Canadian Digital Learning Research Association
Association canadienne de recherche sur la formation en ligne

Tracking Online and Distance Education in Canadian Universities and Colleges: 2018

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Executive Summary

Introduction

The first comprehensive survey of online and distance learning in Canadian public post-secondary institutions, covering all types of institution and every province and territory, was conducted in 2017. The 2017 survey indicated that online learning was alive and well in Canadian post-secondary institutions, with 85% of all responding institutions offering at least some online learning for credit in 2016, and with courses offered in almost all subject areas in one institution or another. Two-thirds of responding institutions stated that online learning was considered very or extremely important for their long-term future.

The reports were distributed to every institution and most provincial or territorial governments, and were in general, very well received. As a result, funding was secured for a second survey in 2018.

This year, the roster of institutions was expanded from 203 to 234 institutions. The institutional database was improved to include an up-to-date and wider range of institutional contacts for the survey response.

We were able to increase the response rate from 69% of institutions in 2017 to 80% of institutions in 2018, through the efforts of the consultants on the team, a better database, and a great deal of work by staff in the institutions.

Because of preparatory work with institutions to improve definitions and to identify what data kinds of enrolment data they were able to provide before we implemented the questionnaire, we were able to obtain detailed and reliable institutional data in 2018 on:

- students taking at least one online course
- the number of online course registrations
- the number of all course registrations
- the total number of students taking credit courses

Enough institutions were able to provide reliable data for us to make reasonably reliable estimates of missing data for not only institutions that responded to the questionnaire but could not provide data, but also for those who did not respond to the questionnaire.

The responding institutions covered 92% of all students in post-secondary education in Canada. The total number of students covered within our roster is within 1.84% of the total number of students reported in the last Statistics Canada publication.

Thus, we believe our enrolment data to be within 1%-2% variance in reliability.

Distance education across Canada

In 2018, 83% of responding institutions offered distance education courses for credit. This was the same percentage as in 2017, when 83% answered 'yes' to this question.

Many of the 47 non-responders probably did not respond to the questionnaire because they do not offer distance education courses for credit. Therefore, it may be safer to conclude that about two-thirds of all the institutions in the roster (153 out of 234) are known to offer distance education courses for credit, but most of the institutions that do not are smaller in size and are likely to be private subsidized colleges or CEGEPs in Québec.

Online learning across Canada

Of the 187 responding institutions, 83% offered online courses for credit, the same proportion as in in 2017.

Size of institution is very much a determining factor. Over half the institutions with less than 1,000 students (52%) did not offer online courses, while almost every institution with more than 10,000 students did (only one did not).

The private subsidised colleges and CEGEPs in Québec were least likely to offer online courses. Universities (including in Québec), and colleges outside Québec, were the most likely. The following illustrates the differences between institutions in offering online courses:

- 91%: universities
- 90%: colleges outside Québec:
- 56%: CEGEPs
- 37%: private subsidised colleges in Québec

The 2018 data shows a significant increase in the number of institutions offering online courses between 2010 and 2011(from 68% in 2010 to 76% in 2011), and then a more gradual increase between 2011 and 2016 (from 76% in 2011 to 79% in 2016). The increase from 2008 to 2016 is 14%, or 2% per annum, but between 2011-2016 only 3%.

The main growth has come from the very small institutions. In 2008, only 14 responding institutions with fewer than 2,000 students were offering online programs, but by 2016 this had grown to 26, almost doubling in numbers.

Canadian post-secondary education appears to be a relatively mature market for online learning, as was noted in the 2017 study. Many have been offering online courses for more than 15 years.

However, there are signs that the growth in institutions offering online courses is now slowing or flattening out. It will be interesting to see how many of the

remaining 74 institutions that we believe are not currently offering online learning may move to online learning in the coming years.

Online course enrolments

1. In 2016-2017, 18% of all Canadian post-secondary students were taking at least one online course for credit, 19% in universities, and 21% in colleges outside Québec. In other words, one in every five students was taking an online course for credit, except for the colleges and CEGEPs in Québec.

2. Of all credit course enrolments, about 8% were fully online, representing 1,357,000 online course registrations. If the online course enrolments are converted to full time equivalents, this would be equal to about four universities of 27,500 each, four colleges of 10,000 each, and a Cégep of 3,500.

3. The average course load for students taking online courses was between 3 to 4 online courses a year. Overall course loads ranged from 7-8 courses a year in universities to around 10 courses a year in colleges.

4. There has been a steady growth in online enrolments between 2015-2016 and 2016-2017, with almost two thirds of institutions showing growth in online enrolments from last year, and less than a quarter showing a decline. The expectations for next year are even higher, with three-quarters reporting likely growth and only 3% expecting a decline in enrolments.

5. Taking into account data from last year's survey as well as this year's, it appears that online learning enrolments continue to grow at a significant rate.

Blended/hybrid learning

Of the 165 institutions that provided information on the provision of blended/hybrid learning, 78% have introduced some form of blended/hybrid learning. This can be broken down as follows:

- 87%: universities
- 84%: colleges outside Québec
- 58%: CEGEPs
- 43%: private subsidised colleges in Québec

The 2018 data reinforce the conclusion from the 2017 survey that more than three quarters of Canadian institutions are now integrating online with classroom teaching, but no more than one in five have a significant number of courses in this format. In other words, blended/hybrid learning is wide but not yet deep.

Open educational resources, practices and open textbooks

1. A substantial number of Canadian post-secondary institutions (just over half) are using open textbooks and a further fifth are exploring their use.

2. Universities and larger institutions are most likely to adopt open textbooks.

3. The highest proportions of institutions using open textbooks were in British Columbia (90%) and Alberta (78%)

4. Open textbooks are being used in all modes of delivery, but mostly in face-to-face courses.

5. A small but significant number of institutions are offering training to instructors in the use of OER.

Continuing education

1. Continuing education is offered by the vast majority (93%) of institutions in each sector and in every province and territory that responded.

2. Continuing education is offered both for-credit and not-for-credit, and institutions take advantage of face-to-face, online and blended/hybrid delivery methods.

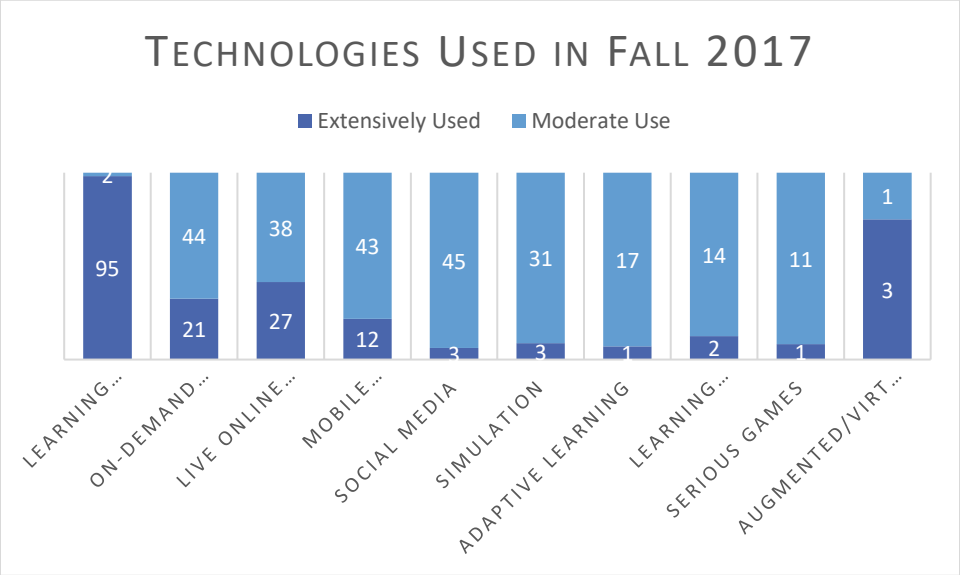
3. Face-to-face, not-for-credit courses were the choice most selected by responding institutions (87%).

4. Continuing education courses are offered by a majority of both Anglophone and Francophone responding institutions.

15.9 Technologies

The differences in the extent of use of each of these technologies is best illustrated through the figure below:

Figure 1.0 Extent of use of different technologies, 2017



Learning management systems continue to be the backbone technology used by institutions for their online and blended/hybrid courses. Nearly all institutions are combining various web-based technologies to augment the LMS and support increased interaction and engagement in their courses.

Respondents also noted the high use of LMS and applications of technologies in their face-to-face classes.

MOOCs

There is relatively little MOOC activity in Canadian institutions. Of the 165 institutions responding to this question:

- 32 (18%) offered MOOCs in the previous year. Most of these offered between one to five MOOCs in the last 12 months
- 66 (40%) were unsure of their future plans for MOOCs,
- 58 (36%) indicated they have no interest in offering MOOCs in the future.
- 13% were willing to support the increased use of MOOCs in future,
- 11% were leaving it to individual faculty to decide without necessarily providing institutional support.

Policies and practices

1. Online learning is *very* or *extremely important* for the institution's long-term strategic or academic plan in 68% of responding institutions;

2. Most responding institutions recognise the importance of having a plan or strategy for e-learning:
- 65% either had a plan or were developing one;
- just under a third (30%) did not have a plan, but reported that they needed one;
- only 5% reported that a plan or strategy was not needed.

3. Institutions reported that faculty on balance accepted the value and legitimacy of online learning;

4. A clear majority of responding institutions (61%) reported that students were at least as satisfied with online courses as with face-to-face courses;

5. There was general agreement among the institutions that students need more discipline to succeed in online courses;

6. Online course learning outcomes are considered by most institutions to be the same as for face-to-face courses, although a few institutions (11%) thought online were inferior;

7. Most institutions considered blended/hybrid learning outcomes to be of the same quality as face-to-face courses, although a few institutions (19%) thought blended/hybrid were superior;

8. The most important strategic reason for online learning for most institutions was to increase student access, with 95% of institutions rating it as either important (23%) or very important (72%); similarly, online learning was considered important for accessing students from outside the regular catchment area (88% reported this as important or very important);

9. The most significant barrier to online learning was identified as the additional faculty effort required to develop or deliver online courses (85%), followed closely by inadequate training/pedagogical knowledge available for faculty in online learning (73%), then lack of acceptance of online instruction by faculty (62%).

These results indicate clearly that more needs to be done to train and prepare faculty better for teaching environments that are increasingly becoming online or digital.

Comparisons with the USA

1. Distance education is more firmly established in the United States than it is in Canada. The latest data for U.S. higher education institutions shows that:

- 18 percent of all students are taking a mixture of distance and face-to-face courses, while another 15 percent take exclusively distance courses.
- in Canada, only 8% of all credit course registrations are for online courses.
- among U.S. higher education students, 33 percent take at least one distance course as of fall 2017, compared with approximately 20% in Canada.

2. Leaders in the U.S. appear to be further along in actually implementing their strategic plan incorporating "e-learning, hybrid learning and/or online learning:"

- roughly 15 percent of the respondents from both countries report that these are part of the plan and that the plan is fully implemented.
- however, a far larger proportion of those in the U.S. report that they are now implementing such a plan (38% compared to only 21% in Canada).
- far more Canadian institutions report that they need a plan, but they have not yet begun working on it (30% in Canada compared to 13% in the U.S.)
- academic leaders in the United States have a more positive view of the relative learning outcomes for blended/hybrid courses, with 30% thinking they were superior to those of face-to-face instruction, compared to only 19% in Canada.

3. In all other areas measured, Canadian leaders have a much more positive view of online education than do the leaders in the United States:

- only 21% of the U.S. respondents believe that online credentials have the same level of respect as face-to-face credentials, compared to over one-half (54%) of the Canadian respondents.
- likewise, Canadian academic leaders are twice as likely to report that students are at least as satisfied with an online course as they are with a face-to-face course (50% compared to only 27% among U.S. leaders).
- U.S. leaders are more likely to believe that:
    - students need more discipline to succeed in an online course (65% compared to 52% for Canadian leaders) and that
    - retaining students in online courses is harder (43% for the U.S., 25% for Canada).
- in the U.S. over three-quarters of the respondents report that students needing more discipline to succeed in online courses is a v*ery important* or i*mportant* barrier. Only half of Canadian leaders think that this is the case.
- there is a big difference between Canada and the USA between those who believe learning outcomes in online courses to be inferior - only 6% of the Canadian respondents reported this, while over a quarter (26%) of U.S. leaders thought that this was true.

Future directions

The evidence suggests that online and increasingly, blended and hybrid learning are not only a small but important part of Canadian post-secondary education, but they are likely to continue to expand and grow.

In particular, most institutions recognise that online learning is critical for their future, and have ensured that it is of generally high quality. More importantly, the use of technology is shifting the way on-campus teaching is being designed and delivered. It is increasingly important for the future to talk about digital technology than just fully online (or distance) learning.

The challenge for institutions is to make sure they are properly prepared for these developments, and especially for the impact of scaling up online and digital learning activities. There is clear evidence that online learning requires:

- changes in pedagogy as well as the adoption of new technologies,
- as a result, faculty and instructors need more training and support, and
- institutions need to plan more thoroughly and consistently for these changes.

We hope this report will be of help and assistance to institutions as they increasingly maneuver into digital learning environments.

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SECTION 1:
BACKGROUND TO THE 2018 SURVEY

1.1 Introduction

In 2017, a team of independent researchers secured funding and developed a national survey of online learning and distance education in Canadian public post-secondary education. There had been isolated studies of parts of the Canadian system before, and similar studies had been done in the USA, originally by the Babson Survey Research Group (a partner in our study) and later by the United States Department of Education's Integrated Postsecondary Education System Data survey (IPEDS). However, the 2017 Canadian survey was the first comprehensive survey of online learning in Canadian publicly funded universities and colleges.

Funding was raised primarily from provincial government agencies established to support online learning, such as eCampus Ontario, but with contributions also from Pearson Canada and D2L. A main report (Bates, et al, 2017) and several sub-reports, were published in the fall of 2017. Reports are available in English and French (see: https://onlinelearningsurveycanada.ca/ for the English reports and https://formationenlignecanada.ca/ for the French report.)

Although the survey was both new and voluntary, there was an excellent institutional response in 2017, with 69% of institutions covering 82% of the student population responding. The 2017 survey indicated that online learning was alive and well in Canadian post-secondary institutions, with 85% of all responding institutions offering at least some online learning for credit in 2016, and with courses offered in almost all subject areas in one institution or another. Two-thirds of responding institutions stated that online learning was considered *very* or *extremely important* for their long-term future.

The survey reports were well received by provincial governments, institutions and faculty and staff working in Canadian post-secondary institutions, enabling adequate funding to be raised for a second survey in 2018.

1.2 Funding for the 2018 survey

As in 2017, the major part of the funding for the 2018 survey came from the various provincial government organizations mandated to support online learning, plus a lesser but significant contribution from the private sector. In 2018 the primary funding agencies were:

- eCampusOntario
- BCcampus
- Campus Manitoba
- Contact North
- D2L
- OCAS
- Pearson Canada
- Government of Québec

Also, in order to provide greater transparency in the management of funds, the survey team established itself in 2018 as a federally registered Canadian Not-for-Profit Corporation called the Canadian Digital Learning Research Association/ Association canadienne de recherche sur la formation en ligne (CDLRA/ACRFL).

1.3 Support from other organisations

Once again, the 2018 survey depended heavily on support from other organisations, including:

- Colleges and Institutes Canada (CICAN),
- Universities Canada,
- Canadian Virtual University.

Without their help and support and that of other associations and organisations, the survey would have been difficult. We also note that we need to reach out more to other provincial and national organizations such as Réseau des CEGEPs et des Collèges Francophones du Canada (RCCFC), Association des Collèges et Universités de la Francophonie Canadienne (ACUFC), Réseau d'Enseignement Francophone à Distance du Canada (REFAD), CNIE, and more.

Above all, though, this is a voluntary survey for institutions to complete. As in 2017, this year's survey required a good deal of work from many different people within the institutions to provide all the information requested. We are truly indebted to everyone who participated in the survey.

1.4 Goals of the 2018 survey

Although in general the 2017 survey was seen as being very successful, it was also recognised that being the first survey of its kind, there was still considerable room for improvement. The 2018 survey attempts to address some of these limitations, as well as extending the reporting on online learning into a second year.

Thus, the following goals were set for the 2018 survey:

1.4.1 Increase and improve the response rate

Although the response rate in 2017 was good, there were still some significant institutions that did not respond. Many of the non-responders probably did not have any online or distance education programs for credit. However, there were some non-responders that were known from other sources to have strong online programs. We also wanted to widen the population base, to include private subsidised colleges in Québec that receive provincial funding.

In 2017, we learned that different questions usually required responses from a number of people within the same institution. Thus, we also invested time in 2018 in improving our database of contacts at each institution, ensuring that the questionnaire went to the right people in each institution.

The goal in 2017 we set for all responders was 67% of institutions in the roster, which we met (69%). In 2018, the goal we set was 75%, which we surpassed with a response rate of 80%, with 187 institutions out of 234 responding.

1.4.2 Better enrolment data

In the 2017 survey, we found there was inconsistent and unreliable reporting of online course enrolments. There were too many gaps and inconsistencies in the data provided by the institutions to be confident about online enrolment numbers. Many institutions did not track online enrolments separately or tracking was decentralised across the institution and different definitions were being used. Thus, in 2017 we could not provide any detailed breakdown of online enrolments or even overall student enrolments.

In 2017, we were able to cross-tabulate what reliable data we had with those from earlier surveys to make an estimate of the proportion of online students in Canada in 2015, but these were very tentative results.

The main reason for the unreliable enrolment data in the 2017 survey results was the variety of definitions being used across the country. In many cases there was a mismatch between the definitions in our questionnaire, and the way institutions collected their data. This applied as much to overall student enrolments as to online enrolments.

Indeed, each province uses its own method to collect data and count overall post-secondary student enrolments. Some count only full-time students, some count full-time equivalents that include a fraction for each part-time student, others count all part-time students the same as full-time students. Some provinces exclude international students (since most are self-funding) while others include them.

There are good reasons for each of these practices within each province, and institutions are set up to give priority to data requested by the provincial government in the format requested. However, it causes major problems when trying to produce consistent national data across provinces and territories.

What we did to address the issue for the 2018 survey was to:

- get considerable feedback from multiple sources after releasing the reports last year on how to improve the definitions,
- work with our entire team to draft a revised approach to definitions,
- ask for feedback from key players in Canadian higher education on our re-drafted definitions,
- conduct a preliminary survey where we asked institutions about the wording of our ‘new’ definitions, and what data they could reliably report.

Based on all of this we arrived at a reduced and clearer set of definitions that we hoped would match those used by the majority of institutions in the country. Also,

we asked only for enrolment data that most institutions told us they could reliably provide.

1.4.3 Improve the francophone component

Although various attempts were made in 2017 to reach out to francophone institutions and organisations, we realised that we needed a deeper understanding of the unique context of francophone institutions, particularly in Québec, for the 2018 survey.

This was improved by adding a consultant from Québec to the team and sharpening our focus. More targeted communication efforts were conducted with francophone institutions outside Québec. A decision was also made to treat the francophone colleges within anglophone institutions as separate, independent entities with their own francophone questionnaire. This had the effect of increasing the number of public post-secondary institutions listed in some provinces.

We also decided to include the private subsidised colleges in Québec that receive funding from the provincial government, thus widening the base of institutions in Québec.

The importance of the 2018 survey for Québec institutions was further reinforced because the Québec government was considering the establishment of its own provincial agency to support online learning during 2018.

1.4.4 Obtain new information

The scope of the survey was widened a little, to include questions on:

- how online, hybrid and digital learning were being defined within institutions,
- open education/open educational resources (more detailed than 2017),
- emerging technologies such as learning analytics, simulations, virtual reality and artificial intelligence,
- online learning in continuing education/non-credit programming in preparation for a more detailed set of questions in 2019,
- a question about the perceived quality of online learning compared with conventional classroom teaching,
- the impact of benefits, and strategies to reduce barriers, to online learning.

1.4.5. Track trends over time

The importance of conducting these surveys annually is to be able to track developments in the field over time, and also to probe new areas of inquiry, especially given how quickly the field of digital learning is changing.

Although it will of course take several years to see significant trends emerging, it is essential to establish a base, and some comparisons will be made between 2017 and 2018 data where relevant and justifiable.

1.5 Plans for the future

The 2018 survey remains focused on online learning in provincially funded (public) institutions in Canada. However, we recognise that we will still need to include other areas that have not been covered, or not covered in depth, in either the 2017 or 2018 surveys, such as:

- digital learning in post-secondary institutions managed by First Nations;
- digital learning in non-credit programming;
- emerging pedagogies in digital learning;
- online learning in private post-secondary colleges
- growth of digital learning
- adoption of open educational practices
- further exploration of the impact of benefits and solutions to minimize barriers

To do this, we will need to reach out more to stakeholders in these areas, and find additional sources of funding, and these will be our priorities for 2019. This may also mean widening our research approach to include case studies and more qualitative research.

SECTION 2

METHODOLOGY AND RESPONSE RATE

2.1 Scope of the project

To manage the scope of the project, we have focused solely on publicly funded post-secondary institutions in Canada.

