character numeric code is used by 38% of respondents located in Alberta, British Columbia, and Ontario. However, in terms of total responses to this question, the code format varied from two to nine characters.

List Location: A number of URLs were provided by respondents to identify the location of the provincial/territorial ministry codes (see Appendix A for details). In addition, some information was provided as to where to find lists that did not have a URL. However, there were no responses for the location of locally-assigned/mutually-defined codes lists. This was probably due to the use of these codes mainly within the responding organizations themselves.

Transcript Issuing Organization: Of the sixty-four responses to the question of who issues transcripts, the majority (94%) identified the public post-secondary institution as the issuer of official transcripts in their home province. Only four respondents identified that the Ministry of Advanced Education issued the transcript, three of which were from Québec (Figure 7).
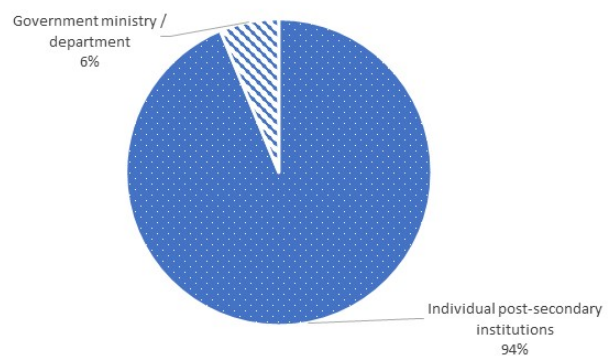
Figure 7 Public post-secondary transcript issuer

3.2.2 Private Post-Secondary Institutions

Code Sets: The majority of respondents (comprising 53% of the seventy-three responses) use locally assigned/mutually defined code sets to identify private institutions (Figure 8). As with out-of-province/territory ministry codes, respondents using locally defined codes come from all twelve responding provinces and territories and include three

application centres. Other code sets include provincially/territorially assigned (15%), PSIS (4%), and various others (16%).

Code Formats: Of eleven responses, seven (64%) indicate that provinces and territories assign numeric codes between one and eight characters long for private post-secondary schools. One assigns alphabetic codes (four characters long), and the other three assign alphanumeric codes ranging in length from three to six characters. No respondents specified the format of their locally assigned code sets.

List Location: Two respondents provided URLs for published code sets for private post-secondary institutions. One respondent from BC gave an email address where interested parties could ask for the provincially assigned codes. Another respondent indicated that Quebec's provincially assigned codes are available in XLS, CSV, and PDF formats, as well as another non-standard format.

Transcript Issuing Organization: Concerning the question of who issues transcripts, almost all of sixty-one responses (92%) indicated that individual private post-secondary institutions issue transcripts themselves. In the remaining cases, ministries of education in four provinces (Alberta, Newfoundland and Labrador, Ontario, and Quebec) issue transcripts on behalf of private post-secondary institutions.
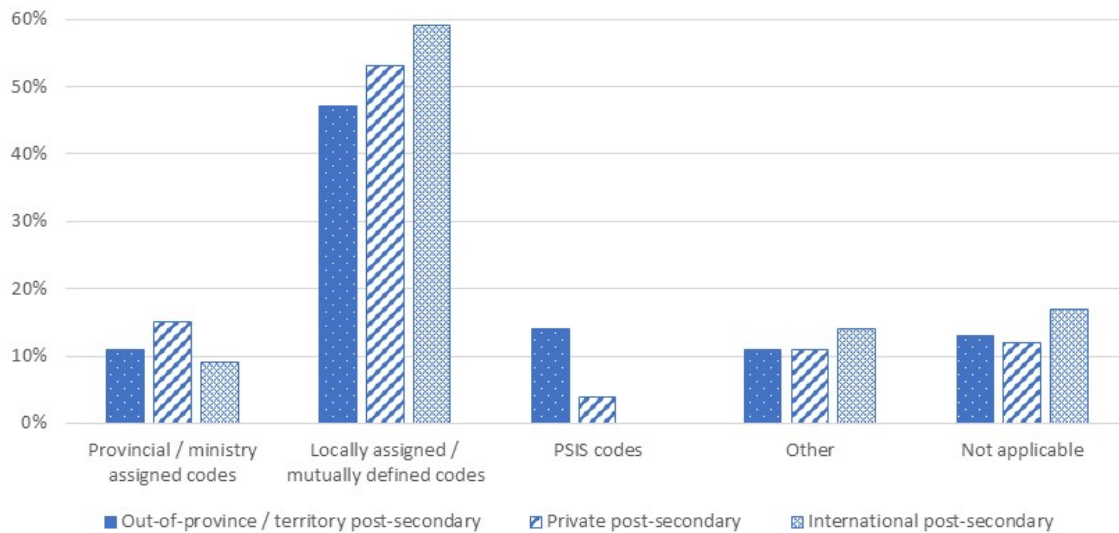