2.1.1 Universities

Almost all universities in Canada are provincially funded. These publicly funded and accredited universities have been the main university focus of this study.

2.1.1.1 Included in roster

In 2017, we included a total of 72 universities within the roster.

However, as a result of feedback from Québec following the 2017 survey, we added three Québec institutions to our roster of universities that had in 2017 been treated as constituent components of the Université de Montréal.

Also, in 2018 we extended the scope to federally funded post-secondary institutions. Thus, we included the Royal Canadian Military College (which has university status) within the 2018 university roster.

The majority of universities in Québec are francophone, but there are also three anglophone universities in Québec. However, outside Québec, there are

- fully francophone universities,
- several mainly anglophone universities with separate francophone colleges.

As a result of feedback regarding the 2017 study, we decided in 2018 to treat as a separate roster entry, the francophone colleges within anglophone universities, as they offer separate academic programs and because they require a separate questionnaire in French. This resulted in an additional five university-type institutions compared to those included in the 2017 survey.

Finally, one provincially funded institution changed its status from a college to a university between 2017 and 2018.

As a result, we now have 82 universities listed in the 2018 roster, compared to 72 in 2017.

2.1.1.2 Excluded from roster

Unlike the USA, there are very few private, for-profit universities in Canada, and they are very small. These Canadian private for-profit universities have not been included in either the 2017 or the 2018 rosters.

There are more private, not-for-profit universities in Canada, mainly religious-based universities with provincial legal status but they too are quite small, and we have not included them in the scope of the 2018 roster.

There are also in Canada numerous formerly small universities or colleges, often with a religious/faith-based origin, some of which do have individual membership in Universities Canada. However, over the years these former colleges have been integrated into larger provincially funded universities that now provide most of the teaching and award the qualifications for students within these colleges. These former universities or colleges have not been counted as separate roster entries but considered to be part of their main universities in both the 2017 and 2018 rosters.

2.1.2 Colleges

There are numerous private, for-profit career colleges, but still the majority of two-year college students in Canada attend provincially funded institutions. This remained the scope of the 2018 survey. Thus, fully private career colleges and institutes were not included

Québec's college system, although publicly funded, is fundamentally different from the rest of Canada. Although CEGEPs (Collèges d'Enseignement Général et Professionnel) provide both academic programs that prepare students for university as well as vocational programs, the CEGEPs often offer a different mix of programs and age ranges found in colleges in other provinces.

Thus in 2017 a distinction was made between colleges (anglophone and francophone) outside Québec, and the CEGEPs. In 2017 we included 50 CEGEPs in our roster. Again, as a result of feedback from the 2017 study, we added two more fully funded provincial professional colleges to the 2018 CEGEPs roster, and reduced two separate CÉGEP entities to one, as the distance education entity was part of the main institution, making a total of 51 for 2018.

Another difference we discovered is that in Québec '*private subsidized colleges are establishments recognized as a public interest and approved for subsidies by the Minister responsible for Higher Education*' and are fully accredited within the province. Thus, for 2018 we added these 21 publicly subsidised colleges to the roster.

In some of the data tables, the data for both CEGEPs and private subsidized colleges are presented separately, and in others combined. When combined, the heading "Quebec College" is used to denote the responses from both CEGEPs and publicly subsidised colleges.

A number of aboriginal communities/First Nations also manage their own post-secondary technical colleges. In 2017 we included two First Nations' managed colleges in the roster, as they received provincial funding. In the meantime, we discovered there are several other colleges managed by First Nations with a variety of funding arrangements. These colleges are usually small and on reserves and may not offer online programs. However, we feel that we need to reach out to First Nations to learn more about these colleges, how they are managed and their interest

or otherwise in online learning, but for 2018 we have excluded any colleges or institutes managed by First Nations until we have a better understanding of their needs and interests. This is a priority for 2019.

By extending the scope to federally funded post-secondary institutions, we added the Canadian Coast Guard College to the 2018 roster. Also, a provincially funded specialist language college was added to the roster in 2018. One college received full university status in 2017-2018 and was moved from the college to the university roster in 2018.

2.1.3 The final 2018 roster of institutions

Thus the 2018 roster includes:

- 82 universities and Francophone colleges of Anglophone universities
- 80 colleges outside Québec
- 51 CEGEPs
- 21 private subsidised colleges in Québec

This makes a total of 152 colleges and 82 universities for a total of 234 institutions in the roster, compared with 203 in 2017 (see Appendix 1 for the full roster list).

Table 2.1 summarises the differences in rosters between 2017 and 2018:

Table 2.1: Institutions in project roster, 2017 and 2018

	2017	2018
Universities	72	82
Colleges outside Québec	81	80
CEGEPs	*(50)*	*(51)*
Private subsidised	*(0)*	*(21)*
Québec colleges	50	72
Total	203	234

2.2 Questionnaire design and distribution

The 2017 questionnaire design was initially based on the design of the Babson Surveys, but was modified to meet the Canadian context. For comparison purposes several key questions remain common to both the Canadian and U.S. surveys.

For 2018, some questions were removed, because the 2017 survey had already provided the information requested and the information was not likely to change significantly from year to year.

Some of the definitions were changed from the 2017 version to reflect feedback we had received after the 2017 study and a question was added to allow institutions to compare their definitions with those of the survey team.

The questions on enrolments in the 2018 survey were also modified to take account of the new definitions and the feedback received from institutions regarding the 2017 study.

New sections specifically on open educational resources, continuing education online courses, and a comparison of the perceived quality of online, blended and face-to-face courses were also added.

We included the most important questions we were changing from the 2018 survey (the definitions and the enrolment questions) in a pre-survey that went to all potential participating institutions for feedback and comment. We also used this outreach to update our contact information for each institution.

An invitation was sent to the Provost/VP Academic or Vice-President Education or Directeur général at each institution, with copies to the other institutional contacts in our roster. In 2018, the question content was identical in both anglophone and francophone versions of the questionnaire.

The questionnaire itself was online and was accessed using a link unique for each participant institution. Members of the project team actively followed up with institutions to encourage them to participate. The project was also promoted through post-secondary educational networks or provincial organizations. The invitations began in late June, 2018 and continued until the end of July. In response to requests from responding institutions in late summer, a pdf that allowed for responses to be entered was made available to requesting institutions, after which the majority of responses were submitted using the pdf. The eventual cut-off date for return of the questionnaire was set at August 31, although the survey team was able to accommodate additional responses on an exception basis and included in the data analysis after that date.

2.3 Responses

2.3.1 Comparing our roster enrolment figures with Statistics Canada's data

Statistics Canada's (StatCan's) most recent figures for Canadian post-secondary student enrolments are for the fall of the 2015/2016 academic year. [https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710001101]. Their enrolment numbers are based on program counts and not student counts. The data includes part-time as well as full-time students. If a student is enrolled in more than one program as of the snapshot date, then all of their programs are included in the count.

In 2017, we developed estimates of each institution's overall student enrolment data from a wide variety of sources. This was necessary because the overall student enrolment data collected in the 2017 questionnaire was not consistent or reliable, and we also needed enrolment estimates for non-responders. We maintained the estimated numbers from 2017, but we found that the overall enrolment data from the 2018 questionnaire was much more consistent as a result of responses to the

2017 report and the re-definitions. The data we collected for the 2018 survey is for the 2016-2017 academic year; Stats Canada's latest figures are for 2015-2016.

Comparing our population base of enrolment data from the questionnaires, supplemented where questionnaire data was missing or unreliable with our estimates of an institution's enrolments, with the StatCan data, we found the following differences in student enrolments (Table 2.2).

Table 2.2: Comparison of StatCan student enrolment numbers, and student enrolments from institutions in the survey population base

	Universities	Colleges/CEGEPs/S-P	Total
Survey (2016)	1,309,185	763,183	2,072,368
StatCan (2015)	1,307,277	727,680	2,034,957
Difference	1,908	35,503	37,411
% difference	0.15%	4.88%	1.84%

It should be noted that the 21 private, subsidised colleges in Québec added in 2018 total 23,411 students. Overall, our population base appears to represent very closely all students studying for institutional credit at Canadian public post-secondary institutions, as reported by StatCan for 2015-2016.

2.3.2 Institutional response rates

Table 2.3: Response rate by type of institution

	2017			2018		
	Resp.	Pop.	%	Resp.	Pop.	%
Universities	56	72	77%	75	82	92%
Colleges (except Quebec)	55	81	68%	64	80	80%
CEGEPs (Québec)	29	50	58%	40	51	78%
Private subsidised (Québec)	n/a	n/a	n/a	8	21	38%
Total	140	203	69%	187	234	80%

Resp. = responding institutions; Pop. = all institutions in roster

Table 2.3 above shows that the overall institutional response rate was 80% for all types of institutions.

Responses were highest from universities (92%) and lowest from the 21 private subsidised colleges in Québec added to the roster this year (38%). If the 21 private subsidised colleges in Québec are excluded, the response rate is 84%, compared with 69% for last year's similar roster base.

The response from francophone institutions was higher in 2018 than the 2017 survey (73% compared with 65% in 2017). Even though the low response rate from the newly added private subsidized colleges (38%) pulled the overall francophone average down to 73% for 2018, this is still higher than the 65% in 2017. Without the private, subsidized colleges, the francophone response rate was 83%, almost identical to the anglophone response rate of 85%.

2.3.3 Response rates by size of institution

The response rate tended to be lower from the smaller institutions (see Table 2.4). Nevertheless, well over half of even the smallest institutions responded.

Table 2.4: Response rate by size of institution

No. of students	Responded	No response	Total	% response
1 - 999	25	17	42	60%
1,000 - 1,999	24	13	37	65%
2,000 - 3,999	34	7	41	83%
4,000 - 9,999	51	5	56	91%
10,000 +	53	5	58	91%
Total	**187**	**47**	**234**	**80%**

Since there was a higher response from the larger institutions, the questionnaire responders represent institutions with 92% of the student population base, as can be seen from Table 2.5.

Table 2.5: Responders as a percentage of student population

Student population

Institution type	Responded	No response	Total	% response
Universities	1,236,960	72,225	1,309,185	94%
Colleges outside Québec	506,383	60,308	566,691	89%
CEGEPs	146,779	26,302	173,081	85%
Private subsidised Québec	9,108	14,303	23,411	39%
Total	**1,899,230**	**173,138**	**2,072,368**	**92%**

2.3.3 Response rates by province

Also, there is a broad spread of institutional representation in the project for almost all the provinces and territories (Table 2.6):

Table 2.6: Responding institutions by province

Province	Responded	No response	Total	% Response
Alberta	17	4	21	81%
British Columbia	21	5	26	81%
Manitoba	8	1	9	89%
New Brunswick	5	3	8	63%
Newfoundland & Lab.	2	0	2	100 %
Northwest Territories	2	0	2	100%
Nova Scotia	10	1	11	91%
Nunavut	0	1	1	0%
Ontario	46	2	48	96%
Prince Edward Island	3	0	3	100%
Québec	66	24	90	73%
Saskatchewan	6	6	12	50%
Yukon	1	0	1	100%
Total	**187**	**47**	**234**	**80%**

Responses from Saskatchewan were lower than from institutions in other provinces, with just half the 12 institutions responding.

Overall, especially considering that this was a voluntary questionnaire, the responses provide an excellent, representative sample of colleges and universities across all provinces, and across all sizes of institution, representing 80% of all institutions and 92% of all students studying for institutional credit at Canadian public post-secondary institutions.

SECTION 3
DEFINITIONS

3.1 Definitions: Similarities and Differences

It became clear from the 2017 survey that there were no generally agreed upon definitions of the terms used to describe courses that are offered as 'distance education', 'online' or 'blended/hybrid'.

Clearly, it is difficult to collect data, conduct research, create effective policies, or have meaningful comparison if the terms used differ in meaning depending on each institution's or department's interpretation.

We incorporated feedback provided in the 2017 survey and revised the definition for distance education as can be seen in the comparison table below. The definitions were intentionally written broadly to capture a variety of activities that may be labeled in another way locally, but truly do not differ in how the course is conducted.

Here is a comparison of the definitions used in 2017 and 2018:

2017	2018
Distance education courses. Distance education courses are those where no classes are held on campus – all instruction is conducted at a distance. Distance education courses may use a variety of delivery methods, such as print-based, video/audio-conferencing, as well as internet-based.	**Distance education courses**. Distance education courses are those where no classes are held on campus – all instruction is conducted at a distance.
Online courses. A form of distance education where the primary delivery mechanism is via the internet. These could be delivered synchronously or asynchronously. All instruction is conducted at a distance.	**Online courses.** A form of distance education where the primary delivery mechanism is via the internet. These could be delivered synchronously or asynchronously. All instruction is conducted at a distance.
Blended/hybrid courses. These are courses are designed to combine both online and face-to-face teaching in any combination. For the purposes of this questionnaire, we are interested in those courses where some, but not all, of the face-to-face teaching has been replaced by online study.	**Blended/hybrid courses**. These are courses designed to combine both online and face-to-face teaching in any combination. For the purposes of this questionnaire, we are interested in those courses where some, but not all, of the face-to-face teaching has been replaced by online study.

In the 2018 project, we asked about the definitions for a distance education, online, and blended/hybrid course to test the real-world fit of the survey definitions. Institutions were asked to identify if they had a definition at their institution and if so, did it match ours? We were also interested to know if institutions did not have a

definition, or if they had more than one definition. Institutions were asked to share their definition if it didn't match the one provided. This set of questions was answered by a total of 184 responding institutions and there was a majority of agreement for each definition provided.

However, as we anticipated, there are still enough differences that there is work left to be done to improve the joint understanding of the use of each term to faciiltate improved understanding and systematic tracking of digital learning activities.

3.2. Defining distance education

In 2018, we gave the following definition of distance education on the questionnaire:

> *Distance education courses are those where no classes are held on campus – all instruction is conducted at a distance*.

Institutions were asked:

> *Does your institution's internal definition match this?*

Table 3.1 Definitions of distance education courses

	Offers DE		**No DE**		**Total**	
	Nos.	**%**	**Nos.**	**%**	**Nos.**	**%**
Our definition matches the one listed above	88	58	12	38	100	54
We have more than one definition in use at our institution	19	13	3	9	22	12
Our definition does not match the one listed above	20	13	2	6	22	12
We do not have a definition of a distance education course	25	16	15	47	40	22
Total	152	100	32	100	184	100

Although the term 'distance education' has been used longer than online, blended/hyrbid in post-secondary education, there is still either confusion or disagrement on what is or is not included.

Slightly more than half (54%) of the respondents found that the survey definition matched their instituitonal definition. The lowest rate for the defintion matching and for not defining the term was among Quebec private subsidized institutions and the CEGEPs at just 45%. Given that several of them are just now developing their own distance courses, they may be catching up with the other institutional sectors on this issue.

Just under a quarter of responding institutions (22%) indicated they have no definition of a distance education course. Of the 152 institutions that answered this question that do offer distance education courses, 25 (16%) reported that they did not have a definition of a distance education course.

22 institutions (12% of responders) reported that they have more than one definition at their institution, which could be an issue especially for larger institutions. In addition, 22 institutions reported that the survey and institutional definitions do not match.

3.2.1. Distance education course definitions: open-ended responses

The survey provided the opportunity for respondents to provide their definition(s) or to explain their answer. This question was only displayed for those with a different definition than our survey definition:

> *Please share your internal definition(s) of a distance education course:*
>
> *What comments would you like to share about distance delivery formats used in your institution*?

The following chart is a rough categorization of the 37 open-ended responses provided, divided by institution type. The Total column includes a percentage that reflects the number of respondents classified in this category out of the total 185 individuals who answered this question.

Table 3.2 Distance education course definitions: categorized

Distance education course definition comments	Cégep	Colleges outside Québec	Univer-sities	Total	%
Provided multiple definitions that are essentially sub-sets of the distance education definition	8	10	9	27	73
Use lower % than the near 100% implied by survey definition		1	2	3	8
Do not separate between distance and online courses	1	1	1	3	8
Miscellaneous responses		1	3	4	11
Total providing open-ended response	9	13	15	37	100
Total roster	72	80	82	234	

The most common open-ended contribution was to provide detailed descriptions of exactly what is offered by the institution. For the most part, the open-ended responses were essentially a subset of the distance education definition provided in the survey. For example, an Ontario College respondent said: *"Distance education is defined as above, but we also have hybrid courses, modular opportunities, etc."*

Whereas the survey definition focuses on *what* activity is taking place, the text submitted often did not substantially differ in concept. Instead, it provided more details on *how* distance education is provided, such as listing different modalities. As an example, a college from Alberta contributed the following detailed explanation:

- *Home Study: A course delivery mode where learning activity takes place using print-based materials at a time and place of learners own choosing. May include limited online activity.*
- *Any-time Online: A course delivery mode where learning activity takes place at times and locations of the learners own choosing through the use of online communications technologies. Learners are NOT required to participate in any scheduled learning activities, but scheduled exams may be required.*
- *Real-time Online: A course delivery mode where learning activity takes place through scheduled interaction through the use of online communications technologies at locations of the learners own choosing. Learners ARE required*

to participate in online learning activities at scheduled times, and scheduled exams may be required.

- *Combined Online: A course delivery mode that combines elements of any-time and real-time activity. Learners will be able to participate partly at times of their own choosing and are also required to participate* in some scheduled online learning activities. Scheduled exams may be required.

Taking that view, an additional 10-15% of the respondents were generally in agreement with the survey definition. Some reported their additional efforts to further delineate the differences in the modalities used and the student's experience.

There were also several responses about alternative phrases that are used:

- *We use Online Learning (OL).*
- *Distributed learning is a general term used to describe a multimedia method of instructional delivery.*
- *Distance Education/Distributed Learning: Instruction characterized by quasi-permanent separation of teacher and student during the learning process."*
- *For us this phrase is not accurate, synchronous online training, live eLearning is more appropriate.*
- *Distance Studies occurs when learners are separated from the instructor and classmates, whether across the hall or across the province.*
- *For our college, a distance course is a correspondence course.*

Additionally, one institution provided a definition from a provincial advisory council and an admonition to modernize terminology.

- A Quebec university said that they *"apply the definition of the Conseil supérieur de l'éducation, ie 'an activity that involves, to a certain degree, a dissociation of teaching and learning in space or time (CES, 2015)'"*
- *We do not use remote words that refer to years prior to internet. For us this phrase is not accurate, synchronous online training, live eLearning is more appropriate.*

While there is general agreement, there is still significant disagreement on the terms to be used. Among those disagreeing, there is no real sense of a coalescing around an alternative phrase, unless it is "online learning." Unfortunately, that term focuses on a few modalities. Issues of definition have long plagued distance education and numerous institutions struggle with defining the term to a fine point to capture their unique approach.

3.3 Defining online learning

In 2018, we gave the following definition of an online learning course on the questionnaire:

A form of distance education where the primary delivery mechanism is via the internet. These could be delivered synchronously or asynchronously. All instruction is conducted at a distance.

Institutions were asked: *Does your institution's internal definition match this?*

Altogether there were 187 of the 234 institutions in the roster that responded to the questionnaire. Of these 187, six did not answer this question. Of the 181 that responded, nearly two-thirds (65%) used the same definition as the one we provided. A further 6% used more than one definition, 19% had no definition and 10% had a different definition from the one provided.

Table 3.3 Definitions of an online learning course

	Offers online		**No online**		**Total**	
	Nos.	**%**	**Nos.**	**%**	**Nos.**	**%**
Our definition matches the one listed above	104	70	14	42	118	65
We have more than one definition in use at our institution	11	8	0	0	11	6
Our definition does not match the one listed above	15	10	3	9	18	10
We do not have a definition of an online learning course	18	12	16	49	34	19
Total	148	100	33	100	181	100

There is more agreement with this definition than with the one provided for distance education. Nearly two-thirds (65%) said the survey definition matched the one their institution uses, and among those actually offering online courses, agreement was even higher at 70%. Colleges have a remarkably high level of agreement (79%), while fewer than half of CEGEPs have a definition that matches.

Almost one-in-five institutions (19%) have no definition of an online education course with this percentage being much higher for CEGEPs and the private subsidized colleges. As mentioned previously, CEGEPs are just beginning to offer or are greatly expanding their online offerings. Meanwhile, colleges have a very high

(79%) match rate on this defintion. Relatively few (6%) of institutions reported having more than one definition for an online course.

3.3.1.Online course definitions: open-ended responses

The survey provided the opportunity for respondents to provide their definition(s) or to explain their answer. The following table is a rough categorization of the 24 open-ended responses provided, divided by institution type. The 'total' column includes a percentage that reflects the number of respondents classified in this category out of the total 181 individuals who answered this question.

Table 3.4: Online course definitions categorised

Online education course definition comments	Cégep	Colleges outside Québec	Univer-sities	Total	%
Provided multiple definitions that are essentially sub-sets of the online education definition	6	8	1	15	63
Use lower % than the near 100% implied by survey definition			4	4	17
Unable to understand difference in their response	1		2	3	13
Do not differentiate between online and distance education definitions			2	2	7
Total providing open-ended response	7	8	9	24	100%
Total roster	72	80	82	234	

As with the distance education course definition, the most common open-ended contribution was to provide detailed descriptions of exactly what is offered by the institution. Once again, the open-ended responses were essentially a subset of the online education definition provided in the survey.

Whereas the survey definition focuses on *what* activity is taking place, the text submitted often did not substantially differ in concept. Instead, it provided more details on *how* online education is provided, such as listing different modalities. As an example, an Ontario university replied that the definitions do not match, but provided this explanation: *We use online and distance education in the same breath. We do not differentiate between the two terms at this time, which we should better define in the near future.*

Other examples of where the definitions did not differ substantially from the survey definition:

- *A for credit university course delivered entirely over the Internet.*
- *Instruction in which some portion of the course materials are accessed electronically, and/or instructor-student interaction takes place using electronic media. Typically, this term is used to refer to distance education delivered via online dissemination.*
- *An online course is a form of education where the primary mode of delivery is via the Internet. These could be delivered synchronously or asynchronously. All instruction is conducted online.*
- *On-line courses will let you pursue university studies if you cannot attend regular classes. This form of instruction allows you both time and place flexibility to meet your educational objectives.*

If several of the institutions with slight differences (such as noted above) are added into the "our definition matches" category, the amount of agreement between the survey and institutions increases.

A university in Saskatchewan provided a succinct and insightful description of the problems facing institutions. They often have to try to make a single definition meet the distinct policy, data-reporting, and consumer information needs to which they are subject: *For registration purposes, students see online courses as web-delivered not online. For statistical purposes, we combine blended, LIVE-streamed, video-conferenced (synchronous using Zoom) and fully online courses together. For student registration purposes, these are separated out.*

A college in one of the Maritime provinces commented on the term "online learning" and recommended against using it: *We suggest (that our college) refrains from using this term. While it is commonly used, there are too many interpretations and misunderstanding by the general public. Most notably, this term is thought to only apply to distance learning, however online methods are also used in face to face and blended learning environments at the College. Rather, we suggest (our college) use the term 'Technology Enhanced Learning', as this is a broader term, describing any learning that involves or is supported by technology.*

While the term they suggest is not widely used, it is the term that WCET, a co-participant in this report, has adopted to indicate a broader scope of learning, as suggested by the responding institution.

The survey definition says that "all instruction is conducted at a distance." For a few institutions, they include courses for which most, but not all, of the instruction happens online. There has been considerable discussion over exactly where to draw the line and these comments highlight the differing opinions:

- *The online component is typically 50-80% of total course delivery.*
- *The online component is typically over 80% of the total delivery.*

- *We have both fully online courses and mostly online courses.*
- *Part of the training is given remotely in synchronous or asynchronous mode and part of it is given in the laboratories of the College.*

These differences in percentages or if a course is completely online fits well into the discussion of blended/hybrid course definitions featured in the next section. Calibrating percentages becomes a real issue when determining what is "part" of a course.

3.4 Blended/hybrid learning

In 2018 we asked each institution whether their definition of blended/hybrid learning matched ours.

The term blended/hybrid has been around for a very long time, yet there is still either confusion or disagreement on what is or is not included. The definition, as provided by the survey:

> A blended/hybrid course is: *designed to combine both online and face-to-face teaching in any combination. For the purposes of this questionnaire, we are interested in those courses where some, but not all, of the face-to-face teaching has been replaced by online study.*

Table 3.5 provides a summary of the responses to this question:

Table 3.5 Definitions of a blended/hybrid course

	Offers blended/hybrid		**No blended/hybrid**		**Total**	
	Nos.	**%**	**Nos.**	**%**	**Nos.**	**%**
Our definition matches the one listed above	87	64	20	51	107	59
We have more than one definition in use at our institution	8	6	1	3	9	5
Our definition does not match the one listed above	13	10	1	3	14	8
We do not have a definition of a blended/hybrid course	27	20	17	43	44	25
Total	135	100	39	100	174	100

More respondents agreed (59%) with the blended/hybrid definition than was found with the distance definition, but not quite as many as found a match with the online definition. A quarter (25%) of all reporting institutions do not have a definition, which may be due to this variation of distance education being the most recent.

For CEGEPs, there are more respondents who say this definition matches the one they use than is found for either the distance or online definitons. This model may be a better match for the students they serve. The college sector again has the highest rate of agreement with the survey definiton.

3.4.1. Blended/hybrid course definitions: open-ended responses

The survey provided the opportunity for respondents to provide their definition(s) or to explain their answer. The following chart is a rough categorization of the 24 open-ended responses provided, divided by institution type. The Total column includes a percentage that reflects the number of respondents classified in each category out of the total 24 individuals who answered this question.

Table 3.6 Blended/hybrid definitions categorised

Online education course definition comments	Cégep	Colleges outside Québec	Univer-sities	Total	%
Provided multiple definitions that are essentially sub-sets of the hybrid/blended definition	1	3	1	5	21
Used for courses that use online tools, but do not reduce face-time	3		1	4	17
Includes distance, not just online options	3		5	8	33
Miscellaneous	0	5	2	7	29
Total providing open-ended response	7	8	9	24	100
Total roster	72	80	82	234	

While the options selected in this question show a great majority in agreement with the survey definition, the comments show that there is still great variation among those not in agreement. The variance may be higher due to the fact that the survey

had combined both blended and hybrid in defining this activity. Some use one term, some use the other, some use both interchangeably, and others use different terms.

For the distance and online defintions, comments often tended to be lists of definitions that actually were detailed subsets of the survey definition. Five of those offering open-ended comments followed that pattern. The most common response (6%) was for the respondent to provide the institution's definition of the term and that term did not differ, in concept, from the one provided in the survey. An example of one university's definition that is awaiting final approval: *"Blended Learning is a learning experience which includes both online and face-to-face activity."* This definition embodies the same concepts as the one provided in the survey.

A few use the blended and/or hybrid terms to describe activities that do not reduce face-to-face instruction. One mentioned using it for "flipped" classrooms, where students are expected to view lectures outside face-to-face time and the in-class experience is more interactive: *"Blended can also refer to courses that do not reduce face-to-face teaching but do have a substantial online component, and/or use a flipped approach."* The other three used it for videoconference classes in which students are synchronously participating in a course via voice and video, but in different locations.

The survey definition says the "face-to-face teaching has been replaced by online study." A few respondents indicated that they use blended/hybrid approaches, but it is supplemented by course experiences that use other types of distance, not online, instruction: *Hybrid courses can also include distance courses with asynchronous (online) and synchronous (web conferencing).* It may be worth considering changing that definition to reflect the broader scope of distance education as the replacement in future studies.

There also were several comments that are included in the above counts, but are interesting to review on their own:

- *In fact, by your definition, you exclude a hybrid training where classroom time has not been decreased, but greatly altered and alleviated in order to change the teaching paradigm. Our hybrid classes do not necessarily influence classroom time, but rather the educational nature of that time in the classroom.* Yes, it was the survey designers' intent to focus on the replacement of face-to-face instruction, but applaud your use of technologies to improve learning.
- *…since our courses and programs were actually designed from the beginning as online and/or blended, the face-to-face teaching has not so much been replaced as it has been designed to complement the online academic experience from the very beginning of a program's design.*
- A few institutions may currently have a working definition, but included updates such as this one: *The definition of blended/hybrid learning is under review.*

- One institution has a different take on the blended term: *A blended course is a course that primarily takes place in a face-to-face environment, but makes use of supplementary resources and activities. For example, this might be a face-to-face discussion course that uses Moodle for sharing resources or conducting assessment. A hybrid course is a course that relies on both face-to-face and online experiences for the full course. For example, a class may start in a face-to-face setting before moving class time online for a significant part of the course.*

Comparing these results with those for distance education and online courses, Table 3.7 indicates that there is agreement with our definitions by between a half and two-thirds of the respondents. However, there is more agreement on the definition of online courses and less on the definition of distance education.

Table 3.7 Percentage of institutions matching definitions

Response	Distance Education	Online Courses	Blended/ hybrid
Our definition matches the one listed	54%	65%	62%
We have more than one definition in use	12%	6%	5%
Our definition does not match the one listed	12%	10%	8%
We don't have a definition	22%	19%	25%
Total	100%	100%	100%
Total responding to question	184	181	184

Perhaps more significantly, between a fifth to a quarter of the institutions have no definitions of these terms. The majority were CEGEPs and private subsidised colleges in Québec.

3.5 Some final thoughts on definitions

For each of the key definitions provided: distance education, online and blended/hybrid, a majority indicated that their institution definitions match. That is a positive sign as institutions across the provinces tend to be classifying the activities in much the same, or at least a comparable way. This level of agreement helps to support conclusions by this survey, and may help to inform a more systematic framework for tracking this data.

However, that still leaves disagreement in the terms by a significant minority. More work can be done to foster further agreement. Without more widespread agreement, the opportunity for meaningful comparisons is limited.

Any definitions developed in the future need to be clear as to their purpose. Is the definition for policy, data-gathering, or consumer information purposes? These categories seem to form a hierarchy. Definitions for policy work should take the broadest view and encompass the concept, since it is harder to change policy, and policy-focused definitions should allow for variations within the activities covered. Data-gathering purposes require more delineations, but must be broad enough to encompass differences across institutions. Finally, informing students about the activity in which they enrol should be as specific as possible.

SECTION 4
DISTANCE EDUCATION ACROSS CANADA

4.1 Institutions offering distance education courses for credit

Institutions were asked:

> *Does your institution currently offer any distance education courses for credit? Distance education courses are those where no classes are held on campus – all instruction is conducted at a distance.*

Table 4.1 No. of institutions offering DE courses for credit

Response	Frequency	%
Yes	153	83
No	32	17
Total	185	100
Not answered	2	
Questionnaires	187	
Roster number	234	

Altogether there were 185 of the 234 institutions in the roster that responded to the questionnaire, and, two that did not answer this question. Of the 185 that answered the question, 153 (83%) offered distance education courses for credit. This was the same percentage as in 2017, when 83% (116) answered 'yes'. Nearly all responding institutions with more than 7,500 enrolments (61 out of 65) offered distance education courses for credit.

Small institutions (less than 1,000 students) and CEGEPs and private subsidised colleges in Québec, were least likely to offer distance education courses. Of the 32 institutions that reported that they did not:

- 20 (63%) were CEGEPs or private subsidised colleges in Québec,
- 6 (19%) were colleges outside Québec, and
- 6 (19%) were universities.

However, it is likely that many of the non-responders did not respond to the questionnaire because they do not offer distance education courses for credit. Therefore, it may be safer to conclude that about two-thirds of all the institutions in the roster (153 out of 234) are known to offer distance education courses for credit,

but most of the institutions that do not are smaller in size and are likely to be private subsidized colleges or CEGEPs in Québec.

4.2. Method of delivery

The following question was asked:

> *What format(s) are currently in use for distance education courses for credit within your institution?*

Respondents were given a list of possible formats for delivery from which to choose:

- *Online courses where the primary delivery mechanism is via the internet*
- *Print-based*
- *Live or recorded broadcasting (TV or radio)*
- *Video- or audio-conferencing via telephone or closed networks*
- *Other (please give details of method of delivery)*
- *Information not readily available*

The purpose of this question was to identify which institutions were still using 'legacy' technologies for distance education delivery and the extent to which the Internet is now the dominant technology for distance education.

Care needs to be taken in interpreting these results. A more detailed question on delivery technologies with better definitions will be found in Section 11.

Table 4.2: Formats used for DE delivery

	Inter-net	%	Conf-erenci ng	%	Print	%	TV or radio	%	Other	%
Yes	126	84	72	48	38	25	24	16	25	17
No	24	16	78	52	112	75	126	84	125	83
Question responders	150	100	150	100	150	100	150	100	150	100
Missing	3	2	3	2	3	2	3	2	3	2
Not asked	34	18	34	18	34	18	34	18	34	18
Total responders	187		187		187		187		187	
Roster institutions	234		234		234		234		234	

Of those institutions offering distance education courses that answered this question, 84% used the Internet. Although this is clearly the main technology used

for distance education, this is a lower proportion than in the 2017 survey, where all but two of the institutions offering distance education used the Internet as their primary delivery format. Again, this difference between the two years could be due to the number of small institutions added to the roster in 2018, since institutions with less than 1,000 students were less likely to use the Internet for distance delivery.

However, the use of conferencing was up slightly from 2017, with 48% in 2018 compared to 44% in 2017.

Print is still being used for distance educations courses in about a quarter of the responding institutions, similar to 2017.

TV or radio is used in a minority of institutions (16%). CEGEPs and the private subsidised colleges in Québec were the highest users (around 25% of institutions).

In summary, the great majority of Canadian institutions offering distance education courses and programs are using the Internet as the main delivery technology, but this is often supplemented with other technologies, especially conferencing and print. More information on the use of technology specifically for online courses can be found in Section 12 of this report.

SECTION 5

ONLINE LEARNING ACROSS CANADA

5.1 Institutions offering online courses for credit in 2016-2017

Institutions were asked:

Does your institution currently offer any online courses for credit?

Table 5.1 No. of institutions offering online courses for credit

Online courses	**Frequency**	**%**
Yes	149	82
No	33	18
Question responders	182	100
No answer	5	
Responding institutions	187	
Roster	234	

Altogether there were 187 of the 234 institutions in the roster that responded to the questionnaire. Of these 187, five did not answer this question. Of the 182 that did, 149 (82%) offered online courses for credit, the same proportion as in in 2017.

Size of institution is very much a determining factor. Over half the institutions with less than 1,000 (52%) did not offer online courses, while almost every institution with more than 10,000 students did (only one did not).

The private subsidised colleges in Québec and CEGEPs were least likely to offer online courses, while the universities and colleges outside Québec were the most likely. The following illustrates the differences between institutions in offering online courses:

- 91%: universities
- 90%: colleges outside Québec
- 56%: CEGEPs
- 37%: private subsidised colleges in Québec

However, these numbers refer only to those 182 institutions (out of 234 in the roster) that answered this question. Although the numbers likely reflect accurately the differences between types of institution in terms of their commitment to online

learning it is probable that most of the institutions that did not complete a questionnaire do not offer online courses, especially since most of the non-responders are smaller institutions.

We therefore sought to identify which of the non-responding institutions offered online courses, mainly by checking their institutional web sites. Of the 47 institutions that did not respond to the questionnaire plus the two that did not answer this question, we found evidence that 11 did in fact offer online courses for credit, making a minimum total of 160 institutions, or 68% of all institutions on the roster, offering online courses.

There will be a closer analysis of institutions that do not offer online courses in the section on online course enrolments (Section 6.2).

5.2. Institutions offering online courses, 2008-2016

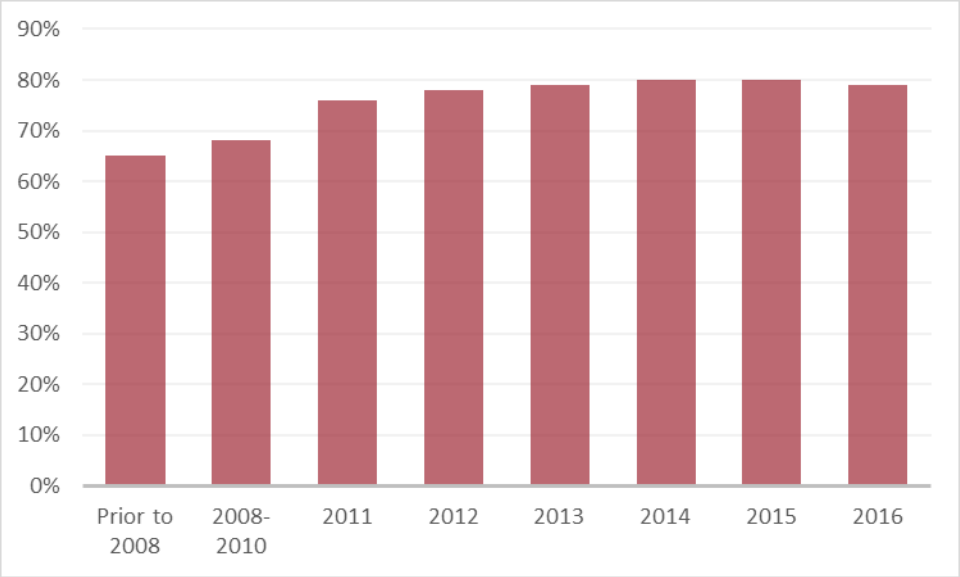
Questionnaire respondents were asked if their institution offered any online courses for credit in any of the years from 2008 to 2016. Table 5.2 shows the responses

Table 5.2: Institutions offering online courses: 2011-2016

	Prior to 2008	2008 - 2010	2011	2012	2013	2014	2015	2016
Offered	84	92	129	137	139	142	144	143
Not offered	45	43	41	38	37	35	35	37
Question responders	129	135	170	175	176	177	179	180
% of question responders offering	65%	68%	76%	78%	79%	80%	80%	79%
Not answered	53	47	13	11	11	10	8	7
Responding institutions	177	177	177	177	187	187	187	187
Roster institutions	234	234	234	234	234	234	234	234
% of roster responding to question	55%	58%	73%	75%	75%	76%	76%	77%

The 2018 data shows a significant increase in the number of institutions offering online courses after 2010 (from 68% in 2010 to 76% in 2011), and then a more gradual increase between 2011 and 2016 (from 76% in 2011 to 79% in 2016). The increase from 2008 to 2016 is 14%, or 2% per annum, but between 2011-2016 only 3%.

Figure 5.1 Growth in institutions offering online courses



The results were similar to those in 2017, where institutions were asked to provide information for the years 2011-2016. However, in 2018 institutions were also asked whether or not they were offering courses as far back as 2007 to 2010. It should be noted though that the further back in time, the fewer responders, so the data for the years prior to 2008 through to 2010 are probably less reliable.

The main growth has come from the very small institutions. In 2008, only 14 responding institutions with fewer than 2,000 students were offering online programs, but by 2016 this had grown to 26, almost doubling in numbers.

With a growth rate in the number of institutions moving into online education of around 3 per cent per annum for the last six years, and with 82% of all responding institutions offering online courses in 2016, Canadian post-secondary education appears to be a relatively mature market for online learning, as was noted in the 2017 study. Many have been offering online courses for more than 15 years.

However, there are signs that the growth in institutions offering online courses is now slowing or flattening out. It will be interesting to see how many of the remaining 74 institutions that we believe are not currently offering online learning move to online learning in the coming years.

SECTION 6:
ONLINE COURSE ENROLMENTS

6.1 A methodological challenge

In the 2017 national survey, obtaining accurate and reliable online student and course enrolment figures was a major challenge. For many institutions, this was the first time they had been asked for such data. For others, different ways of defining students and enrolments were used by different institutions and provinces, making comparisons difficult. Some institutions reported data for just the fall semester, others reported for the whole year. Many institutions did not report online course enrolments at all. As a result, we had to make estimates, using what reliable data were available from the 2017 survey, and comparing this with data from other sources in other years.

For 2018, our main purpose in collecting enrolment data was two-fold:

- to calculate what proportion of Canadian post-secondary students were taking *any* online course for credit
- what proportion of all course enrolments for credit were online.

Thus, before we finalized the questionnaire design, we contacted a sample of institutions and asked them what type of enrolment data they were best able to provide. As a result, the questions on enrolments in the 2018 survey were modified to take account of the feedback received from institutions.

6.2. Institutions with no online provision

The first step in calculating these two sets of data was to identify which institutions did *not* offer any online courses.

Table 6.2 below provides information on the institutions that do not, as far as could be determined, provide any online courses, i.e. they have no online enrolments.

There are two separate sources for this data:

- from those institutions that returned the questionnaire (36 responders: Table 6.2)
- from a web search of non-responding institutions' web sites that did not list any online courses, supplemented by personal knowledge of institutions by members of the research team (47 non-responders).

The most reliable figure is that from the responders who reported that they had no online courses (36). With regard to the non-responders, if we could find no evidence of online courses, they were categorized as having no online courses (38 out of 47 non-responding institutions) and hence no online enrolments. This gave us a total of 74 institutions without online enrolments, or 160 institutions in the roster that did have online enrolments. As a result, it is possible that the number of institutions without online courses may be slightly over-estimated.

Table 6.2 Institutions with no online student enrolments

	Non-responders		Responders		Total: no online students			
	No online	**% of roster**	**No online**	**% of roster**	**No online**	**% of roster**	**No. of respon-ders**	**Roster**
Universities	4	5%	6	7%	10	12%	75	82
Colleges outside Québec	10	12%	6	7%	16	20%	64	80
CEGEPs	11	22%	19	37%	30	59%	40	51
Québec private subsid.	13	62%	5	24%	18	86%	8	21
Total institutions	38	16%	36	15%	74	32%	187	234

It appears from Table 6.2 that nearly one third of the institutions in the roster (74) have no online enrolments. A majority of these institutions were in Québec (48 out of 74 – 65%). However, since the institutions without online enrolments tended to have lower overall student enrolments, the institutions with no online enrolments represent only 10% of all students in Canadian post-secondary institutions, even though they represent almost one third of the institutions. The converse of course is that there are probably 160 institutions that do offer some online courses at least, for credit, constituting 90% of all Canadian post-secondary students.