Figure 8 Code sets used to identify out-of-province/territory, private and international post-secondary institutions

3.2.3 Out-Of-Province/Territory Public Institutions

Code Sets: Of seventy-six responses to the question concerning code sets used to identify out of province/territory public institutions, 47% indicate that they use locally assigned/mutually defined code sets (Figure 8). These responses came from organizations in all twelve provinces and territories and include two application centres. Respondents also indicated that they use provincial/territory ministry assigned codes (11%), PSIS codes (14%), and a range of other codes (17%), but each is used far less frequently than locally assigned/mutually defined sets.

Code Formats: The formats of provincially/territorially defined codes vary a good deal among the seven institutions that provided specifications: 43% use alphanumeric codes while 57% use numeric, and the codes range in length from three to nine characters. Only one respondent provided the format of their locally assigned/mutually defined codes: ten alphanumeric characters.

List Location: Neither provincially/territorially defined codes nor locally defined sets were identified as being publicly accessible, although a couple of respondents listed organizations to contact by email to obtain copies of the code sets.

3.2.4 International Post-Secondary Institutions

Code Sets: Locally assigned/mutually defined codes are used to identify non-Canadian institutions by a considerable majority of organizations across the country – 59% of the sixty-nine responses (Figure 8). Various "Other" code sets are the next most popular (17%), nearly tied with "Not applicable" (14%). Nine percent of responses refer to provincially/territorially ministry assigned codes (representing four provinces).

Code Formats: Regarding the format of codes established by provincial/territorial ministries, only six responses were provided, listing numeric (33%) and alphanumeric (67%) codes that range from three to ten characters. Only one respondent, from Alberta, indicated the format of its locally assigned codes for international institutions. That organization uses ten-character alphanumeric codes.

List Location: One respondent from Alberta indicated that the provincially assigned codes could be found online; and another respondent from BC provided an email address where the codes could be requested. No responses were provided to the questions about the publication of local code sets or their contents.

3.3 Additional Comments

Several respondents provided additional comments at the end of the survey. The following is a summary of those comments.

- Several respondents indicated that they use a combination of locally assigned/mutually defined codes and PSIS or provincial codes, as not all sending institutions are included in either the PSIS or provincial code sets.
- The code sets used by undergraduate, graduate and professional schools/departments may not be consistent within an institution.
- One hub organization has a shared dictionary of data elements with its university partners. This allows for a standardized exchange of information within Canada and internationally.

From the comments provided by respondents, it appears that there are different practices operating within and between organizations with regard to the institutional code assignments.

4. Results Discussion

4.1 Interpreting the Data

Since respondents were allowed to provide multiple responses to each question, the data cannot precisely convey the practices of any given institution or organization. The fact that some institutions selected more than one answer to various questions suggests that at least some organizations have data systems and processes capable of cross-walking code sets.

4.2 Identified Trends

For identifying both secondary and post-secondary institutions, respondents use locally defined codes extensively. Data sets were especially likely to be unique to an institution for out-of-province or out-of-country institutions. In some cases (particularly for in-province or in-territory public institutions), provincially/territorially assigned code sets rival locally defined sets in rates of use (Figure 9).
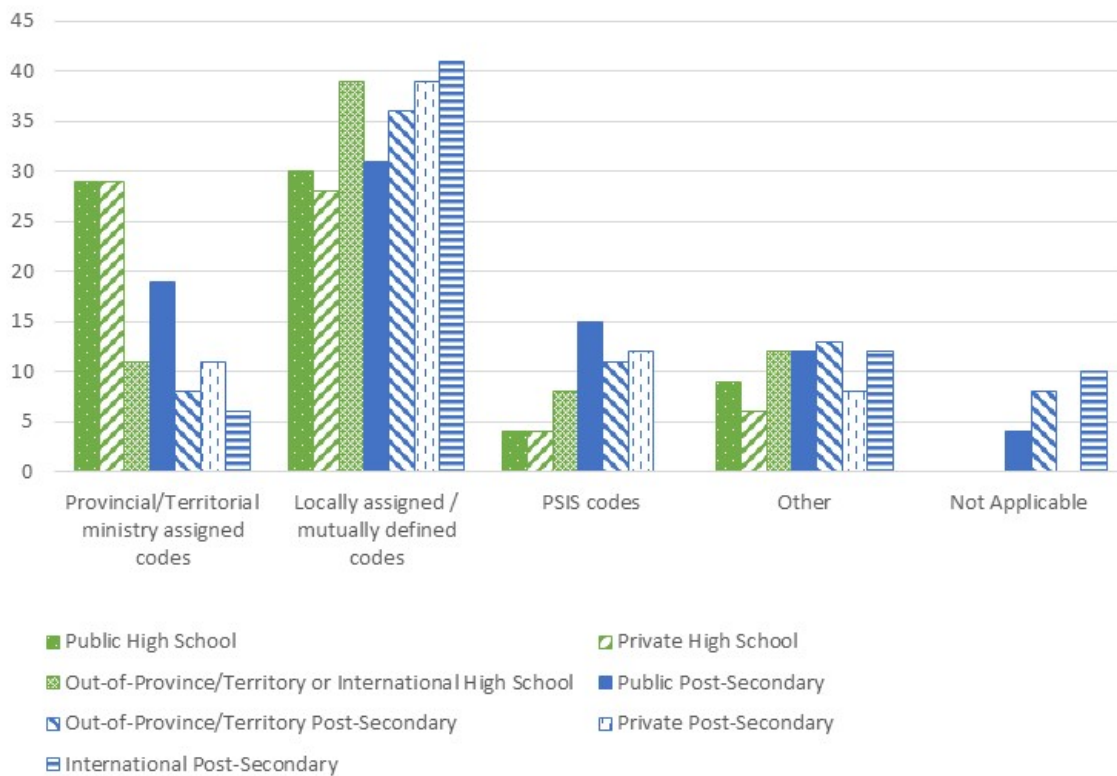

Figure 9 Summary of code sets used by post-secondary institutions to identify institutions

Universities and colleges proved most likely to select locally assigned codes. Government ministries/departments largely responded that they use

provincially/territorially assigned codes, though one such department indicated that it uses locally assigned codes for private post-secondary institutions. PSIS codes are used to a lesser extent by colleges and universities but are used by application centres regularly.

In addition, there is a lack of alignment in structure of the code sets themselves with varying numbers of characters and different practices in the use of numbers and letters. As well, the published codes are not consistent in what they include or the format in which they are presented. No clear trends emerged by organization type or by province, pointing to further diversity in data-handling practices within respondent organizations.

4.3 Red Flags

From our knowledge of post-secondary student information systems, we believe that many institutions are likely limited in their use of code sets by the structure of their systems. This may contribute to the frequency with which locally defined codes are used. As a result, getting agreement to build and use crosswalk tables or to convert data to a common code set may be difficult for some institutions. There may be technical limitations to adding new crosswalks without additional programming. There would need to be a clear technical benefit to the institution to justify spending time and resources to add a new crosswalk. However, adding a new single institutional code crosswalk could enable the institution to leverage greater opportunities to exchange student data more efficiently with trusted partners locally, nationally and internationally.

In addition to the potential technical limitations, the transition to a common set of codes can be resource intensive, and not all institutions have the staff or the ability to hire contractor resources for such a project. New business processes may also be needed to accommodate another code set. Until institutions are closer to electronic data exchange, the practical value of moving to a common code set may also be unclear to some organizations.

5. Conclusions

The survey results are limited to the number of participating organizations and their responses to the questions provided. This survey is not exhaustive, and the results cannot be interpreted to apply to all Canadian public colleges, universities, government ministries and departments, and provincial application centres. However, the results can be used as an indicator of the kinds of issues and trends in identifying institutional code sets, how they are composed and where they can be found for the seven institutional types identified in this survey.

5.1 What We Expected and What We Found

In general, we expected to see a great variety of practices across the country: many different code sets in use, even within provincial boundaries; a wide variation in the structure of the code sets being used, evident in different field sizes and formats; and transcripts issued by different authorities in each province or territory. The survey results demonstrate all of this expected variety.

We had expected to see a high rate of use of PSIS codes to identify Canadian public post-secondary institutions but found that is not the case. These were mainly applied by the application centres in order to identify post-secondary institutions in their province.

During our pre-survey research, we had not found many institutional code lists online. However, the survey results show that most provinces and territories post these lists for public access. (See Appendix A for lists of available code sets). The lists identified by respondents are mainly provided by provincial governments. There were two national lists identified by respondents (i.e., Statistics Canada and CanLearn).