The importance of identifying institutions without online courses is to ensure they are included when calculating the overall number of students and also the number of student course enrolments. This is essential to obtain an accurate estimate of the proportion of students taking online courses for all Canadian post-secondary institutions, especially since non-responding institutions were more likely not to offer online courses.

6.3 Student online course registrations

One way to measure the proportion of teaching that is online is to calculate the total number of student online course registrations as a proportion of all course registrations (online and on campus).

Therefore, institutions were asked the following questions:

> *Please provide the following counts for online courses for the fall of 2017 and the 2016-2017 academic year. If you have a date for reporting student enrolment*

data to the province, please use the numbers at that date. If not, please use October 18, 2017, or any other date in the fall for which you have the numbers.

- *Total student course registrations in online courses (the sum of registrations in each online course, i.e. course based) for Fall 2017*
- *Total student course registrations in online courses (the sum of registrations in each online course, i.e. course based) for 2016-2017 academic year*
- *Total student course registrations (the sum of registrations in all courses, i.e. course based) for Fall 2017*
- *Total student course registrations (the sum of registrations in each course, i.e. course based) for 2016-2017 academic year*

6.3.1 Responses to these questions

In total, 132 institutions (71% of responding institutions and 56% of institutions on the roster) provided data on online course registrations for the full year 2016-2017.

For fall 2017 online course registrations, 127 provided information. Since these were mostly the same institutions as the one that provided information for the full year, the focus will be on the full year's figures.

It can be seen from Table 6.3 below that the response rate to the question on online course enrolments for the year 2016-2017 is high. The 132 responding institutions constitute 82% of all institutions known to be offering online courses, 71% of those responding to the questionnaire, and 56% of all Canadian post-secondary institutions. The response from the universities was particularly high (78% of all universities in the roster).

Table 6.3. No. of institutions providing data on online course registrations for the year 2016-2017 by type of institution

	Institutions providing data on online course enrolments 2016-2017	No. of inst. with online courses	% of inst. with online courses	No. of quest. respondents	% of quest. respondents	No. in roster	% of roster
Universities	64	72	89%	75	85%	82	78%
Colleges outside Quebec	47	64	73%	64	73%	80	59%
CEGEPs	18	21	86%	40	45%	51	35%
Québec private sub.	3	3	100%	8	37%	21	14%
Total responding to question	132	160	82%	187	71%	234	56%

For the purpose of the analysis of responses to this question, we have grouped the provinces into regions, as follows:

- Western Canada (British Columbia, Alberta, Saskatchewan and Manitoba)
- Ontario
- Québec
- Atlantic (Nova Scotia, Prince Edward Island, New Brunswick, Newfoundland)
- North/Arctic (Yukon, North West Territories, Nunavut)

Table 6.4 shows how the institutions responding to this question are geographically placed.

Table 6.4. No. of institutions providing data on online course registrations for the year 2016-2017 by geographical region

	Institu-tions providing data on online course enrol-ments 2016-2017	No. of inst. with online courses	% of inst. with online courses	No. of quest. respon-dents	% of quest. respon-dents	No. in roster	% of roster
Western Canada	44	55	80%	52	85%	68	65%
Ontario	41	47	87%	46	89%	48	85%
Québec	33	40	82%	66	50%	90	37%
Atlantic	13	16	81%	20	65%	24	54%
North/Arctic	1	2	-	3	-	4	-
Total responding to question	132	160	82%	187	70%	234	56%

The response rate to this question from Ontario institutions were particularly high (representing 85% of the Ontario institutions in the roster).

Overall, we can be confident that the results on online course enrolments for the year 2016-2017 will be highly reliable regarding institutions that are known to offer online courses throughout the country, and for institutions in Ontario, especially.

6.3.2 Results: online course registrations

Table 6.5 reports on the number of online course registrations reported by the institutions that responded.

Table 6.5 Number of online course registrations by type of institution (responding institutions)

	Number of online course registrations 2016-2017	No. of institutions responding to this question	Average no. of online course registrations	No. of institutions on roster	% of institutions responding to this question
Universities	750,287	64	11,723	82	78%
Colleges outside Quebec	378,927	47	8,062	80	59%
CEGEPs	32,428	18	1,802	51	35%
Québec private sub.	6,867	3	2,289	21	14%
Total	1,168,509	132	8,852	234	56%

It can be seen that for the 132 institutions responding to this question, there were a minimum of one million online course registrations in 2016-2017, or an average of 8,852 per responding institution.

However, in order to assess the proportion of students taking online courses we need to know the total number of student course enrolments for 2016-2017. Table 6.6 (below) provides that information.

It can be seen that for the 129 institutions that responded to this question, there were almost 13 million student course registrations (all courses), with an average of just over 100,000 course registrations per institution.

Table 6.6 Number of total student course registrations in 2016-2017 by type of institution (responders only)

	Total course registrations 2016-2017	Institutions responding to this question	Average total course registra-tions per institution	% of institutions responding to this question	No. of institutions with both online + total reg.	Roster
Universities	7,434,435	64	116,163	78%	53	82
Colleges outside Québec	4,618,243	48	96,213	60%	48	80
CEGEPs	909,662	26	34,987	51%	14	51
Québec private sub.	50,544	4	12,636	19%	1	21
Total	12,988,271	129	100,684	55%	116	234

Table 6.6 also indicates that of the 129 institutions that provided online course registration data, 111 provided both online and total course registrations. This allows a direct comparison between online and overall course registrations, enabling the proportion of students studying online in terms of course registrations to be calculated, as indicated in Table 6.7 below:

Table 6.7: The proportion of students studying online by type of institution (from questionnaire data)

	Online course regis-trations 2016-2017	Total course regis-trations 2016-2017	% online	No. of institutions with both online + total reg.	No. of respon-ding institu-tions	Roster
Universities	750,287	7,434,435	10%	48	75	82
Colleges outside Québec	378,927	4,593,630	8%	48	64	80
CEGEPs	32,428	909,662	4%	14	40	51
Québec private sub.	6,867	50,544	14%	1	8	21
Total	1,129,214	12,988,271	9%	111	187	234

These figures suggest that approximately 9%-10% of all courses in Canadian post-secondary education are fully online, at least for most of those institutions that offer online courses, which represent 90% of all post-secondary students in Canada. However, it does not take account of the non-responding institutions, many of which are likely to have no online enrolments.

6.4 Number of students taking at least one online course

Institutions were also asked to provide data on the number of individual students who took at least one online course for credit (based on individual student records) for Fall 2017 as an optional question.

6.4.1 Responses to this question

A total of 83 institutions provided credible data on this question. Because the overall response rate to this question was relatively low (35% of the institutions on the roster and 44% of the institutions that responded to the questionnaire), it is important to be aware of the differences in response rate between different types of institution and different regions of Canada, in particular.

Table 6.8 indicates the response rate for this question by type of institution, and Table 6.9 by region.

Table 6.8 Response rate for question on institutions with students taking at least one online course by type of institution

	Data on students taking at least one online course	No. of inst. with online courses	% of inst. with online courses	No. of quest. respon-dents	% of quest. respon-dents	No. in roster	% of roster
Universities	38	72	53%	75	51%	82	46%
Colleges outside Québec	33	64	52%	64	52%	80	41%
CEGEPs	10	21	48%	40	25%	51	20%
Québec private sub.	2	3	67%	8	25%	21	10%
Total responding to question	83	160	52%	187	44%	234	35%

It can be seen that 83 institutions, just over half (52%) of the 160 institutions with online courses, 44% of all institutions responding to the questionnaire, and 35% of all institutions in the roster, provided the number of students taking at least one online course.

From Table 6.9 (below) it can be seen that the response rate on this question declines from west to east. In Western Canada, 69% of the institutions offering online courses provided data on the number of students taking at least one online course, compared with 31% of institutions providing similar data in the Maritimes.

The main implication is that the results from universities, and colleges outside Québec, and from institutions in Western Canada, are more likely to be representative than results for other types of institution and regions.

Table 6.9 Response rate for question on institutions with students taking at least one online course by region

	Data on students taking at least one online course	No. of inst. with online courses	% of inst. with online courses	No. of quest. respon-dents	% of quest. respon-dents	No. in roster	% of roster
Western Canada	38	55	69%	52	73%	68	56%
Ontario	24	47	51%	46	52%	48	50%
Québec	15	40	38%	66	23%	91	16%
Maritimes	5	16	31%	20	25%	24	21%
North/Arctic	1	2	-	3	-	4	-
Total responding to question	83	160	52%	187	44%	234	35%

6.4.2 Results for students taking at least one online course

From Table 6.10 (below), there is a minimum of 255,473 students in 83 Canadian post-secondary institutions taking at least one online course (12% of the total student population). For the 83 institutions that answered this question, this would provide an average (mean) of just over 3,000 online students per institution, although the numbers varied greatly between institutions.

Table 6.10 Number of students taking at least one online course (responding institutions)

	No. of institutions on roster	No. of institutions responding to this question	Total number of students taking at least one online course (responding institutions)	Number of students in institutions responding to this question	% of students in institutions responding to this question	Total number of students (all institutions)	% of students taking at least one online course
Universities	82	38	173,314	747,888	23%	1,309,185	13%
Colleges outside Québec	80	33	76,013	345,901	22%	566,691	13%
CEGEPs	51	10	5,491	42,761	13%	173,081	3%
Québec private sub.	21	2	655	3,678	18%	23,411	3%
Total	234	83	255,473	1,140,228	22%	2,072,368	12%

The institutions with the greatest number taking at least one online course are as follows:

- 38,007: Athabasca University, Alberta (a fully distance teaching university: 100% online)
- 20,669: Laval University, Québec, a campus-based university, but with almost half of the total of 42,617 students taking at least one online course
- 11,300: University of Waterloo, Ontario (29% of all its enrolments)
- 10,453: Fanshawe College, Ontario (slightly more than half of all its enrolments)
- 10,241: Téluq, Québec (a fully distance teaching university: 100% online)

There are a further 89 institutions that offer online courses that did not respond to this question. However, it is possible to make some reasonable estimates from other data as to the likely number of students taking at least one online course.

6.4.3 Impact of student course load on students taking at least one online course

Table 6.11 estimates the average course load for students taking online courses for those institutions that provided data on both the number of students taking online courses and the number of online student course registrations. (No. of online course registrations/no. of students taking at least one online course).

Table 6.11 Average course load for students taking at least one online course.

	At least one online course + online student regis-trations	Students with at least one online course	Related online course regis-trations	Average course load	Insti-tutions in roster	% of roster
Universities	38	173,314	573,648	3.31	82	46%
Colleges outside Québec	34	76,013	290,509	3.82	80	43%
CEGEPs	11	5,491	28,457	5.18	51	22%
Québec private sub.	2	655	6,867	10.48	21	10%
Total responding to question	85	255,473	899,481	3.52	234	36%

There were 85 institutions that provided both the number of online students taking at least one course and the number of online course registrations ('raw data'). University students in these institutions took an average of 3.31 online courses, and students in colleges outside Québec took a slightly higher load of 3.82 online courses.

This leaves 87 institutions known to have online courses without information on students taking at least one online course.

However, if the assumption is made that students in similar institutions will take a similar course load, for those institutions that did not provide a figure for students taking at least one online course, but did provide figures for online course registrations, it is possible to estimate the number of students taking at least one online course by dividing the number of online course registrations by the average online course load for that type of institution.

Table 6.12 below indicates the impact this will have on the number of students taking at least one online course

Table 6.12 Number of students taking at least one online course, including estimates based on average online course loads

	Institutions providing data on students with at least one online course	Institutions with at least one online course: raw data + estimate	Students taking at least one online course raw data	Students taking at least one course raw data + estimate (234 in roster)	Average course load actual	Average course load applied for estimates	% of roster, raw data + estimate
Universities	38	64	173,314	236,917	3.31	3.5	78%
Colleges outside Québec	34	46	76,013	110,447	3.82	4.0	56%
CEGEPs	11	19	5,491	6,261	5.18	5.5	37%
Québec private sub.	2	2	677	677	10.48	-	10%
Total responding to question	85	131	255,473	354,302	3.52	234	56%

This estimate increases the number of students taking at least one course online from 255,473 to 354,302, an increase of 39%. This constitutes 17% of the total number of post-secondary students in Canada (2,072,368).

6.5 Online course enrolments

There were 131 institutions that provided data not only for online course enrolments but also data for all course enrolments. As we know the overall individual student numbers, it is possible to calculate the average student course load (all courses, including online) for each institution that has provided this data.

6.5.1 Impact of student course load on online course enrolment estimates

The average course load varied considerably by type of institution and by province, probably because 'courses' are defined differently. In making estimates, therefore,

institutions without relevant data were matched as closely as possible with equivalent institutions with relevant data, both within and across provinces.

Thus, for instance a course load average from large colleges in Alberta that provided enrolment data would be used as a proxy for the course load average for a similar large college in the province that did not provide course enrolment data. In smaller provinces/territories with maybe only one or two colleges, these were matched with similar sized colleges in other nearby provinces/territories.

Table 6.13 Calculated average course enrolments per student for 103 institutions with missing data

	Course load: Univer-sities	No. of insti-tutions pro-viding data	No. of insti-tutions	Course load: Colleges + CEGEPs	No. of insti-tutions pro-viding data	No. of insti-tutions
Alberta	7.72	5	7	9.16	10	14
BC	7.90	8	11	8.86	10	15
Manitoba	7.53	5	6	8.18	1	3
New Brunswick	6.93	3	4	8.18	0	4
Newfoundland	6.65	1	1	8.18	0	1
North West Territories	-	-	-	5.87	1	2
Nova Scotia#	7.00	5	8	8.18	1	3
Nunavut	-			8.18	0	1
Ontario*	7.62	18	23	11.90	19	25
PEI	7.00	0	1	8.18	0	2
Québec	7.89	9	18	10.38	28	72
Saskatchewan	8.73	2	3	7.28	4	9
Yukon	-	-	-	6.54	1	1
Total	7.57	56	82	10.13	75	152

*includes RMC, Kingston; #includes Coast Guard College

Altogether, separate average course loads were calculated for each type of institution in each province, for those institutions that did not provide this data, as can be seen in Table 6.13 above.

It should be noted that only four private subsidized colleges in Québec provided any enrolment data, and these four varied widely in average course loads, making it impossible to estimate an average that was meaningful. Therefore, the average for CEGEPs was also applied to the other 17 private subsidized colleges.

6.5.2 Online course enrolment estimates

There were 74 institutions out of the total roster identified as having no online courses, or 160 institutions with online courses, of which 131 provided online course enrolment data. This leaves 29 institutions for which online course enrolment data is lacking, or 18% of those institutions with online courses. To estimate their likely online course enrolments, similar calculations were made for identifying course loads. In this case, the ratio of online registrations to all course registrations was calculated for those 102 institutions where data were available, again segmented by province and type of institution (see Table 6.14 below).

Table 6.14: Calculated ratio of online enrolments to all course enrolments for 29 institutions with missing data

	% of online enrol-ments: Univer-sities	No. of insti-tutions pro-viding com-parable data	No. of insti-tutions	% of online enrol-ments: Colleges + CEGEPs	No. of insti-tutions pro-viding com-parable data	No. of insti-tutions
Alberta!	5.00%	4	7	15.00%	10	14
BC	6.00%	8	11	10.00%	9	15
Manitoba	3.00%	4	6	8.00%	1	3
New Brunswick	5.00%	2	4	8.00%	0	4
Newfoundland	20.00%	1	1	15.00%	0	1
North West Territories	-	-	-	8.00%	0	2
Nova Scotia#	7.00%	4	8	7.00%	1	3
Nunavut	-	-	-	-	0	1

Ontario*	9.00%	18	23	7.00%	18	25
PEI	6.00%	0	1	8.00%	0	2
Québec+	11.00%	9	18	2.00%	15	72
Saskatchewan	6.00%	2	3	9.00%	4	9
Yukon	-	-	-	37.00%	1	1
Total	8%	52	82	8%	75	152

! excludes Athabasca University (fully online) +excludes Cégep à Distance (fully online)

6.5.3 Estimated totals (students taking at least one online course + online course enrolments): all roster institutions

With estimates for course load, and average ratio of online to overall course registrations, and institutions with no online courses identified, it is now possible to make estimates that take into account missing information for all institutions in the roster.

Table 6.15 (below) provides a breakdown by type of institutions of the estimated amount of online learning in Canadian universities and colleges. Across Canada as a whole, there was an estimated total of 1,357,225 enrolments in fully online cases in 2016-2017, approximately 8% of all post-secondary teaching, although there is considerable variation between institutions and between provinces. The proportion of students taking online courses in the CEGEPs and private subsidized colleges is very low (3%-4%).

Similarly, there are an estimated 354,302 students taking at least one fully online course for credit, roughly 17% of all students (18% in all universities, 19% in all colleges outside Québec).

Table 6.15: Estimates for all Canadian post-secondary institutions (roster) by type of institution

	Students taking at least 1 online course	All students (234 institutions)	% of all students	Online course registrations	All course registrations	% of all course registrations
Universities	236,917	1,309,185	18%	839,673	10,261,104	8%
Colleges outside Quebec	110,447	566,691	19%	476,232	5,661,687	8%
CEGEPs	6,261	173,081	4%	34,364	1,798,790	2%
Private –sub. Colleges Québec	677	23,411	3%	6,956	232,018	3%
Total	354,302	2,072,368	17%	1,357,225	17,953,599	8%

The Yukon, Newfoundland and Alberta are the provinces with the highest proportion of online learning (see Table 6.16 below). The Arctic regions of Nunavut and the North West Territories appear to have almost no online learning, probably because of the lack of high-speed Internet in the far north.

Table 6.16 Estimates for all Canadian post-secondary institutions (roster) by province

	Universities		Colleges		All	
	% of students with at least one online course	Online course regis-trations as a % of all course regis-trations	% of students with at least one online course	Online course regis-trations as a % of all course regis-trations	% of students with at least one online course	Online course regis-trations as a % of all course regis-trations
Alberta	31%	11%	23%	15%	28%	13%
BC	16%	7%	18%	12%	16%	9%
Manitoba	8%	2%	32%	19%	11%	4%
New Brunswick	5%	3%	4%	3%	5%	3%
Newfoundland	34%	20%	34%	15%	34%	18%
NWT	-	-	<1%	<1%	<1%	<1%
Nova Scotia	11%	6%	14%	6%	12%	6%
Nunavut	-	-	0%	0%	0%	0%
Ontario	16%	8%	22%	7%	13%	7%
PEI	12%	6%	2%	1%	8%	4%
Québec	20%	10%	3%	2%	14%	6%
Saskatchewan	18%	6%	6%	7%	12%	7%
Yukon	-	-	45%	37%	45%	37%
Total	19%	8%	18%	7%	18%	8%

6.6 Students taking at least one online course and online course enrolments: main findings

1. It is estimated that in 2016-2017, 17% of all Canadian post-secondary students were taking at least one online course for credit, 18% in universities, and 19% in colleges outside Québec. In other words, one in every five students was taking an online course for credit.

2. Of all credit course enrolments, about 8% were fully online, representing 1.36 million online course registrations.

3. The average course load for students taking online courses was between 3 to 4 online courses a year. Overall course loads ranged from 7-8 courses a year in universities to around 10 courses a year in colleges.

4: The following are fully distance institutions and by definition have 100% fully distance students:

- Athabasca University, Alberta
- Téluq, Québec
- Cégep à distance, Québec
- Collège Educacentre, British Columbia

However, some campus-based institutions also have high percentages of fully online course registrations, as follows:

- Northern Lakes College, Alberta (58%)
- BCIT, British Columbia (42%)
- Université Ste.-Anne, Nova Scotia (41%)
- Yukon College (37%)
- Royal Roads University, British Columbia (35%)

5. As well as the fully distance teaching institutions, the following institutions have large numbers of online course registrations:

Universities:

- Université Laval, Québec: 74,229
- University of Waterloo, Ontario: 43,572
- Concordia University, Québec: 32,401

Colleges/CEGEPs

- Algonquin College, Ontario: 29,600
- Fanshawe College, Ontario: 28,612
- Centennial College, Ontario: 22,528
- British Columbia Institute of Technology: 20,492

6. 1.36 million online course registrations in terms of full-time equivalent students are equal to four universities each of 27,500 students, four colleges of 12,000 students and one Cégep of 3,500 students (see Table 6.17 below).

Table 6.17: FTE equivalents of online course enrolments in Canada

	Online course registrations	Ave. course load (all students)	Online learning FTEs
Universities	839,673	7.55	111,215
Colleges outside Québec	476,232	9.87	48,250
CEGEPS	34,364	10.39	3,482
Private subsidized colleges Québec	6,956	9.80	708
Total	1,357,225	8.29	163,655

7. These enrolments figures (combining actual and estimated data) are likely to be accurate for Canada as a whole, and especially for all universities, and for colleges outside Québec. The lower response rate and lower number of institutions offering online courses may affect the accuracy of the results for private subsidised colleges and to a lesser extent CEGEPs in Québec, and colleges in New Brunswick and Saskatchewan, but these limitations are unlikely to influence the overall picture.