Somewhat surprisingly, half of government respondents indicated "Not Applicable" to using any code set for out-of-province public, private, and international post-secondary institutions.

The results of this survey highlighted the differences between codes used by educational institutions, application centres, and government ministry/departments in Canada to identify a range of institution types. In the absence of a standardized code set for Canadian post-secondary institutions and schools, and with little commonality among data formats, most jurisdictions and individual institutions are replicating efforts by developing their own codes for identification. Standardized code sets have successfully been developed and used for other information such as countries and languages, and an international effort is underway to develop such a standardized set to identify educational institutions. The GEO Code initiative may provide the solution to identifying institutional codes for institutions in Canada and internationally that could be applied to make electronic transcript exchange more efficient.

5.2 Recommendations

CanPESC undertook this survey to gain an understanding of the different code sets used to identify institutions for data exchange. This is important in order to help support the development of a strategy for national data exchange. The following recommendations are drawn from the results of this survey, with the goal of removing one potential obstacle to electronic transcript exchange between all jurisdictions in Canada:

1. *Continue Code Set Research:* CanPESC should continue to gather information on institutional code practices with a goal of helping to support cross-jurisdiction dialogue to implement crosswalks and standardize code development where applicable. While the long-term goal may be to have all educational organizations follow a common code set, groundwork is required to support this transition.

2. *Support PESC GEO CODE Initiative*: Since the start of this survey, the PESC GEO CODE initiative has become a reality. Post-secondary institutions from several countries are now included in their directory, including Canada. (CanPESC provided a list of Canadian public post-secondary institutions and they have been assigned GEOCode identifiers.) As many countries around the world are now contributing their institutions (including location and contact information) to the directory, Canadian institutions and organizations could benefit from applying this standardized international code set to identify educational institutions. This type of standardized approach has been done successfully on a global basis with other code sets currently in use, such as country codes and language codes.

3. *Develop a Collaborative Code Implementation Project with ARUCC*: CanPESC is uniquely positioned to advocate for the use of a single common code set due to our interest in inter-provincial and national data exchange. CanPESC could invite ARUCC, as part of their current national student data mobility project, to work on an initiative to explore the adoption of the PESC GEOCode identifiers by Canadian post-secondary institutions. This may be achieved through a phased-in adoption and collaborative work on crosswalk tables, as planned system updates occur. As clear benefits can be demonstrated from the use of standardized code sets, particularly with regard to receiving digital transcript data from trusted source organizations, this will further the progress of a true Canadian electronic transcript exchange network.

5.3 Future Considerations

CanPESC could consider the following actions to strengthen institutional code usage for electronic data exchange:

1. *Engagement:* Engage government ministries/departments and provincial hubs to align their efforts with CanPESC to adopt a single institutional code set, such as the PESC GEOCode, to identify educational organizations. This will build momentum towards a single common identifier for organizations in Canada to enable more efficient data exchange.
2. *Add High Schools*: CanPESC is currently in the process of developing a list of Canadian public provincial and federal high schools. We could work with the PESC GEO CODE initiative to add these schools to their directory so that these institutions can be assigned a unique identifier. This would help post-secondary institutions across Canada by providing the option of identifying a high school in their student information systems by a single globally recognized code.
3. *Private Post-Secondary List*: CanPESC could develop a list of Canadian private post-secondary institutions and consider submitting this list to the GEO CODE Directory. This would support a full list of Canadian post-secondary institutions as part of the GEO CODE Directory and would enable a single, unique identifier for each private post-secondary institution.

6. Appendices

Appendix A – Published Institutional Codes Lists

Appendix B – Survey

Appendix A – Published Institutional Codes Lists

The online location (URL) of institutional codes lists used across Canada, as provided by survey respondents, are detailed below, sorted by institution type. Please note that some URLs appear more than once in the list since they were reported in the responses for the difference institution types.

Public High School

Alberta

https://education.alberta.ca/media/1626669/authority_and_school.xlsx

British Columbia

http://www.bced.gov.bc.ca/apps/imcl/imclWeb/Home.do

http://www.bced.gov.bc.ca/apps/imcl/imclWeb/SchoolContacts.do

http://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/education

Newfoundland & Labrador

http://www.ed.gov.nl.ca/edu/k12/schoolsdistricts/directory/public.html

Ontario

https://www.ontario.ca/data/ontario-public-school-contact-information

http://www.edu.gov.on.ca/eng/secondary.html

https://www.app.edu.gov.on.ca/eng/sift/indexSec.asp

Quebec

http://www.education.gouv.qc.ca/

Saskatchewan

https://www.k12.gov.sk.ca/sds/xml/

Private High Schools

Alberta

https://education.alberta.ca/media/1626669/authority_and_school.xlsx

British Columbia

http://www.bced.gov.bc.ca/apps/imcl/imclWeb/Home.do

http://www.bced.gov.bc.ca/apps/imcl/imclWeb/SchoolContacts.do

http://www.bced.gov.bc.ca/apps/imcl/imclWeb/OffshoreSchoolContacts.do

Newfoundland & Labrador

http://www.ed.gov.nl.ca/edu/k12/schoolsdistricts/directory/private.html

Ontario

https://www.ontario.ca/data/private-school-contact-information

For general inquiries about private schools, please contact the Public Inquiries:
(Toronto) (416) 325-2929, or (toll-free) 1-800-387-5514

http://www.edu.gov.on.ca/eng/secondary.html

Saskatchewan

https://www.k12.gov.sk.ca/sds/xml/

Out-of-Province/Territory - International High Schools

British Columbia

http://www.bced.gov.bc.ca/apps/imcl/imclWeb/Home.do

Ontario

https://www.ontario.ca/data/private-school-contact-information

Quebec

https://prod.mels.gouv.qc.ca/gdunojrecherche/rechercheOrganisme.do?methode=rechercheBase&typeRecherche=base

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Public Post-secondary

Ontario

Ontario Ministry of Advanced Education and Skills Development (MAESD) -
https://www.ontario.ca/page/ministry-advanced-education-and-skills-development

Quebec

http://www.education.gouv.qc.ca/

https://prod.mels.gouv.qc.ca/gdunojrecherche/rechercheOrganisme.do?methode=rechercheBase&typeRecherche=base

Statistics Canada

Private http://www23.statcan.gc.ca/imdb-bmdi/document/5017_D4_T9_V2-eng.pdf

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Private Post-Secondary

Alberta

ApplyAlberta – https://applyalberta.ca

CanLearn.ca

Canlearn designated institution - https://www.canada.ca/en/employment-social-development/programs/post-secondary/designated-schools.html

Appendix B: Survey

Electronic Transcript Exchange - Institutional Codes Survey

As part of its Canadian Electronic Transcript Exchange Network initiative, the Canadian PESC User Group

(CanPESC) is currently gathering information on the code sets used to identify the high schools and postsecondary institutions within each province/territory in Canada, as well as those used to identify out-of-province/territory and international schools and institutions. This information will be essential to the

process of exchanging electronic transcripts.

This work will relate to the efforts of the larger PESC Global Data Mobility User Group (GDM), which is analyzing current barriers in order to improve digitalization and interoperability of post-secondary education data across systems and across borders. The GDM User Group's first major project is establishing a standardized, global or international school code list. The lack of such a centralized list forces every college and university in the world to manually map or link various and numerous codes that may exist for the very same institution. As the number of students studying internationally grows each year, this manual labor needed to secure and identify accurate school codes increases correspondingly, becoming both more intensive and error-prone.

It is anticipated that not all questions will be relevant to all respondents; the option to indicate that a question is not applicable to your institution/organization has been provided.

CanPESC is partnering with ARUCC to distribute this survey. We hope that you will take the time to complete it so that the results will be as comprehensive as possible. Responses would be appreciated by end of day, March 31, 2017.

Should you have any questions regarding individual survey questions, or the survey overall, please contact:
Susan Stein, Executive Director,
Alberta Post-Secondary Application System (APAS)
Email: sstein@applyalberta.ca

Permission: By completing this survey, you consent to having the information you provide included in the survey results. Your personal information (name and contact information) will not be included in the survey results report. However, where survey results indicate gaps in data sets, individuals may be contacted by CanPESC members.

Notice of Use: The aggregated survey results will be summarized into a report and posted publicly by CanPESC and ARUCC. The report may also be distributed by CanPESC and ARUCC to interested parties.

About the Canadian PESC User Group: We are a voluntary, cross-Canada organization interested in applying technical standards to student information data exchange for educational purposes (for more information, visit www.pesc.org). ARUCC and PESC entered into a Memorandum of Understanding in 2013 to acknowledge the intention of working together towards the use of data exchange standards. CanPESC serves as the primary contact between the two organizations.