6.7 Institutions expectations for online enrolments

Institutions were asked:

- *How do this year's online course registrations compare to last year's?*
- *How do you expect next year's online course registrations to compare to this year's?*

Table 6.18 Expectations for online enrolments

	This year		Next year	
	No.	**%**	**No.**	**%**
Down >10%	9	7	0	0
Down 1-10%	23	17	4	3
The same	15	11	31	23
Up 1-10%	48	35	79	60
Up >10%	41	30	19	14
Total responding	136	100	133	100
Not answered	51	27%	54	29%
Total sample	187		187	
Total roster	234		234	

These results show a steady growth in online enrolments between 2015-2016 and 2016-2017, with almost two thirds of institutions showing growth in online enrolments from last year, and less than a quarter showing a decline. Just over a third reported modest growth (up between 1-10%) and almost a third reported fast growth (more than 10% from last year).

The expectations for next year were even higher, with three-quarters reporting likely growth and only 3% expecting a decline in enrolments. It should be noted though that a fairly large proportion of institutions (27%-29%) did not answer these questions.

There were some interesting provincial variations on these questions. In British Columbia, eight out of 19 institutions reported a decline in online enrolments in 2017 (although another seven reported an increase). In Ontario and Alberta, though, over 70% of the institutions reported an increase, and in Québec and Saskatchewan a majority of the institutions also reported increases in enrolments from the previous year.

For next year, most of the institutions in a majority of provinces expected online enrolments to increase, while in British Columbia four institutions anticipated a decline in online enrolments, the only province where this occurred.

All types of institution reported actual and anticipated increases in online enrolments.

The smallest institutions (those with less than 1,000 students) in general reported lower enrolments for 2016 than the previous year, but were more optimistic about an increase in online enrolments next year. Overall, francophone institutions were slightly more optimistic than anglophone institutions about increased enrolments next year, 76% compared to 68%.

Taking into account data from last year's survey as well as this year's, it appears that online learning enrolments continue to grow at a significant rate.

SECTION 7:
BLENDED AND HYBRID LEARNING

The definition of a Blended/Hybrid course used for this survey is:

> *These are courses designed to combine both online and face-to-face teaching (in any combination.) For the purposes of this questionnaire, we are interested in those courses where some, but not all, of the face-to-face teaching has been replaced by online study.*

In the 2017 survey, we reported the following:

- ***Blended/hybrid is an important trend*.**
- ***Tracking blended/hybrid counts is difficult.*** Most institutions do not track classes with reduced face-to-face time, although some are beginning to.
- ***Many institutions, but few courses.*** Almost three quarters of the responding institutions in 2017 reported that this type of teaching was occurring in their institution. However, three quarters of the institutions reported that fewer than 10% of courses are in this format.
- ***A few institutions have a substantial number of courses in this format.*** There was a small but significant group of colleges (14) where more than 30% of the courses are now in a hybrid format.

7.1 Tracking blended/hybrid learning

In 2018, we asked the same question as in 2017:

Which best describes the current situation regarding courses for credit where some, but not all, of the face-to-face teaching has been replaced by online study?

- ❍ *Have not started and it is unlikely that we will*
- ❍ *Have not started and don't know if we will*
- ❍ *Have not started but we plan to start*
- ❍ *A few courses (up to 10%) are already in this format*
- ❍ *Between 10%-30% of the courses are now in this format*
- ❍ *More than 30% of all our courses are now in this format*
- ❍ *Don't know*

Table 7.1 below indicates that 78% of the 165 institutions responding to this question have introduced some form of blended/hybrid learning. This can be broken down as follows:

- 87%: universities
- 84%: colleges outside Québec
- 58%: CEGEPs
- 43%: private subsidised colleges in Québec

Table 7.1: The development of hybrid learning in 2018

	Priv. sub.	CÉG.	Coll.	Univ.	Total	%
Have not started and it is unlikely that we will	2	3	2	2	9	5
Have not started and don't know if we will	0	3	5	4	12	7
Have not started but we plan to start	2	9	3	4	18	10
A few courses (up to 10%) are already in this format	3	16	32	47	98	56
Between 10%-30% of the courses are now in this format	0	4	15	8	27	16
More than 30% of all our courses are now in this format	0	1	6	3	10	6
Total responding	7	36	63	68	174	100
Not answered	1	4	2	8	13	
Total responding institutions	8	40	60	72	187	
Roster institutions	21	51	80	82	234	

Table 7.2 compares the data for 2017 with 2018.

Table 7.2 Differences between 2017 and 2018 in blended/hybrid course offerings

	2017		2018	
	No.	%	No.	%
Have not started and it is unlikely that we will	5	5	9	5
Have not started and don't know if we will	6	6	12	7
Have not started but we plan to start	8	8	18	10
A few courses (up to 10%) are already in this format	54	55	98	56
Between 10%-30% of the courses are now in this format	12	12	27	16
More than 30% of all our courses are now in this format	14	14	10	6
Total responding	99	100	174	100
Not answered	40		12	
Total responding institutions	139		177	

The differences are small, and given the differences in samples, probably not significant. However, the 2018 sample is much larger with a higher proportion of responding institutions, and therefore can be considered more reliable.

Nevertheless the 2018 data reinforce the conclusion from the 2017 survey that more than three quarters of Canadian institutions are now integrating online with classroom teaching, but no more than one in five have a significant number of courses in this format. In other words, blended/hybrid learning is wide but not yet deep.

Although there was generally high agreement on the survey definition and that used by responding institutions, there is a great deal of variety conveyed in the open-ended comments related to blended/hybrid delivery. Responses describing or outlining blended/hybrid activity were shared by 115 out of 187 responding institutions, representing all types of institutions.

Some responses highlighted student choice and flexibility, while others note the centrality of the instructor in choosing method of delivery. Increasingly, the technologies used to mediate distance, online and blended/hybrid are manifesting in face-to-face classes, as can be seen from this comment:

> *Some courses have online theory and face-face practical; others have online pre-load and then face to face application of knowledge in classroom group work, discussions and case studies. Approximately 85% of all credit courses at our College use our online learning platform for things like communication, providing class resources, quizzes and online discussion forums. Anglophone College.*

Select responses are grouped thematically below:

Leveraging practical experience and online:

> *Programs where practical aspects can effectively be taught online are 100% online courses. However, programs in areas such as Allied Health or Practical Nursing require onsite labs to ensure skill acquisition. Anglophone College*
>
> *Hybrid learning is used primarily in technical programs where teachers maximize classroom time to engage students in guided practice activities and active learning situations. Quebec College*
>
> *Our institution has introduced a blended apprenticeship model for some trades. The students must complete an online technical module before attending the institution for the practical portion of their training. This reduces the amount of time that students need to spend away from work attending school. Anglophone College*
>
> *Some innovative practices used when face-to-face teaching has been replaced by online study include integrating active learning, creating gaming opportunities, using badging, producing video segments, building opportunities for reflections, etc. Anglophone College.*

Student flexibility, choice and reduction of class-time:

We have a bi-weekly rotation in place – students typically meet face-to-face every second week. On the alternate week Moodle is the interface. Anglophone University.

Blended learning courses provide flexibility for students who may not be able to come to campus during certain times of the year. In some disciplines, course offerings for students doing a work practicum combine online and face-to-face (sometimes facilitated by videoconferencing) to allow students to continue their studies at a distance. Anglophone University

Courses may be blended in different ways. For example, a course may be primarily online, but delivery of onsite practical labs are required. A second example would be courses that have face-to-face delivery, but 1 class per week would be available online via Collaborate. Sessions are recorded, so students can attend or watch the recording. Anglophone College

Innovative practice in blended/hybrid learning courses:

Individual faculty members are experimenting with blended learning courses. Anglophone College

Some innovative practices used when face-to-face teaching has been replaced by online study include integrating active learning, creating gaming opportunities, using badging, producing video segments, building opportunities for reflections, etc. Anglophone College

In some courses, internship follow-up is done in a remote and synchronous format. In other courses, pedagogical design has been redesigned to allow the coexistence between face-to-face and distance learning. In the short term, we plan to design a training program that is fully focused on course hybridization. Québec University

We focus on the concept of learning design broadly for the people who bring together online courses (and these people are in a faculty role). We do not have internal instructional designers, and the lack of this role has slowed up our ability to create online courses more quickly or by using instructional design strategies. Anglophone College

Quality Assurance:

Courses and programs delivered in the Auto Service Technician and Auto Collision Repair departments follow best practices in online learning. They have been evaluated by the departments against Quality Matters Rubrics as well as an internal online course evaluation rubric that was developed by the current Centre for Teaching, Learning, and Research.

Online learning experiences for our students are supported by design that adheres to the Quality Matters™ framework, rubrics, and standards. Instructional design principles underpin online courses and modules, with guidance and resources for faculty provided. Anglophone College

Multiple online and blended courses went through the eCampus Alberta review process as part of an external review. We continue to follow these best practices. Anglophone College

7.2 Conclusions

The responses to these questions indicate that all types of institutions are experimenting with blended/hybrid learning in ways that suit the content, student, instructor, geography, discipline, pedagogy and more. In essence, institutions are adapting and adopting the affordance of the technologies available on campus to support a blend of online, face-to-face and learning at a distance.

- Approximately one in five institutions have significant activity in blended/hybrid course offerings
- Over 80% of universities and colleges outside of Québec have integrated blended/hybrid technologies in their offerings
- Between 43-58% of CEGEPs and private subsidized colleges in Québec report some use of blended/hybrid activity
- A number of institutions are using quality assurance models and support their faculty in preparing to teach in blended/hybrid courses.

SECTION 8:
OPEN EDUCATIONAL RESOURCES

In 2018, we took the opportunity to consult some of Canada's leading OER/OEP advocates and leaders to help shape questions that would help identify what institutions were doing in open education resources (OER) and open education practices (OEP) as well as the use of open textbooks at institutions across the country. We introduced a short series of questions and invited open-ended comments. Just over half, 100 (54%), of 187 institutions responded to these questions.

8.1 Definitions

Open educational resources (OER) are freely accessible, openly licensed text, media, and other digital assets that are useful for teaching and learning. Examples are MIT's OpenCourseWare (a collection of recorded MIT lectures available for free downloading), MERLOT (a collection of peer reviewed open access educational materials), and Khan Academy (videos on mathematics). Several Canadian provincial governments are supporting the development and use of locally produced OER.

Open textbooks are a specific form of open educational resources. An open textbook is a textbook licensed under an open copyright license and made available online to be freely used by students, teachers and members of the public. Many open textbooks are distributed in either print, e-book, or audio formats that may be downloaded or purchased at little or no cost. Open textbooks are peer reviewed. Open textbooks can be edited or amended by the instructors under the licensing agreement. Government agencies in British Columbia, Alberta, Saskatchewan, and Ontario currently have projects to support the use of open textbooks.

8.2 Use of OERs and open textbooks in 2017

In 2017 we asked a question covering a wide range of technologies and approaches used in online learning, including open educational resources and open textbooks. In 2017, of the 95 institutions that answered this question, 40% reported moderate or extensive use of OER, and 18% of open textbooks.

However, almost a third of the institutions that returned questionnaires did not answer this question, and a further 16% did not know if OER were being used in their institution, as this is an instructor decision. Thus, only half of the responding institutions were able to provide any information on the use of OER in 2017.

8.3 Use of open textbooks in 2018

In 2018, we asked for more details about the use of open textbooks.

8.3.1 Are open textbooks used at your institution?

Table 8.1 below shows that just over half of all responding institutions (53%) are using open textbooks. Approximately 60% of universities use them, while colleges in

Québec have a lower rate of utilisation (just over a third of institutions). A further 19% of institutions are exploring their use, particularly in colleges outside Québec (27%).

Table 8.1 Use of textbooks by type of institution

	Québec colleges (private/ CEGEPs)		Colleges outside Québec		Univers-ities		Total	
	No.	%	No.	%	No.	%	No.	%
Yes	14	36	33	56	42	61	89	53
Exploring	4	10	16	27	12	17	32	19
No	21	54	10	17	15	22	46	27
Total responding	39	100	59	100	69	100	167	100
Not answered	9	19	5	8	6	8	20	11
Responding institutions	48		64		75		187	
Roster	72		80		82		234	

The highest proportions of institutions using open textbooks were in British Columbia (90%) and Alberta (78%), which reflects the impact of the BC Open Textbook project that has now been running for five years. The provinces with the lowest reported use were New Brunswick (none), and Saskatchewan and Québec (33%). Smaller institutions were much less likely to use open textbooks than larger ones.

8.3.2 Where are open textbooks used at your institution?

Table 8.2 Use of textbooks by type of course

	Québec colleges (private/ CEGEPs)		Colleges outside Québec		Univer-sities		Total	
	No.	%	No.	%	No.	%	No.	%
Face-to-face courses	10	71	29	91	37	88	76	86
Online courses	8	57	28	88	34	81	70	80
Blended/hybrid courses	6	43	23	72	23	55	52	59
Total responding	14	100	33	100	42	100	89	100
Not answered	34	71	27	45	30	41	98	52
Responding institutions	48		60		72		187	
Roster	72		80		82		234	

Institutions could opt for the use of textbooks on more than one type of course. Just over half the institutions (52%) that returned questionnaires did not answer this question, so care needs to be used in interpreting the results. However, almost half the institutions responding to the questionnaire said they did not use open textbooks, so Table 8.2 probably is indicative of those institutions that do use open textbooks.

It appears from Table 8.2 that open textbooks are more likely to be used on face-to-face courses (which is not surprising, since there are relatively few blended/hybrid courses, and fewer online than face-to-face courses).

8.3.3 Do you track and calculate costs savings for students that result in switching curricular resources from commercial to open?

Of the 87 institutions that responded to this question, 17 (20%) said they did track savings. Nine were universities, and eight were colleges outside Québec.

8.3.4 Training instructors in the use of OER

We asked institutions to share what type of professional development training was available to support OER/OEP. The following question was asked:

9.3.4 Does your institution sponsor training or workshops on Open Education Practices? If so, what is the nature of the training?

Institutions were asked to check the following options, against which can be found the number of institutions selecting this option in Table 8.3

Table 8.3 Nature of training in OER

	No.	%
We do not have training or workshops	66	42%
What are OER?:	43	27%
Adapting OER for use in classrooms and online	48	52%
Licensing OER	31	20%
Open learning design for MOOCs/public participation courses	12	8%
Other	31	20%
Don't know	22	14%
Total responding	159	100%
Responding institutions	187	
Roster	234	

It can be seen a number of institutions are offering different forms of training for instructors regarding the use of OER, but these still represent a relatively small proportion of the 187 institutions that responded to the questionnaire.

Regional differences in the reported use of OER/OEP were notable and may be attributed, at least in part to BCCampus Open initiatives and similar programming through Campus Manitoba and eCampusOntario. The responses signal emergent interest and ad hoc support for OER/OEP, but most institutions did not report training programs for faculty on this topic. Some BC and Alberta institutions reported initiatives related to OER-week events and efforts to raise awareness. In institutions where OER/OEP is championed by institutional leadership and program managers, there is growing awareness.

There was little or no training identified by institutions in the Prairies, Quebec and Atlantic institutions.

8.4 Open-ended comments

A review of the open-ended comments support the findings above, that a few institutions are developing experience in OER/OEP and using open-textbooks. Professional development activities tend to be at awareness raising stage of adoption and offer introductory programming intended to foster shared understanding of OEP/OER practice, process, benefits and issues. It will be interesting to track trends in future years.

General comments on OER/OEP indicate challenges with institutional adoption, support and tracking of adoption. There is also a caution that "Open" must fulfil:

a pedagogical need, not an institutional or marketing will, and this training must include time, and a release of the teaching staff, in order to arrive at a promising result. Francophone College

> *Currently OERs are not recognized as scholarly work in merit and tenure committees so this barrier needs to be overcome as well to help support the continued adaption and creation of OERs in courses. It is hard to get a handle on who is using OER and for which classes because they aren't tracked. Anglophone University*
>
> *The value proposition for university administrators and for many faculty members is not well understood. Anglophone University*
>
> *We must also consider the reliability and validity of OER resources when assessing their use. In addition, there are other issues to consider - such as remixing OER content, licensing and citations - that can make OER adoption (at least initially) cumbersome. As such, a strategy regarding faculty professional development to prepare for their use of OER will be required. Anglophone College*

Some provincial consortia and institutions have initiated program-level incentives:

> *Grants were established with funding (for OER) from the office of the Vice-President, Academic, and Provost and are administered jointly by the library and the Teaching and Learning Centre. Anglophone University*
>
> *We will be utilizing funding from eCampusOntario to initiate development and adaptation of open textbooks. Anglophone College*
>
> *Our intention is to use open access material to integrate it into educational pathways, whether in distance learning, face-to-face or hybrid courses (synchronous / asynchronous). Québec College*
>
> *Our advocacy of OERs on campus include: a dedicated OER Librarian, eCampusOntario OE fellow, OER development, participating in OER events. presenting on OERs, sharing OER resources on faculty support websites (e.g.,*

links to OER databases, posting scholarly research and articles, etc.)
Anglophone College

8.5 Conclusions

Because different questions about OER were used in 2017 and 2018, we cannot report on the extent to which OER use has increased since 2017. Differences in adoption and use of OER/OEP will be explored further in the regional reports.

However, the 2018 data show that:

- a substantial number of Canadian post-secondary institutions (just over half) are using open textbooks and a further fifth are exploring their use,
- universities and larger institutions are most likely to adopt open textbooks,
- the highest proportions of institutions using open textbooks were in British Columbia (90%) and Alberta (78%),
- open textbooks are being used in all modes of delivery, but mostly in face-to-face courses,
- a small but significant number of institutions are offering training to instructors in the use of OER.

SECTION 9:
CONTINUING EDUCATION

9.1 Institutions offering continuing education

In 2018, we introduced a question on continuing education. Institutions were asked:

Does your institution offer any continuing education courses?

A total of 182 institutions responded to this question. Nearly all who responded (92%) reported that they do offer continuing education courses. A higher percentage of Colleges and CEGEPs offer continuing education than universities, but all types of institutions offer continuing education courses as seen below in Table 9.1.

Table 9.1. Use of continuing education by type of institution

	Québec colleges (private/ CEGEPs)		Colleges outside Québec		Universities		Total	
	No.	%	No.	%	No.	%	No.	%
Yes	43	93	61	97	64	88	168	92
No	3	7	2	3	9	12	14	8
Total responding	46	100	63	100	73	100	182	100
Responding institutions	48		64		75		187	
Roster	72		80		82		234	

9.2 Continuing education for-credit and not-for-credit

Responding institutions were also asked to identify if they offer continuing education courses for-credit and not-for-credit.

Respondents were asked to identify which delivery format they use:

- *face-to-face*
- *online*
- *blended/hybrid*

All three modes of delivery were identified as being used for both for-credit and not-for-credit continuing education. Not-for-credit courses were offered by slightly more institutions than for-credit courses, but the majority of responding institutions offer courses both for-credit and not-for-credit.

As can be seen from Table 9.2, most of the institutions who responded to this question are offering continuing education courses for-credit, not-for-credit and across delivery modalities. Face-to-face, not-for-credit offerings was identified by 87% (145 out of 167) respondents.

Table 9.2 Continuing education delivery mode for-credit/not-for-credit

	Face-to-face		**Online**		**Blended/hybrid**	
	For credit	**Not-for-credit**	**For credit**	**Not-for-credit**	**For credit**	**Not-for-credit**
Frequency	114	145	97	115	74	80
Not selected	33	22	70	52	93	87
Total responding	167	167	167	167	167	167
% offering CE courses	68%	87%	58%	69%	44%	48%
Responding institutions	187	187	187	187	187	187
Roster	234	234	234	234	234	234

Less than half of the institutions use blended/hybrid delivery for their continuing education and not-for-credit delivery was higher for both face-to-face and online delivery.

9.3 Continuing education by language

Table 10.3. Continuing education by language

	English		French		Total
	No.	%	No.	%	
Yes	106	92	62	93	168
No	9	8	5	7	14
Total	115	100	67	100	182
Responding institutions	117		70		187
Roster	138		96		234

There was no difference between institutions offering courses in English or French. Continuing education courses were offered by 93% of the Anglophone institutions and by 92% of the Francophone institutions. Of the 182 institutions responding to

this question, 115 respondents completed the English survey, and 67 completed the French survey.

9.4 Open-ended comments

A number of institutions provided comments in the open-ended section that provide a sense of what is happening in continuing education across the country. Some institutions, particularly the small, semi-privatised institutions indicated they were going to be working on online course development in the near future.

The comment below illustrates the point that online learning is helping continuing education programs to adapt to changing needs in the labour market:

> *Continuing education at our institution is a growing area given the changing job market and adult learners' need for flexible learning options- Anglophone University*

Indeed, other institutions noted that face-to-face continuing education was declining and/or that online learning was being used more and more:

> *Face-to-face enrollments are declining -Anglophone College*
>
> *Continuing education down, online up- Anglophone University*
>
> *Our continuing education has scaled back, partnering with others- Anglophone University*
>
> *While Continuing Education offers classroom-based courses, most new program development is directed towards programs offered entirely online - Québec University*
>
> *We've seen a steady increase in registration for online non-credit courses over the years and plan to develop new courses to meet the demand- Anglophone University*
>
> *A range of modalities are offered. There is a high growth in demand for online continuing education courses - Anglophone University*
>
> *The short and on-line continuing education offer will be growing rapidly in the coming years – Québec University*

In summary, continuing education is offered by the vast majority (93%) of institutions in each sector and in every province and territory that responded. Continuing education is offered both for-credit and not-for-credit, and institutions take advantage of face-to-face, online and blended/hybrid delivery methods. Face-to-face, not-for-credit courses were the choice most selected by responding institutions (87%). Continuing education courses are offered by a majority of both Anglophone and Francophone responding institutions.

SECTION 10
TECHNOLOGIES

10.1 Technologies used in online courses

We were interested to learn what technologies are being used to support and deliver online learning. In 2018, we included select technologies used in the 2017 survey (LMS, video streaming, social media) and expanded the choices to include emerging innovative technologies such as virtual and augmented reality, learning analytics/ artificial intelligence and simulations. We asked respondents the question:

What technologies and resources were being used in your fall 2017 online courses?

This being the second year this question was asked, we were able to review a subset of the data against the 2017 numbers.

Tables 10.1-10.2 provide a snapshot of the responses from institutions related to their use of specific technologies in (fully) online learning courses.

Table 10.1. Technologies used in fall 2017 online courses: number of institutions

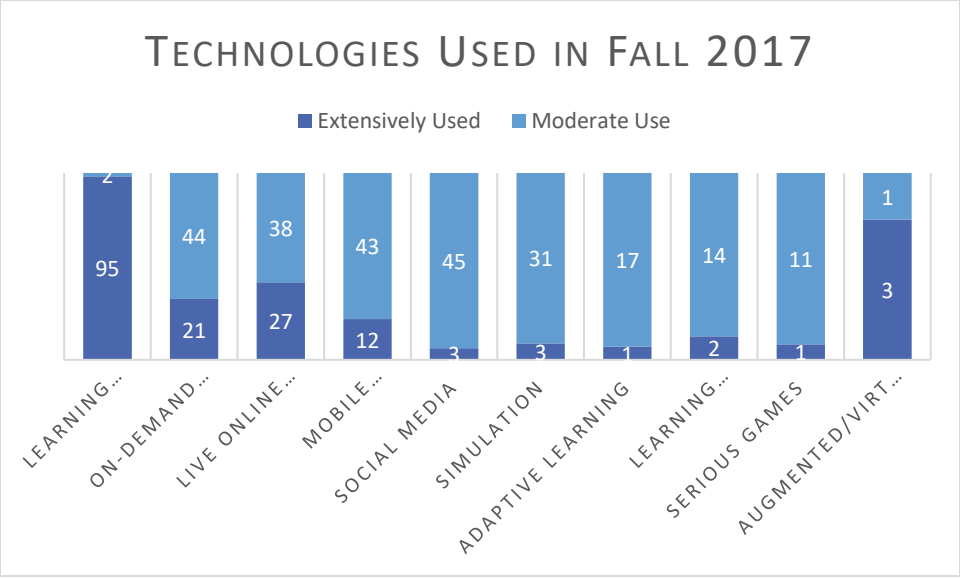
	LMS	On-demand/ streamed video	Live online lectures	Mobile	Social media	Adaptive learning	Aug/ Virtual Reality	Learning analytics/ AI	Serious games	Simulations
Extensive	125	27	35	13	4	1	3	2	1	3
Moderate	3	57	50	47	53	16	1	16	12	35
Rare	2	37	36	32	56	39	37	31	44	56
Not used	2	9	11	18	5	36	74	69	50	20
Total	132	130	132	110	118	92	115	118	107	114
Resp. inst.	187	187	187	187	187	187	187	187	187	187
Roster	234	234	234	234	234	234	234	234	234	234

Table 10.2: Technologies used in fall 2017 online courses: percentages

	LMS	On-demand/ streamed video	Live online lectures	Mobile	Social media	Adaptive learning	Aug/ Virtual Reality	Learning analytics/ AI	Serious games	Simulations
Extensive	95	21	27	12	3	1	3	2	1	3
Moderate	2	44	38	43	45	17	1	14	11	31
Rare	1.5	28	27	29	48	43	32	26	41	49
Not used	1.5	7	8	16	4	39	64	58	47	17
Total	100	100	100	100	100	100	100	100	100	100
Ques. resp.	132	130	132	110	118	92	115	118	107	114
Resp. inst.	187	187	187	187	187	187	187	187	187	187
Roster	234	234	234	234	234	234	234	234	234	234

The differences in the extent of use of each of these technologies is best illustrated through Figure 10.1

Figure 10.1 Extent of use of different technologies, 2017



As in 2017, the responses to these questions on the survey indicate that nearly all of the responding institutions use the Internet for their online and blended/hybrid delivery. Of the 132 institutions that responded to this question, 125 (95%) indicated that they use a Learning Management System (LMS) extensively, an increase from 87% in 2017.

A majority of institutions (65%) report moderate to extensive use of on-demand streamed video and also live online lectures. This is consistent with the 2017 result of 62% indicating moderate to extensive use.

The addition of the questions on innovative technologies in higher education illustrate that just over a half of institutions reporting moderate use of mobile technology (55%), and social media such as blogs and wikis are being used in about half the responding institutions.

Simulations are being used in about one third of the responding institutions.

There is also some experimentation being done with emerging innovative technologies such as adaptive learning (20%), learning analytics (16%) and serious games (12%). However, very few responding institutions are using augmented and virtual reality (less than 5%).

10.2 Limitations of the data

While these data probably indicate fairly accurately the differences in use of technologies for fully online courses in Canadian post-secondary institutions, the actual percentages for all 234 institutions in the roster are probably considerably lower, as only about half the institutions in the roster provided this information.

As we speculated in 2017, it may be that some of the more experimental applications of technologies are not widely known across the institution, or at least not by those responding to this survey. As this study surveys institutions and not individual faculty, it would be valuable to compare results from this survey of the use of technology with a similarly conducted survey of faculty or teaching and learning centers at Canadian institutions.

The challenge in capturing this data was also noted by an institution that reported they did not have a good method for measuring the technologies/resources within or outside of the learning management system. They requested a suggestion for the best way to measure the use of technologies and resources being used.

10.3 Technologies used in blended/hybrid courses: Fall 2017

Similar questions were asked about the use of technologies in blended/hybrid courses. Tables 10.3-10.4 provide the results of these questions.

There are few differences between the use of technologies for blended/hybrid learning courses and for fully online courses, the main difference being a slightly higher percentage of institutions using streamed video for blended/hybrid courses (71%) than for fully online courses (65%).

Table 10.3. Technologies used in fall 2017 blended/hybrid courses: number of institutions

	LMS	On-demand/ streamed video	Live online lectures	Mobile	Social media	Adaptive learning	Aug/ Virtual Reality	Learning analytics/ AI	Serious games	Simulations
Extensive	108	23	25	8	5	1	0	0	0	4
Moderate	2	54	37	45	39	14	7	16	10	24
Rare	2	21	30	26	39	29	29	19	26	38
Not used	3	10	12	12	11	34	53	56	47	21
Total	115	108	104	91	94	78	89	91	83	87
Resp. inst.	187	187	187	187	187	187	187	187	187	187
Roster	234	234	234	234	234	234	234	234	234	234

Table 10.4: Technologies used in fall 2017 blended/hybrid courses: percentages

	LMS	On-demand/ streamed video	Live online lectures	Mobile	Social media	Adaptive learning	Aug/ Virtual Reality	Learning analytics/ AI	Serious games	Simulations
Extensive	94	21	24	9	5	1	0	0	0	5
Moderate	2	50	36	49	41.5	18	8	18	12	27
Rare	2	20	29	29	41.5	37	32	21	31	44
Not used	2	9	11	13	12	44	60	61	57	24
Total	100	100	100	100	100	100	100	100	100	100
Ques. resp.	115	108	104	91	94	78	89	91	83	87
Resp. inst.	187	187	187	187	187	187	187	187	187	187
Roster	234	234	234	234	234	234	234	234	234	234

However, it is even more difficult for institutions to know what technologies are being used for blended/hybrid learning, as illustrated by a comment from one anglophone university:

> *Blended courses utilize a wide array of technologies often chosen (and managed) by the instructors due to personal preference, familiarity and a perceived*

limitation of campus tools. There are a variety of tools out there in use by instructors that we may or may not be aware of centrally.

10.4 Future directions

We invited institutions to share further thoughts on the technologies being considered for the future, and 56 institutions included an open-ended response to the following question:

> *Are there any comments you would like to share about the use of technologies at your institution? What technologies or resources, if any, are you actively considering to add to your courses in the near future?*

Table 10.5 Technologies under active consideration for the future

Technology	**Responses**
Virtual, Augmented Reality	10
Adding/improving video/audio conferencing	7
More extensive use of video and lecture capture	5
Data Analytics	4
Mobile	3
ePortfolios	3
Adaptive Learning	2
e-Textbooks/OERs	2
Makerspace	1
Grading tools	1
Tools for collaboration	1

While the reported usage of adaptive learning, augmented reality and virtual reality was low, responses in the open-ended comments illustrate experimentation in courses using Virtual Reality Simulation and Augmented Reality to increase interaction and engagement. Others respondents identified using e-portfolios, 3D printing, 360-degree videos, and drone technologies as well as virtual learning through game-based simulations. A number of the comments indicate that experimentation is occurring in face-to-face classes as well as in online and blended/hybrid courses.

The institutions responding to the survey are at varying levels of maturity in the adoption of technologies for teaching and learning. For some, planning of integration of faculty video and/or video-conferencing is on the horizon, while

others are experimenting with virtual reality, simulation, serious games and adaptive learning. The highest number of institutions responding to this question (10/56) identified experimenting with virtual, augmented reality and simulations. Two institutions identified the development of 360-degree video to provide experiential learning resources for students to engage in simulated work environments; and one institution identified the integration of makerspaces (a collaborative work space for making, learning, exploring and sharing that uses high tech to no tech tools) and another the development of additional active learning classrooms.

Additional comments from institutions exploring the use of new technologies, and opportunities to improve teaching and learning, are included below:

> *We are in the process of rolling out a video streaming service through Kaltura as part of a response to increase use of video to deliver content in online/blended courses, as well as traditional courses. We will also be exploring online proctoring solutions for the campus- Anglophone University*
>
> *As we strive to continuously improve the quality of online teaching and learning, the following technologies are being considered for online courses in the near future: online interactive activity package -H5P, Duo Lingua to replace Rosetta Stone, peer assessment software Grasp, and vue.j- Anglophone University*
>
> *Virtual reality for learning is growing in demand both from students and faculty. - Anglophone College*
>
> *The use of technology in online courses is based on the material being taught. There is a move to more video conferencing to touch base with students. There is also a team working on 'data analytics' to track student and instructor usage of our learning management system Brightspace. Anglophone College*
>
> *We used to use Blue Jeans for some courses and then needed to move to Skype for Business which doesn't work well for teaching and learning purposes. Thus, we are looking at another synchronous tool for the future such as Zoom. Anglophone University*
>
> *The analysis of learning /artificial intelligence, simulations, serious games and gamification will take more place in the future- Québec University*

One institution shared that they were investigating:

> *The potential for a 24-hour IT Chat support for students and faculty as an enhancement to the teaching and learning experience, with an aim to support student success and faculty engagement in online learning. Anglophone College*

Some institutions shared technologies they are currently exploring:

- Audacity (https://www.audacityteam.org/). Free, open source, cross-platform audio software

- Crowdmark (https://crowdmark.com/). A collaborative online grading and analytics platform
- Gradescope (https://www.gradescope.com/). A grading tool that streamlines grading
- Memrise (https://www.memrise.com/). A language learning app
- NearPod (https://nearpod.com/). A tool used to facilitate interactive lesson planning that interacts with all student devices
- Screencast-O-Matic (https://screencast-o-matic.com/). A tool for video creation, management, and sharing.
- Voicethread (https://voicethread.com/products/highered/). A multimedia platform that both students and instructors can use to create and present multimedia materials
- Vue.js (https://vuejs.org/). A JavaScript progressive framework for building user interfaces

10.5 Conclusion

Learning management systems continue to be the backbone technology used by institutions for their online and blended/hybrid courses. Nearly all institutions are combining various web-based video technologies to augment the LMS and support increased interaction and engagement in their courses. Many are increasing the use of video, lecture capture and video-conferencing and some are developing 360-degree photos and videos to support student engagement.

Respondents also noted the high use of LMS and applications of technologies in their face-to-face classes. While the number of institutions that identified moderate to extensive use of some of the emerging technologies such as adaptive learning, learning analytics and serious games is very low, our experience in working with institutions suggest that degree of use and adoption may be higher than reported in this survey.

SECTION 11:
MOOCs

11.1 MOOCs in Canadian Post-secondary institutions

In 2017, we reported that there was no such thing as "MOOC mania" in Canada and the same holds true for 2018.

We asked:

> *Has your institution offered any MOOCs in the last 12 months?*

Table 11.1 Institutions offering MOOCs in 2016-2017

Offered MOOCs	Québec colleges		Other colleges		Universities		Total	
	No.	%	No.	%	No.	%	No.	%
Yes, > than 10	0	0	0	0	4	6	4	2
Yes, 6-10	1	2	0	0	1	1	2	1
Yes, 1-5	2	5	8	13	16	22	26	15
No	43	93	54	87	52	71	149	82
Total	46	100	62	100	73	100	181	100
Resp. Inst.	48		64		75		187	
Roster	72		80		82		234	

First, it should be noted that a very high proportion of those that responded to the questionnaire answered this question (181/187).

Only a few post-secondary institutions in Canada (18%) offered MOOCs in the previous year. Of the 181 institutions that responded to this question, 26 (14%) indicated they offered between one and five MOOCs; while six (3%) indicated they offered six or more MOOCs in the last year. Universities (29%) were more likely to offer MOOCs than colleges outside Québec (13%) or CEGEPs (7%).

Four universities offered more than 10 MOOCs, and one university and one Québec college indicated that they offered between 6-10 MOOCs.

11.2 MOOC Platforms

Institutions were also asked about the platform (technology) being used. This question was presented online only for those institutions that indicated they offered MOOCs.

Thirty-two institutions responded to this question. EdX was used by six universities and one college; and five universities indicated they use Coursera. As in 2017, none of the responding institutions identified Udacity or FutureLearn. Four (three universities and one college) use their own self-designed platform; and the remaining identified they use their LMS such as Canvas, Blackboard, Moodle or D2L.

11.3 Future plans for MOOCs

We also asked institutions what their future plans were for offering MOOCs.

Table 11.2 Interest in offering MOOCs in the future

Future plans	**Québec colleges**		**Colleges outside Québec**		**Univer-sities**		**Total**	
	No.	%	No.	%	No.	%	No.	%
Support the increased use of MOOCs in future	2	5	8	14	12	18	22	13
Support existing MOOCs but not future ones	0	0	1	2	0		1	1
Left to individual faculty to decide; no inst. support	1	2	6	10	11	17	18	11
Unsure	21	51	23	39	22	34	66	40
No interest	17	42	21	35	20	31	58	35
Total	41	100	59	100	65	100	165	100
Resp. Inst.	48		64		75		187	
Roster	72		80		82		234	

Table 11.3 illustrates that of the 165 institutions responding to this question, 66 (40%) were unsure of their future plans for MOOCs, and 58 (36%) indicated they have no interest in offering MOOCs in the future. The remaining 25% were split, with 13% willing to support the increased use of MOOCs in future, and 11% leaving it to individual faculty to decide without necessarily providing institutional support.

Institutions responding to an earlier question on the provision of OER training were asked if they offer open learning design for MOOCs and public participation courses. Twelve (7 universities and 5 colleges) indicated that they do offer OER training in this area.

11.4 Open-ended comments

Institutions were asked:

Are there any comments you would like to share on the role of MOOCs in the future for your institution?

Some institutions shared that they would support increased use or pilots of MOOCs where there was instructor or faculty interest. One anglophone college shared that their faculty and staff were enrolling in MOOCs as professional development as a means of exploring possible future opportunities.

A number of responses in the comment section illustrate a cautious approach to MOOCs out of concern for the support and resources needed.

> *Despite the limited experiences of offering MOOCs, the business model to justify the development and delivery of MOOC courses remains difficult to define. Unless we have access to external sources of funding for development AND delivery, we do not plan to use MOOCs as a strategy - Québec University*

> *We received expressed interest from a faculty member to develop a MOOC in 2019. We are drafting a proposal to pilot this MOOC to better understand the potential demand from the public and opportunity to offer multiple MOOCs in a niche discipline - Anglophone University*

> *MOOCs are not currently a priority as they are not yet associated with qualifying training, but a modular formula approach with shorter certification is being considered - Cégep*

A couple of institutions shared their intention to experiment with MOOCs as a form of recruitment or the use of open courses for public engagement:

> *We have explored the possibility of each program offering a short, simple, and free introductory course to draw in potential students who may have an interest in the program area - Anglophone college*

> *Our institution sees the benefit of open courses from a public engagement standpoint and are developing opportunities for such offerings in the near future - Anglophone University*

> *The definition of MOOC for us hinges on the element of massive. We are increasingly developing open boundary course resources and experiences, but scale has not been the motivating goal - Anglophone University*

11.5 Summary

There is relatively little MOOC activity in Canadian institutions. More than a third of the responding institutions indicated they have no interest in offering MOOCs. Many institutions (40%) though are still unsure about their future use of MOOCs.

Of the 18% that are offering MOOCs, the majority have offered between one and five in the past 12 months.

Some institutions suggest they would support a MOOC based on instructor or faculty interest.

Overall, though, these results suggest that although Canadian institutions are aware of MOOCs, there are only a few (13%) considering increased MOOC activity in the future.

SECTION 12:
STRATEGIES AND PLANS

12.1 The importance of online learning for the future of the institution

The following question was asked:

How important is online learning for your institution's long-term strategic or academic plan?

Table 12.1 Importance of online learning for long-term strategic or academic plan

Importance	Private subs. coll. Québec		CEGEPs		Colleges outside Québec		Universities		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Extremely	2	29	6	16	30	48	20	28	58	32
Very	2	29	13	34	21	33	28	39	64	36
Moderately	2	29	12	32	6	9	18	25	38	21
Slightly	1	14	5	13	5	8	5	7	16	9
Not at all	0	0	2	5	1	2	1	1	4	2
Total	7	100	38	100	63	100	72	100	180	100
Resp. inst.	8		40		64		75		187	
Roster	21		51		80		82		234	

Of the 180 institutions that responded to this question, 122 (68%) reported that online learning was very or extremely important for their long-term strategic or academic plan (compared to 66% in the 2017 survey). In particular, 81% of colleges outside Québec, and 68% of universities, reported that it was very or extremely important. Somewhat surprisingly, given that there is a central service for online learning for CEGEPs, even 19 (50% of responding CEGEPs) agreed. Less than 12% of all responding institutions reported that it was slightly or not at all important.

However, it should be remembered that there were 53 institutions in the roster (23%) that did not answer this question or respond to the survey, and these are more likely to consider online learning less important for their future. Nevertheless, even assuming that none of these non-responding institutions believes that online learning is strategically important for their future, at a minimum, that still leaves over half (52%) of all Canadian post-secondary institutions. Also, since many of the

non-responding institutions were small, most Canadian post-secondary students are in institutions where online learning is considered strategically important.

Indeed, 81% of the 52 largest institutions responding (those with 10,000 students or more) considered online learning very or extremely important for their future, compared with 56% of the 25 institutions with less than 1,000 students. The prairie provinces of Manitoba (37%) and Saskatchewan (50%) were the provinces that had the lowest numbers in terms of strategic importance of online learning. Ontario was the province with the highest percentage (80%) of institutions that considered online learning strategically important for their future, although British Columbia and Alberta were close behind at 76% and 75% respectively.

12.2 Strategic plans for online learning

The following question was also asked:

Does your institution have a strategic plan or institutional strategy for e-learning, hybrid learning and/or online learning?

Table 12.2 Strategic plans at institutions

Strategic plan for e-learning	Private subs. coll. Québec		CEGEPs		Colleges outside Québec		Universities		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Fully implemented	1	14	2	5	10	16	11	15	24	13
Being implemented	2	29	4	11	13	21	18	25	37	21
Currently developing	0	0	11	30	25	40	19	26	55	31
Not yet, but needed	2	29	16	43	13	21	22	31	53	30
No, not necessary	2	29	4	11	2	3	2	3	10	5
Total	7	100	37	100	63	100	72	100	179	100
Resp. inst.	8		40		64		75		187	
Roster	21		51		80		82		234	

It is clear that most responding institutions recognise the importance of having a plan for e-learning.

Only 5% reported that a plan or strategy was not needed, and almost two thirds either had a plan or were developing one.

Just under a third (30%) did not have a plan, but reported that they needed one, in particular, CEGEPs (43%). Nearly half (45%) of the institutions in the size range of 1,000-4,000 did not have a plan but reported that they needed one.

Very small institutions (less than 1,000 students) were most likely to report that they did not need a strategy.