Province/Territory:
- Alberta
- British Columbia
- Manitoba
- New Brunswick
- Newfoundland
- Northwest Territories
- Nova Scotia
- Nunavut
- Ontario
- Prince Edward Island
- Quebec
- Saskatchewan
- Yukon

Institution/Organization Name:
Name:
Title/Position:
E-mail address:

HIGH SCHOOLS: Public High Schools
Which code set does your institution/organization use to identify public high schools in your home province/territory?
Select all that apply:
- Provincial/Territorial Ministry assigned codes
- Locally assigned/mutually defined codes (created in-house based on applications received)
- PSIS codes
- Other (please specify):

For Provincial/Territorial Ministry assigned codes, what is the format of the codes?
- Alphabetic
- Alphanumeric
- Numeric

For Provincial/Territorial Ministry assigned codes, what is the current number of characters for the codes?

For Locally assigned/mutually defined codes, what is the format of the codes?
- Alphabetic
- Alphanumeric
- Numeric

For Locally assigned/mutually defined codes, what is the current number of characters for the codes?

For the Other code set indicated, what is the format of the codes?
- Alphabetic
- Alphanumeric
- Numeric

For the Other code set indicated, what is the current number of characters for the codes?

Are the Provincial/Territorial Ministry assigned codes published? If so, please provide the URL:

If the Provincial/Territorial Ministry assigned codes are not published, can they be obtained from another source? Please provide contact information:

Are the Locally assigned codes/mutually defined codes published? If so, please provide the URL:

If the Locally assigned codes/mutually defined codes are not published, can they be obtained from another source? Please provide contact information:

What format is the published list of codes available in?
Select all that apply:
- .XLS
- .CSV
- .PDF
- Other:

Would the authority that assigns/maintains the list of published codes be willing to change the format of the list if requested? (e.g. publish the list in .CSV format if not currently available)
- Yes
- No
- N/A

Does the published list of codes include both active and inactive schools?
- Active and inactive schools
- Active schools only
- Other Information:

What information is included in the published list of codes?
Select all that apply:
- School code
- School name
- Mailing address
- Phone
- E-mail contact
- URL
- Type of school
- Grades taught
- Other (please specify):

Who is the transcript issuer for public high school transcripts in your home province/territory?
Select all that apply:
- Individual schools
- Local school authority/board
- Ministry of Education
- Other (please specify):

HIGH SCHOOLS: Private High Schools
Which code set does your institution/organization use to identify private high schools in your home province/territory?
Select all that apply:
- Provincial/Territorial Ministry assigned codes
- Locally assigned/mutually defined codes (created in-house based on applications received)

- Not applicable
- Other (please specify):

For Provincial/Territorial Ministry assigned codes, what is the format of the codes?
- Alphabetic
- Alphanumeric
- Numeric

For Provincial/Territorial Ministry assigned codes, what is the current number of characters for the codes?

For Locally assigned/mutually defined codes, what is the format of the codes?
- Alphabetic
- Alphanumeric
- Numeric

For Locally assigned/mutually defined codes, what is the current number of characters for the codes?

For the Other code set indicated, what is the format of the codes?
- Alphabetic
- Alphanumeric
- Numeric

For the Other code set indicated, what is the current number of characters for the codes?

Are the Provincial/Territorial Ministry assigned codes published? If so, please provide the URL:

If the Provincial/Territorial Ministry assigned codes are not published, can they be obtained from another source? Please provide contact information:

Are the Locally assigned codes/mutually defined codes published? If so, please provide the URL:

If the Locally assigned codes/mutually defined codes are not published, can they be obtained from another source? Please provide contact information:

What format is the published list of codes available in?
Select all that apply:
- .XLS
- .CSV
- .PDF
- Other:

Would the authority that assigns/maintains the list of published codes be willing to change the format of the list if requested? (e.g. publish the list in .CSV format if not currently available)
- Yes
- No
- N/A

Does the published list of codes include both active and inactive schools?
- Active and inactive schools
- Active schools only
- Other Information:

What information is included in the published list of codes?
Select all that apply:
- School code
- School name
- Mailing address
- Phone
- E-mail contact
- URL
- Type of school
- Grades taught
- Other (please specify):

Who is the transcript issuer for private high school transcripts in your home province/territory?
Select all that apply:
- Individual schools
- Local school authority/board
- Ministry of Education
- Other (please specify):

HIGH SCHOOLS: Out-of-province/international high schools
Which code set does your institution/organization use to identify out-of-province/ territory and/or international high schools?
Select all that apply:
- Provincial/Territorial Ministry assigned codes
- Locally assigned/mutually defined codes (created in-house based on applications received)
- Not applicable
- Other (please specify):

For Provincial/Territorial Ministry assigned codes, what is the format of the codes?
- Alphabetic
- Alphanumeric
- Numeric

For Provincial/Territorial Ministry assigned codes, what is the current number of characters for the codes?

For Locally assigned/mutually defined codes, what is the format of the codes?
- Alphabetic
- Alphanumeric
- Numeric

For Locally assigned/mutually defined codes, what is the current number of characters for the codes?

For the other code set indicated, what is the format of the codes?
- Alphabetic
- Alphanumeric
- Numeric

For the Other code set indicated, what is the current number of characters for the codes?

Are the Provincial/Territorial Ministry assigned codes published? If so, please provide the URL:

If the Provincial/Territorial Ministry assigned codes are not published, can they be obtained from another source? Please provide contact information:

Are the Locally assigned codes/mutually defined codes published? If so, please provide the URL:

If the Locally assigned codes/mutually defined codes are not published, can they be obtained from another source? Please provide contact information:

What format is the published list of codes available in?
Select all that apply:
- .XLS
- .CSV
- .PDF
- Other:

Would the authority that assigns/maintains the list of published codes be willing to change the format of the list if requested? (e.g. publish the list in .CSV format if not currently available)
- Yes
- No
- N/A

Does the published list of codes include both active and inactive schools?
- Active and inactive schools
- Active schools only
- Other Information:

What information is included in the published list of codes?
Select all that apply:
- School code
- School name
- Mailing address
- Phone
- E-mail contact
- URL
- Type of school
- Grades taught
- Other (please specify):

POST-SECONDARY INSTITUTIONS: Public institutions in your home province / territory
Which code set does your institution/organization use to identify public post-secondary institutions in your home province/territory?
Select all that apply:
- Provincial/Territorial Ministry assigned codes
- Locally assigned/mutually defined codes (created in-house based on applications received)
- PSIS
- Not applicable
- Other (please specify):

For Provincial/Territorial Ministry assigned codes, what is the format of the codes?
- Alphabetic
- Alphanumeric

• Numeric

For Provincial/Territorial Ministry assigned codes, what is the current number of characters for the codes?

For Locally assigned/mutually defined codes, what is the format of the codes?
　　　　　• Alphabetic
　　　　　• Alphanumeric
　　　　　• Numeric

For Locally assigned/mutually defined codes, what is the current number of characters for the codes?

Are the Provincial/Territorial Ministry assigned codes published? If so, please provide the URL:

If the Provincial/Territorial Ministry assigned codes are not published, can they be obtained from another source? Please provide contact information:

Are the Locally assigned codes/mutually defined codes published? If so, please provide the URL:

If the Locally assigned codes/mutually defined codes are not published, can they be obtained from another source? Please provide contact information:

What format is the published list of codes available in?
Select all that apply:
　　　　　• .XLS
　　　　　• .CSV
　　　　　• .PDF
　　　　　• Other:

Would the authority that assigns/maintains the list of published codes be willing to change the format of the list if requested?
(e.g. publish the list in .CSV format if not currently available)
　　　　　• Yes
　　　　　• No
　　　　　• N/A

What information is included in the published list of codes?
Select all that apply:
　　　　　• Institution code
　　　　　• Institution name
　　　　　• Mailing address
　　　　　• Phone
　　　　　• E-mail contact
　　　　　• URL
　　　　　• Type of institution
　　　　　• Other (please specify):

Who is the transcript issuer for public post-secondary transcripts in your home province/territory?
Select all that apply:
　　　　　• Individual post-secondary institutions
　　　　　• Ministry of Advanced Education
　　　　　• Other (please specify):

Which code set does your institution/organization use to identify out-of-province/territory Canadian public post-secondary institutions?
Select all that apply:
> • Provincial/Territorial Ministry assigned codes
> • Locally assigned/mutually defined codes (created in-house based on applications received)
> • PSIS
> • Not applicable
> • Other (please specify):

For Provincial/Territorial Ministry assigned codes, what is the format of the codes?
> • Alphabetic
> • Alphanumeric
> • Numeric

For Provincial/Territorial Ministry assigned codes, what is the current number of characters for the codes?

For Locally assigned/mutually defined codes, what is the format of the codes?
> • Alphabetic
> • Alphanumeric
> • Numeric

For Locally assigned/mutually defined codes, what is the current number of characters for the codes?