12.2.1 Open-ended comments on strategic plans

A few institutions shared comments suggesting that they were working on the development of a strategy for online and blended/hybrid delivery as can be seen below:

> *As mentioned earlier, we need to develop a strategy for online and blended learning, and related procedures and supports. Anglophone University*
>
> *Our institution is investing in further developing our eLearning infrastructure and strategy. Anglophone College*
>
> *There is not a separate online or e-learning institutional plan or unit plan, although we are looking at developing an intake/prioritization plan. Anglophone University*
>
> *We plan to create a strategy and more intentional approach in how we plan for, develop, and sustain online/blended learning within our institution. We will continue to pay attention to best practices as well as projections from reports such as the Horizon Report to inform our direction. Anglophone College*
>
> *Faculty are generally accepting of online education. The institution needs a more developed strategy for how these courses are designed, delivered, and evaluated. Anglophone College*

12.3 The strategic importance of online learning for institutions

A series of questions was also asked about the reasons why online learning was considered strategically important for institutions. Options were offered on the relative importance of a range of possible reasons in the following format:

I believe that online education is strategically important for my institution to:

Table 12.3 Reasons why online learning is strategically important

	Not important		Somewhat important		Important		Very important		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Increase student access	0	0	7	5	34	23	105	72	146	100
Improve student retention	7	5	24	17	71	52	36	26	138	100
Increase credential completion	4	3	22	15	61	42	59	40	146	100
Pedagogic improvements	4	3	37	25	54	37	50	35	145	100
Grow contin./ professional education	2	1	13	9	48	33	83	57	146	100
Optimize campus utilization	11	8	30	21	54	38	48	33	143	100
Reduce/ contain costs	18	12	60	41	40	28	27	19	145	100
Increase student diversity	13	9	37	25	50	35	45	31	145	100
Enhance insti-tutional brand	10	7	28	19	59	40	49	34	146	100
Attract out-of-areas students	4	2	14	10	39	27	89	61	146	100

It should be noted that only 138-146 institutions responded to this question, or between 41 and 49 institutions (22%-26%) that returned the questionnaire did not answer these questions.

The most important reason for online learning for most institutions was to increase student access, with 95% of institutions rating it as either *important* (23%) or *very important* (72%).

Closely linked in second place was to access students from outside the regular catchment area. For 61% of institutions, this was *very important* and for another 27%, it was *important*. This was particularly so for institutions in the Maritime provinces, where almost two thirds of the institutions rated this as *important* or *very important*. For 57% of institutions online learning was *very important* for growing continuing/professional education.

For most institutions, using online education to contain or reduce costs was not considered as important as the other reasons, with only 19% rating it as *very important.*

In general, universities and colleges were similar in their rating of each of these reasons for importance, except that universities and CEGEPs both rated it more important for pedagogical improvement than colleges outside Québec. Colleges

outside Québec were also more inclined to rate the importance of online learning higher for reducing/containing costs and for optimizing campus utilization. CEGEPs also rated the importance of online learning for increasing student diversity.

12.4 Barriers to the adoption of online learning

A series of questions was also asked about the barriers to the adoption of online learning. Options were offered on the barriers in the following format:

How important do you believe that each of the following is as a barrier to the widespread adoption of online learning?

More institutions were prepared to identify barriers to online learning (from 163 to 179, the great majority of the 187 institutions returning the questionnaire answering these questions – see Table 12.4 below).

Table 12.4 Perceived barriers to online learning

Barriers	Not important		Somewhat important		Important		Very important		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%)
Lack of demand for online courses	54	30	61	35	45	25	18	10	178	100
Competition/already enough suppliers	34	19	71	40	52	29	22	12	179	100
Inadequate faculty training/knowledge	14	8	34	19	80	45	51	28	179	100
Extra faculty effort required for online	4	2	23	13	93	52	59	33	179	100
Lack of acceptance of online by employers	59	33	74	41	37	21	9	5	179	100
Lack of acceptance by faculty	3	2	64	36	79	44	32	18	178	100
Lower online retention rates	30	17	72	41	63	35	12	7	177	100
Students need more discipline online	13	8	63	39	69	42	18	11	163	100

The most significant one was the additional faculty effort required to develop or deliver online courses. This was considered important or very important by 85% of all institutions answering this question. This was followed closely by inadequate training/pedagogical knowledge available for faculty in online learning, rated

important or very important by 73% of all institutions answering this question. The third most significant barrier was also related, lack of acceptance of online instruction by faculty (62% if institutions). These results indicate clearly that more needs to be done to train and prepare faculty better for teaching environments that are increasingly becoming online or digital.

The least significant barriers identified were lack of acceptance of online learning by employers (59% did not think this was an important reason) and lack of demand for online courses (54%).

12.4.1 Open-ended comments: further support faculty

In 2018, we invited survey respondents to share what might be needed to further support faculty in online teaching. We asked:

> *What do you believe would be the best way to provide faculty with the training/ pedagogical knowledge they require? (for online teaching)*

We received 77 responses to this question, and the comments illustrate wide understanding of the need to support faculty release time, workshops, peer support and ongoing support as can be seen in select comments below:

> *Faculty also need release time from regular teaching load to gain training and pedagogical knowledge, they need time to digest and apply the new learning to their courses and they need supports from beginning to end to ensure greater success in student learning. Anglophone University*

> *Faculty require hands-on workshops in re-conceptualizing course design, practicing with technology tools that best address the type of learning experience they are trying to create, and capacity to develop digital content. Anglophone University*

> *Overall the requirement is to provide support to faculty members throughout the entire design, development, delivery, and evaluation process. Anglophone University*

> *Help faculty understand their value-add in an online environment and understand that online courses are not a threat to their teaching position. Anglophone University*

> *It's all about ensuring that faculty have access to ongoing, consistent support and opportunities to learn in an iterative way e.g. practice, use the course or module, assess, review with someone with more expertise, practice again. Anglophone College*

> *Teachers must have access to recent and relevant information on all aspects related to pedagogy, technology, good practices, etc.. They must also benefit at all times from personalized technical, pedagogical and technopedagogical support. Cégep*

Nine of the responding institutions highlighted the need for incentives for faculty to move their courses online:

> *Have credible people embedded in Faculties with discipline-specific knowledge and understanding of the teaching culture to support and motivate teaching online in combination with central support through a teaching and learning centre (or equivalent). Also provide incentives to programs to move courses online. Anglophone University*
>
> *Provide supports and incentives (e.g. release time and PD) for those that are willing to embrace online instruction. Secondly, when hiring new faculty, identify online instruction as a hiring requirement. Anglophone College*
>
> *Some group and one on one workshops-Financial incentives. Anglophone University*
>
> *Most faculty need an incentive to engage in this effort. Developing faculty's digital pedagogical skills and competencies ideally would take a cohort approach where faculty are given release time and clear mandate to re-design their course by a certain deadline. Faculty require hands-on workshops in re-conceptualizing course design, practicing with technology tools that best address the type of learning experience they are trying to create, and capacity to develop digital content. Anglophone University*
>
> *Workshops and model courses; remuneration and incentive compensation*. *Anglophone University*
>
> *Increased pd funding and internal workshops / professional development opportunities with real 'value' / recognition for faculty. Anglophone University*
>
> *Integration into University's Strategic Plan; training/awareness sessions; work with instructional designers; ongoing support/guidance for development and delivery; mentorship from other faculty who have done it, and monetary incentives. Anglophone University*
>
> *Teaching achievements increasingly recognized in tenure and promotion criteria; incentives such as funding or release time to support course re-design projects; support for selection of the learning environment that will best serve program/learning goals; evidence-informed design support. Anglophone University*
>
> *Awareness-building about the benefits of online learning (e.g., flexibility, expanding access to educational opportunities beyond the campus, increased enrolment), monetary support/release-time for course development, training and support. Anglophone University*

Overall, the comments suggest that while the majority of institutions responding to the survey questions have tried a number of strategies to support faculty as the migrate to and are engaged in online, blended/hybrid learning.

12.5 Future developments

As in 2017, we took the opportunity to inquire further and invited institutions to share some insight into areas they were considering for future developments. We asked:

> *Are there any comments you would like to share on likely future developments regarding e-learning, hybrid learning and/or online learning?*

All types of institutions provided responses to this question. A total of 59 comments were received, most of which provided further insight into what they are currently doing, but only a few actually shared future developments. Other shared comments of things that were clearly central to the institution or individual responding, some cited working toward a strategic plan, others shared thoughts about supporting faculty, etc. A selection of comments is presented below, grouped into two areas:

- increasing support for hybrid learning;
- areas that are underway or planned for the near future.

A couple of institutions highlighted their thoughts on how hybrid learning was the way of the future as can be seen below:

> *In our opinion, the future lies in hybrid learning. If we cannot predict future technological changes in the next 25 years, we can say with certainty that human beings will always need to meet. Therefore, classrooms must continue to exist. Experiments and research show that hybrid training needs to be valued. Québec University*
>
> *The pattern of increased demand for online and hybrid courses is likely to continue. Currently interest in hybrid learning is on the rise. Anglophone University*
>
> *Hybrid learning will be growing strongly in the coming years. This growth will not be at the expense of online training but the detriment of training in the classroom. Within a few years, 100% classroom lessons from start to finish without having an online / hybrid component will be rare. Québec University*
>
> *The college is emphasizing competency-based education. Tech and online learning is vital for this success. Lots of potential in hybrid learning. Each medium has strengths and weaknesses. Anglophone College*

Some institutions shared areas they were currently engaged in such as can be seen in the comments below:

Continuous improvements including simulations; virtual and augmented reality; access to emerging technology. Anglophone College

Our College is engaging in a project to transform its educational offerings to incorporate 21st century learning models, including flexible learning options like blended and online learning, better space utilization through these models, incorporation of College-wide learning outcomes in programming, modelling the use of technology in its academic programs, incorporating e-portfolio opportunities for students and programs, and deepening the use of the LMS for analytics purposes. Anglophone College

Improvement of the learning experience (personalized, playful, social). Elaboration of *immersive environments. Cégep*

More focus on open source materials would be an interesting accompaniment. This will grow into the future. In the future we will be faced with understanding the appropriate mix for blended/hybrid learning – and recognize that this may also vary by substantive areas of course offerings. Anglophone University

T*he use of technology enabled learning at our institution continues to grow at a steady pace. We offer a variety of workshops to assist faculty who are interested in integrating technology into their teaching practice. We have recently formed a technology-enabled learning working group who are involved in the evaluation of new technologies and learning environments. We are actively evaluating the use of a synchronous online learning platform that will enable us to reach our learners from wherever convenient to them. Ways in which we can integrate and effectively use simulation and virtual reality are also under consideration. Anglophone University*

The open-ended responses to these questions provide rich perspectives, activities, initiatives and insights into what is happening in online and blended/hybrid and digital learning at Canada's post-secondary institutions.

12.6 Conclusions

The following are the main conclusions from this section:

- online learning is very or extremely important for the institution's long-term strategic or academic plan in 68% of responding institutions;
- most responding institutions recognise the importance of having a plan or strategy for e-learning:
    - 65% either had a plan or were developing one;
    - just under a third (30%) did not have a plan, but reported that they needed one;
    - only 5% reported that a plan or strategy was not needed;
- the most important reason for online learning for most institutions was to increase student access, with 95% of institutions rating it as either important

(23%) or very important (72%); similarly, online learning is important for accessing students from outside the regular catchment area (88% reported this as important or very important)

- The most significant barrier to online learning was identified as the additional faculty effort required to develop or deliver online courses (85%), followed closely by inadequate training/pedagogical knowledge available for faculty in online learning (73%), then lack of acceptance of online instruction by faculty (62%). These results indicate clearly that more needs to be done to train and prepare faculty better for teaching environments that are increasingly becoming online or digital.

SECTION 13:
Institutional perceptions of online learning

Several questions were asked about how institutions perceived various aspects of online learning.

13.1 Faculty acceptance of online learning

I believe that: Faculty at my school accept the value and legitimacy of online education

Table 13.1 Faculty acceptance of online learning

Faculty acceptance	Private subs. coll. Québec		CEGEPs		Colleges outside Québec		Universities		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
1. Strongly agree	2	29	2	5	8	13	14	20	26	15
2.	1	14	4	10	17	27	9	13	31	17
3.	1	14	5	13	19	30	22	31	47	26
4. Neutral	0	0	9	24	9	14	17	24	35	20
5.	1	14	10	26	8	13	5	7	24	13
6	0	0	7	19	1	1.5	3	4	11	6
7. Strongly disagree	2	29	1	3	1	1.5	1	1	5	3
Total	7	100	38	100	63	100	71	100	179	100
Resp. inst.	8		40		64		75		187	
Roster	21		51		80		82		234	

In general, institutions reported that faculty on balance accepted the value and legitimacy of online learning.

However, acceptance varied considerably between type of institution, and tended to cluster just above neutral (i.e. slightly more to acceptance).

Acceptance was greatest in the colleges outside Québec, then in universities. Acceptance was less in the CEGEPs, tending towards rejection. The semi-private colleges in Québec were completely split, but the number of institutions responding is very low.

However, institutions reported that overall, faculty were cautiously accepting in terms of the value and legitimacy of online learning.

13.1.1 Open-ended comments: faculty acceptance

The following open-ended question was also asked:

> *What do you believe needs to occur in order for faculty at your institution to fully accept online instruction?*

In total, 58 institutions responded to this question and provided insight into strategies and suggestions to increase faculty acceptance of online learning.

The importance of a strategic vision and support from senior leadership was highlighted by a couple of institutions:

> *Promotion by Executive Team and full acceptance of online learning (i.e. it is equal to F2F teaching)*

> *There does need to be acceptance of online learning at our university, a highly traditional school, and it needs to start at the senior leadership level. Hence, a strategic vision that includes online and blended/hybrid learning as credible ways of teaching and learning and recognition of the very good work that is happening in corners of the campus is critical. Anglophone University*

One institution noted the benefit of grants from the provincial agency to support *grants, awards and training at colleges and universities,* as a means of promoting faculty acceptance.

Recognition of the work by faculty was noted throughout the comments and seven institutions identified the importance of recognition in tenure and promotion and that recognition needs to be taken into account in collective agreements:

> *Recognition of online development and teaching activities as part of tenure and promotion evaluations. Strategic direction, oversight and infrastructure at the institutional level. Anglophone University*

> *For our teachers to fully accept distance learning, the rules must also be clear. Currently, in the teachers' collective agreement, there is a lack of clarity about distance learning. Cégep*

> *Teaching achievements increasingly recognized in tenure and promotion criteria; incentives such as funding or release time to support course re-design projects; support for selection of the learning environment that will best serve program/learning goals; evidence-informed design support*

> *Value needs to be acknowledged by faculty collective agreement. Referenced as a recognized component in promotion and tenure process. Anglophone University*

Negotiate the collective agreement taking into account the work context of a 21st century teacher offering online and hybrid training, experiencing success. Quebec College

Awareness-building about the benefits of online learning (e.g., flexibility, expanding access to educational opportunities beyond the campus, increased enrolment), monetary support/release-time for course development, training and support. Anglophone University

Talk a lot about it. Have a structured speech and a clear vision of the interest and benefits offered by online training for success and perseverance. Offer support (technical, professional, educational). Agree on modalities for the organization of work (see collective agreements) for the development and dissemination of training as well as for intellectual property. Have access to user-friendly platforms (LMS). Cégep

The responses shared with us provide a myriad of suggestions and ideas for those working to support or increase faculty acceptance of online learning at their institution.

13.2 Online credentials

I believe that: Online credentials have the same level of respect as face-to-face credentials.

Table 13.2 Perception about online credentials being respected

Faculty acceptance of online learning	Private subs. coll. Québec		CEGEPs		Colleges outside Québec		Universities		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
1. Strongly agree	2	29	12	33	18	29	22	31	54	31
2.	1	14	6	16	10	16	12	17	29	16
3.	1	14	3	8	18	29	11	16	33	19
4. Neutral	0	0	8	22	11	17	13	18	32	18
5.	1	14	6	16	4	7	12	17	23	13
6	2	29	2	5	1	2	1	1	6	3
7. Strongly disagree	0	0	0	0	0	0	0	0	0	0
Total	7	100	37	100	62	100	71	100	177	100
Resp. inst.	8		40		64		75		187	
Roster	21		51		80		82		234	

There was a strong tendency for institutions to see online credentials as having the same level of respect as face-to-face credentials (66%). This is to be expected, since the institutions award both types of credentials.

13.3 Retention rates for online students

I believe that: Retaining students is a greater problem for online courses than it is for face-to-face courses.

The first thing to be noted from Table 13.3 below is that of the 187 institutions that returned questionnaires, only 128 (68%) answered this question. Probably some of these 59 institutions that passed on this question were not sure of the data on this issue and thus declined to speculate.

For the 128 institutions that did respond, there was a tendency for a slight majority (55%) to agree with the statement that retaining students is a greater problem than

it is for face-to-face students. This tendency was strongest in CEGEPs, where 79% agreed with the statement. However, it should be noted that CEGEPs in general have less experience with online courses than other post-secondary institutions in Canada.

Table 13.3 Perceptions regarding retention of students in online courses

Retention a problem for online courses	Private subs. coll. Québec		CEGEPs		Colleges outside Québec		Universities		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
1. Strongly agree	1	20	3	16	5	11	5	8.5	14	11
2.	0	0	4	21	8	18	8	14	20	16
3.	1	20	8	42	10	22	17	29	36	28
4. Neutral	1	20	2	11	8	18	16	27	27	21
5.	0	0	0	0	5	11	6	10	11	8.5
6	1	20	1	5	4	9	5	8.5	11	8.5
7. Strongly disagree	1	20	1	5	5	11	2	3	9	7
Total	5	100	19	100	45	100	59	100	128	100
Resp. inst.	8		40		64		75		187	
Roster	21		51		80		82		234	

13.4 Student satisfaction with online courses

I believe that: Students are at least as satisfied with an online course as they are with a face-to-face course.

First, it should be made clear that this question reflects institutional responses to this question, not student responses.

Table 13.4 below indicates that there was general agreement among a clear majority of responding institutions (61%) that students were at least as satisfied with online courses as with face-to-face courses.

Table 13.4 Perceived student satisfaction

Students are satisfied with online courses	Private subs. coll. Québec		CEGEPs		Colleges outside Québec		Universities		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
1. Strongly agree	1	14	7	19	7	11	14	20	29	17
2.	1	14	6	16	22	35	17	24	46	26
3.	1	14	6	16	14	22	11	16	32	18
4. Neutral	2	29	15	41	17	27	16	23	50	28
5.	2	29	1	3	1	2	10	14	14	8
6	0	0	2	5	2	3	2	3	6	3
7. Strongly disagree	0	0	0	0	0	0	0	0	0	0
Total	7	100	37	100	63	100	70	100	177	100
Resp. inst.	8		40		64		75		187	
Roster	21		51		80		82		234	

13.5 The need for more student discipline in online courses

I believe that: Students need more discipline to succeed in an online course than in a face-to-face course.

Once again, a relatively large number (57 – 30%) of institutions that returned the questionnaire passed on this question. Those that did answer were in general agreement (80%) that students do need more discipline to succeed in online courses (see Table 13.5 below).

Table 13.5 Perceived need for more student discipline to succeed in online courses

Students need more discipline for online courses	Private subs. coll. Québec		CEGEPs		Colleges outside Québec		Universities		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
1. Strongly agree	1	20	3	15	13	28.5	12	20	29	22
2.	0	0	7	35	13	28.5	16	27	36	28
3.	1	20	8	40	12	26	18	30	39	30
4. Neutral	1	20	2	10	5	11	11	19	19	15
5.	1	20	0	0	2	4	1	2	4	3
6	0	0	0	0	1	2	1	2	2	1
7. Strongly disagree	1	20	0	0	0	0	0	0	1	1
Total	5	100	20	100	46	100	59	100	130	100
Resp. inst.	8		40		64		75		187	
Roster	21		51		80		82		234	

13.6 Learning outcomes

Institutions were asked to compare the learning outcomes of online courses with those of face-to-face courses and also blended/hybrid courses.

13.6.1 Online versus face-to-face

Over three-quarters (78%) of the 176 institutions that answered this question considered the learning outcomes of online courses to be the same as those for face-to-face courses (see Table 13.6 below). Thirteen per cent ranked online courses inferior, but nine per cent ranked them superior.

There were few differences on this question between universities, colleges outside Québec and CEGEPs.

Table 13.6 Perception of online learning outcomes compared with face-to-face

Online learning outcomes	Private subs. coll. Québec		CEGEPs		Colleges outside Québec		Universities		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Inferior to face-to-face	0	0	2	5	1	1.5	0	0	3	2
Somewhat inferior to face-to-face	3	43	5	14	6	10	5	7	19	11
Same as face-to-face	3	43	27	75	52	84	56	79	138	78
Somewhat superior to face-to-face	0	0	1	3	2	3	8	11	11	6
Superior to face-to-face	1	14	1	3	1	1.5	2	3	5	3
Total	7	100	36	100	62	100	71	100	176	100
Resp. inst.	8		40		64		75		187	
Roster	21		51		80		82		234	

13.6.2 Blended/hybrid versus face-to-face

A similar proportion (78%) of the 176 institutions answering this question considered blended/hybrid learning outcomes to be the same as face-to-face learning outcomes. However, in the case of blended/hybrid, 19% considered their outcomes to be superior to face-to-face, while only 3% considered them to be inferior (see Table 13.7 below).