Are the Provincial/Territorial Ministry assigned codes published? If so, please provide the URL:

If the Provincial/Territorial Ministry assigned codes are not published, can they be obtained from another source? Please provide contact information:

Are the Locally assigned codes/mutually defined codes published? If so, please provide the URL:

If the Locally assigned codes/mutually defined codes are not published, can they be obtained from another source? Please provide contact information:

What format is the published list of codes available in?
Select all that apply:
> • .XLS
> • .CSV
> • .PDF
> • Other:

Would the authority that assigns/maintains the list of published codes be willing to change the format of the list if requested? (e.g. publish the list in .CSV format if not currently available)
> • Yes
> • No
> • N/A

What information is included in the published list of codes?
Select all that apply:
> • Institution code
> • Institution name
> • Mailing address

- Phone
- E-mail contact
- URL
- Type of institution
- Other (please specify):

POST-SECONDARY INSTITUTIONS: Private institutions
Which code set does your institution/organization use for private post-secondary institutions?
Select all that apply:
- Provincial/Territorial Ministry assigned codes
- Locally assigned/mutually defined codes (created in-house based on applications received)
- PSIS
- Not applicable
- Other (please specify):

For Provincial/Territorial Ministry assigned codes, what is the format of the codes?
- Alphabetic
- Alphanumeric
- Numeric

For Provincial/Territorial Ministry assigned codes, what is the current number of characters for the codes?

For Locally assigned/mutually defined codes, what is the format of the codes?
- Alphabetic
- Alphanumeric
- Numeric

For Locally assigned/mutually defined codes, what is the current number of characters for the codes?

Are the Provincial/Territorial Ministry assigned codes published? If so, please provide the URL:

If the Provincial/Territorial Ministry assigned codes are not published, can they be obtained from another source? Please provide contact information:

Are the Locally assigned codes/mutually defined codes published? If so, please provide the URL:

If the Locally assigned codes/mutually defined codes are not published, can they be obtained from another source? Please provide contact information:

What format is the published list of codes available in?
Select all that apply:
- .XLS
- .CSV
- .PDF
- Other:

Would the authority that assigns/maintains the list of published codes be willing to change the format of the list if requested? (e.g. publish the list in .CSV format if not currently available)
- Yes
- No
- N/A

What information is included in the published list of codes?
Select all that apply:
- Institution code
- Institution name
- Mailing address
- Phone
- E-mail contact
- URL
- Type of institution
- Other (please specify):

Who is the transcript issuer for private post-secondary transcripts in your home province/territory?
Select all that apply:
- Individual post-secondary institutions
- Ministry of Advanced Education
- Other (please specify):

POST-SECONDARY INSTITUTIONS: International institutions
Which code set does your institution/organization use for international post-secondary institutions?
Select all that apply:
- Provincial/Territorial Ministry assigned codes
- Locally assigned/mutually defined codes (created in-house based on applications received)
- Not applicable
- Other (please specify):

For Provincial/Territorial Ministry assigned codes, what is the format of the codes?
- Alphabetic
- Alphanumeric
- Numeric

For Provincial/Territorial Ministry assigned codes, what is the current number of characters for the codes?

For Locally assigned/mutually defined codes, what is the format of the codes?
- Alphabetic
- Alphanumeric
- Numeric

For Locally assigned/mutually defined codes, what is the current number of characters for the codes?

Are the Provincial/Territorial Ministry assigned codes published? If so, please provide the URL:

If the Provincial/Territorial Ministry assigned codes are not published, can they be obtained from another source? Please provide contact information:

Are the Locally assigned codes/mutually defined codes published? If so, please provide the URL:

If the Locally assigned codes/mutually defined codes are not published, can they be obtained from another source? Please provide contact information:

What format is the published list of codes available in?
Select all that apply:
- .XLS

- .CSV
- .PDF
- Other:

Would the authority that assigns/maintains the list of published codes be willing to change the format of the list if requested?
(e.g. publish the list in .CSV format if not currently available)
- Yes
- No
- N/A

What information is included in the published list of codes?
Select all that apply:
- Institution code
- Institution name
- Mailing address
- Phone
- E-mail contact
- URL
- Type of institution
- Other (please specify):

Additional Comments:

Thank you for taking the time to complete this survey.

For more information on the Canadian PESC User Group (CanPESC), contact:
Leisa Wellman
Ontario Universities' Application Centre
Email: leisa@ouac.on.ca

For more information on the Post-Secondary Electronic Standards Council (PESC), visit: www.pesc.org