Once again, there was relatively little difference between CEGEPs, colleges outside Québec, and universities on this question.

Table 13.7 Perception of blended/hybrid learning outcomes compared with face-to-face

Blended/hybrid learning outcomes	Private subs. coll. Québec		CEGEPs		Colleges outside Québec		Universities		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Inferior to face-to-face	0	0	1	3	1	2	0	0	2	1
Somewhat inferior to face-to-face	0	0	1	3	3	5	0	0	4	2
Same as face-to-face	4	67	30	83	52	82	50	73	136	78
Somewhat superior to face-to-face	2	33	3	8	6	9	18	26	29	17
Superior to face-to-face	0	0	1	3	1	2	1	1	3	2
Total	6	100	36	100	63	100	69	100	174	100
Resp. inst.	8		40		64		75		187	
Roster	21		51		80		82		234	

13.7 Online, blended/hybrid innovative teaching practice

We asked institutions the following question:

> *Do you believe that offering online or blended/hybrid courses can lead to more innovative teaching? Why or Why not?*

Nearly all (103) responses to this question indicate a belief that that yes, online, blended/hybrid teaching can influence and lead to innovative teaching practice. The majority of responses included references to the importance of sound pedagogy, good planning and course design to support faculty. Some responses are shared below:

> *Yes, it can lead to more innovative teaching. Adopting any new strategies and adapting to changing the technologies can fuel innovation. Anglophone College*

It can and has led to more innovative teaching on our campus. Primarily, because the process can provide instructors an opportunity to reimagine course content, delivery, assessment and pedagogy. Anglophone University

Yes. Online education offers many advantages in the application of technology for educational purposes, which promotes the acquisition of specific digital skills and organizational strategies for successful online learning. Québec College

Undeniably, because this development encourages the teacher to initiate a reflexive approach to his/her teaching objectives, the pedagogical methods to promote student learning. However, such an approach requires support by educational advisors, or by materials developed for this purpose, or by a peer group. Québec University

Exposure to new technologies and experimenting with new techniques and strategies was identified as catalyst for faculty to examine their teaching and course design:

Yes, because using new learning technologies require faculty members to think about different ways of teaching and learning. Anglophone University

Online technologies have the potential to make learning more engaging, flexible, collaborative, interactive, and responsive. Anglophone University

Online and hybrid courses afford opportunities to re-think the ways that teaching is delivered. Anglophone University

Yes. Offering courses in different formats affords faculty an opportunity to learn how to adapt their teaching style and think deeply about teaching methods that connect students with the learning material on a personal and real level using technology aids. By challenging faculty to teach differently and more thoughtfully, the result often shows improved teaching experience and an enhanced learning experience. *Anglophone University*

Some responses highlighted the advantages they believe inherent in moving to online education:

Yes. Online education offers many advantages in the application of technology for educational purposes, which promotes the acquisition of specific digital skills and organizational strategies for successful online learning. Québec College

Preparing an online course forces faculty to think carefully about course design and its connection to assessment that often lead to better in-person design as well. Digital affordances of online teaching have inspired greater interdisciplinarity, a wider range of perspectives in a course and more pedagogical innovation in regards to student contact. Anglophone University

Offering online and blended courses supports achievement of strategic priorities including a commitment to quality educational experience, a high-performing teaching culture, and providing flexible learning options for students. Adoption of innovative online technologies such as virtual reality, simulation, open source technologies and virtual collaboration engage our students in developing skills of the future. Anglophone University

The majority of the comments shared perspectives on how online and blended courses can support teaching growth and help faculty grow their practice with good designs and supports in place. Only four institutions indicated they did not think that online, blended/hybrid courses let to innovations in teaching practice:

No – course delivery method does not lead to pedagogical improvements. Anglophone College

Innovation in teaching is not necessarily linked to technology and technological innovation does not necessarily lead to educational innovation. Cégep

Not necessarily. The use of technological means such as video-conferencing or online teaching has many pitfalls… The material is not necessarily designed for this form of course delivery, requiring the instructor to use less powerful tools Cégep

No, we can be as "innovative" in face-to-face as in hybrid or online. It depends on our perception of what is innovative. Quebec College

As can be seen, three of the four responses were from Quebec institutions and the responses suggest an academic debate on the question of technology and pedagogy.

Some institutions questioned why we would ask a question comparing learning outcomes between face-to-face and online or blended/hybrid teaching, one respondent pointed to the well-known body of research on the "no significant difference phenomenon[1]" literature:

There is a ton of research to support no significant difference in achieving learning outcomes in both well-designed face-to-face and online courses and programs. Anglophone College

Comparing online and blended to f2f, in reality the answer depends on the thought put into the design of the course and the execution. Modality does not guarantee superiority. We are reasonably confident about the quality of our online courses. There is less control, oversight, and influence over blended courses. Anglophone University

[1] This refers to the work of Dr. Thomas Russell (2001). The No Significant Difference Phenomenon, IDECC, fifth edition. The material is hosted by WCET at: http://www.nosignificantdifference.org/ and informed volumes of work on reporting on student outcomes by education delivery methods.

Students are demanding flexibility and accessibility in learning. Institutions need to be responsive in how learning is provided while maintaining the integrity of the programs. The learning outcomes need to be the same whether you learn on campus or virtually. Anglophone College

I think its problematic to use face to face as the standard by which to measure effectiveness of online. This type of question seems to perpetuate the notion that online teaching and learning is somehow second rate when compared to face to face. Anglophone College

As noted above, institutions shared comments related to how online, blended hybrid may affect or inform innovations in teaching practice.

13.8 Conclusions

Overall, a majority of institutional responses indicated generally positive views on online learning:

- institutions reported that faculty on balance accepted the value and legitimacy of online learning; acceptance was greatest in the colleges outside Québec, then in universities, but less in the CEGEPs, tending towards rejection.
- online credentials are as respected as face-to-face credentials;
- a slight majority of institutions (55%) agreed with the statement that retaining students is a greater problem than it is for face-to-face students; this feeling was strongest in CEGEPs, where 79% of CEGEPs agreed with the statement;
- a clear majority of responding institutions (61%) reported that students were at least as satisfied with online courses as with face-to-face courses;
- there was general agreement that students do need more discipline to succeed in online courses, although a substantial number of institutions did not answer this question
- online course learning outcomes are considered by most institutions to be the same as for face-to-face courses, although a few institutions (11%) thought online were inferior
- blended/hybrid learning outcomes are considered by most institutions to be the same as for face-to-face courses, although a few institutions (19%) thought blended/hybrid were superior
- respondents share a belief that online, blended/hybrid learning can lead to and influence innovative teaching practices.

However, institutions also indicated that:

- Retaining students in online courses may be more difficult than in face-to-face courses
- Students need more discipline to succeed in online courses.

SECTION 14:

CANADA & US COMPARISON

14.1 Comparing responses of academic leaders in Canada and the United States

We were interested to compare the opinions of Canadian academic leaders to those of their counterparts in the United States. More specifically, we wondered:

> *Do the academic leaders in the U.S. and those in Canada have the same views about the role and success of distance education?*

We presented the policy and practice portions of the 2018 Canadian survey to a representative sample of academic leaders in the United States. The US sample was composed of chief academic officers (the highest-ranking individual responsible for the academic programs, typical titles are provost, academic vice president, etc.). The objective was to compare the experiences and opinions of those at institutions with for-credit distance course offering, so the responses from the 172 Canadian institutions that have for-credit online offerings were compared to a representative random sample of US academic leaders from 112 institutions with for-credit online offerings.

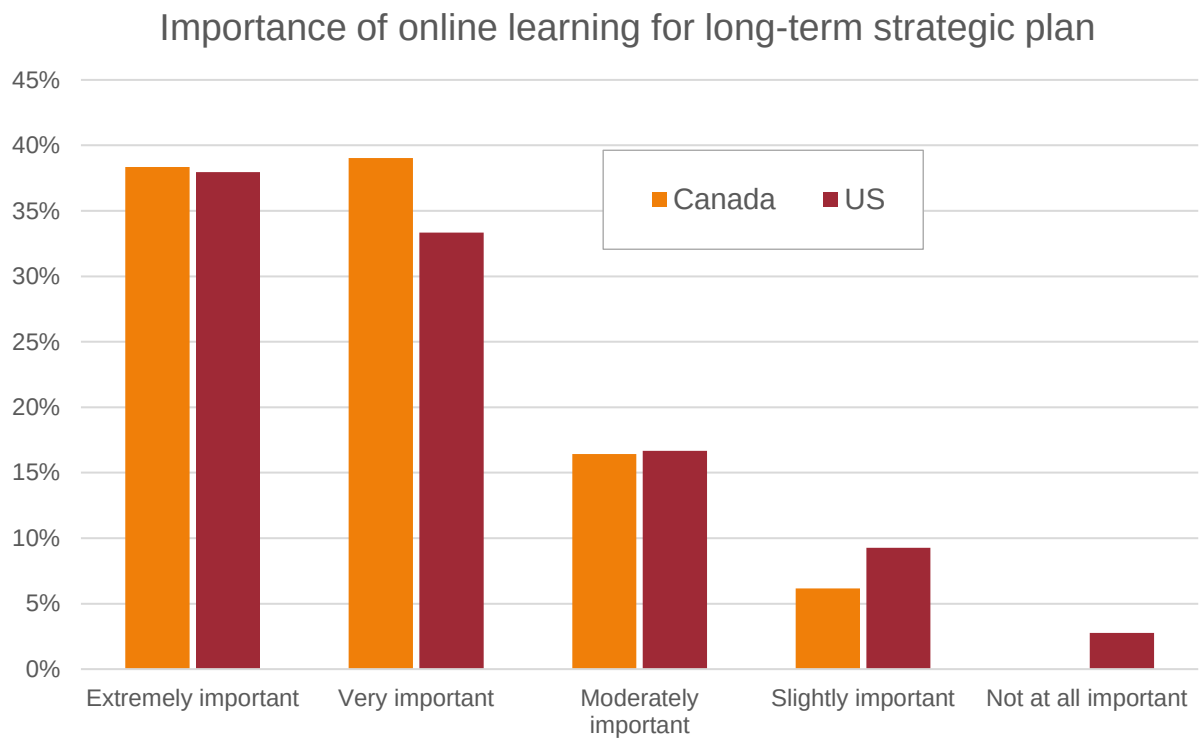
Distance education is more firmly established in the United States than it is in Canada. The latest data for U.S. higher education institutions shows that 18 percent of all students are taking a mixture of distance and face-to-face courses, while another 15 percent take exclusively distance courses. Among U.S. higher education students, 33 percent take at least one distance course as of fall 2017.

In general, the pattern of responses between the two countries is very similar, and where there are differences, it is the Canadian respondents that are the more positive towards distance education.

14.2 Importance of online learning for long-term strategic plan

More than two-thirds of the respondents from both countries believe that online learning is either "*Extremely"* or "*Very*" important for their institution's long-term strategic plan (see Figure 14.1). Very few Canadian leaders believe that online education is only "*Slightly*" important (6% as compared to 9% for the U.S.), and no Canadian institutions reported the online was "*Not at all important*".

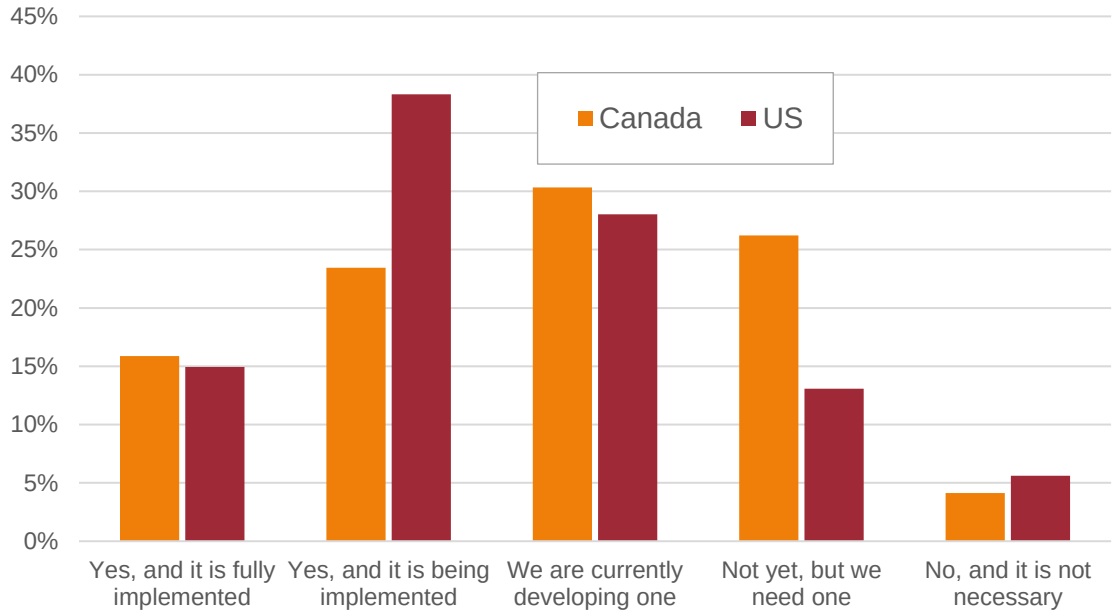
Figure 14.1 Importance of online learning for long-term strategic plan



While Canadian academic leaders are slightly more likely to believe that online learning has a high degree of importance for their institution, leaders in the U.S. appear to be further along in actually implementing their strategic plan incorporating "e-learning, hybrid learning and/or online learning." Roughly 15 percent of the respondents from both countries report that these are part of the plan and that the plan is fully implemented.

However, a far larger proportion of those in the U.S. report that they are now implementing such a plan (38% compared to only 21% in Canada). Far more Canadian institutions report that they need a plan, but they have not yet begun working on it (30% in Canada compared to 13% in the U.S.) - see Figure 14.2 below.

Figure 14.2 Does your institutions have a strategic plan or institutional strategy?



14.3 Comparing opinions on online education among Canada and US leaders

There are considerable differences in the opinions about online education among Canadian academic leaders as compared to those in the U.S. One area where the two do agree is that slightly over one-third think that faculty at their institution "accept the value and legitimacy of online education." The other two-thirds of both groups are either neutral of believe that their faculty do not accept online.

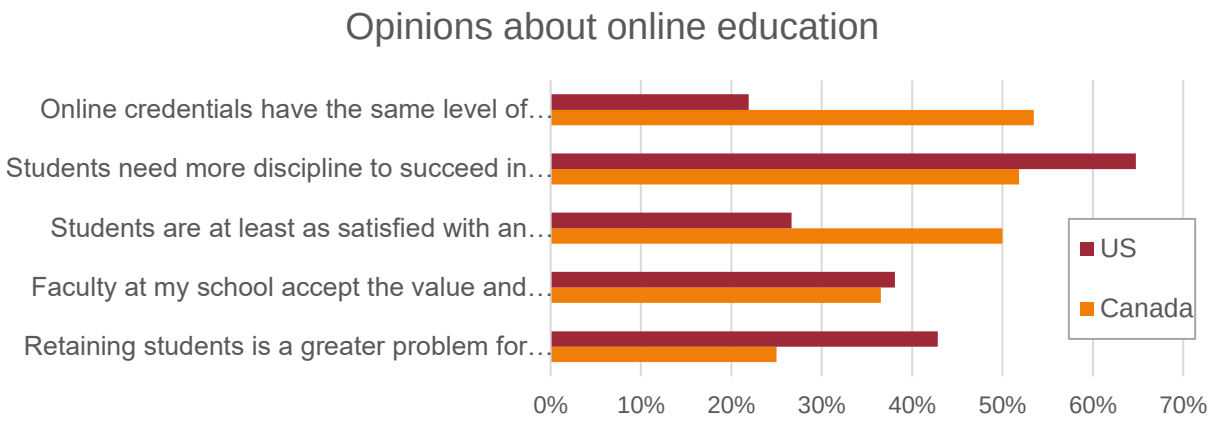
In all other areas measured, Canadian leaders have a much more positive view of online education than do the leaders in the United States. Only 21% of the U.S. respondents believe that online credentials have the same level of respect as face-to-face credentials, compared to over one-half (66%) of the Canadian respondents. Likewise, Canadian academic leaders are twice as likely to report that students are at least as satisfied with an online course as they are with a face-to-face course (61% compared to only 27% among U.S. leaders). U.S. leaders are more likely to believe that students need more discipline to succeed in an online course (80% compared to 52% for Canadian leaders) and that retaining students in online courses is harder (43% for the U.S., 25% for Canada).

In all other areas measured, Canadian leaders have a much more positive view of online education than do the leaders in the United States:

- Only 21% of the U.S. respondents believe that online credentials have the same level of respect as face-to-face credentials, compared to over one-half (66%) of the Canadian respondents.

- Likewise, Canadian academic leaders are twice as likely to report that students are at least as satisfied with an online course as they are with a face-to-face course (61% compared to only 27% among U.S. leaders).
- U.S. leaders are more likely to believe that students need more discipline to succeed in an online course (65% compared to 52% for Canadian leaders) and that
- retaining students in online courses is harder (43% for the U.S., 25% for Canada).

Figure 14.3 Opinions about online education Canada and US



14.4 Barriers to growth in online and distance education

Leaders in both countries agree that the most important barrier to the growth of online and distance education is the additional faculty time and effort required to deliver such courses (with 84.9% in Canada and 81.1% in the US reporting this to be either "Very important" or "Important"). They also both rank a lack of demand for online courses as the least important of their concerns (35% in Canada and only 24% in the US). Another area of agreement is in their concern about the lack of acceptance of online instruction by their faculty members, with 62% of Canadian institutions listing this as "Very important" or "Important" compared to 57% among the US academic leaders.

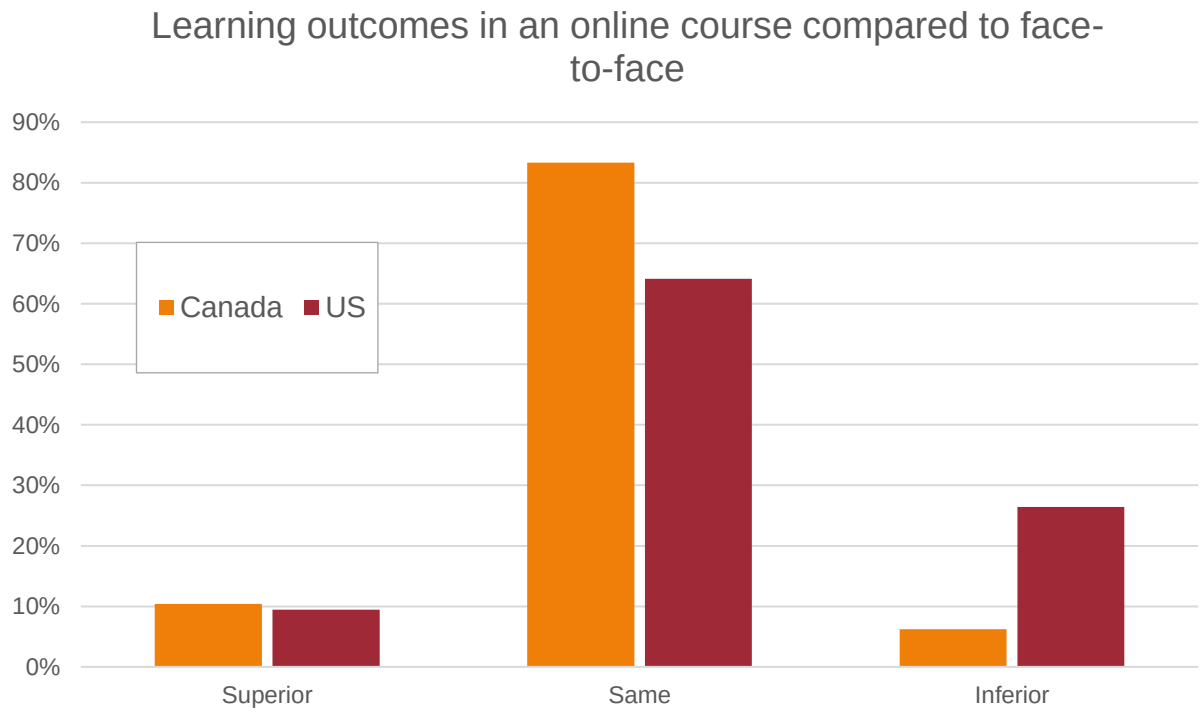
The leaders in the two countries have somewhat different views of the impact of inadequate training/pedagogical knowledge available for faculty, with those in the U.S. slightly more worried (81% compared to 73% for Canada). There are two areas, however, where the leaders show considerable differences, and in both cases the results in Canada are more positive for online learning than are the US responses. In the U.S. over three-quarters of the respondents report that the fact that students need more discipline to succeed in online courses is a "Very important" or "Important" barrier. Only one-half of Canadian leaders think that this is the case.

Leaders in the U.S. are also much more concerned with lower retention rates for online courses than are their Canadian counterparts, with fully 62% listing this as a barrier, while only 42% of the Canadian academic leaders saw it this way.

14.5 Online and blended course quality

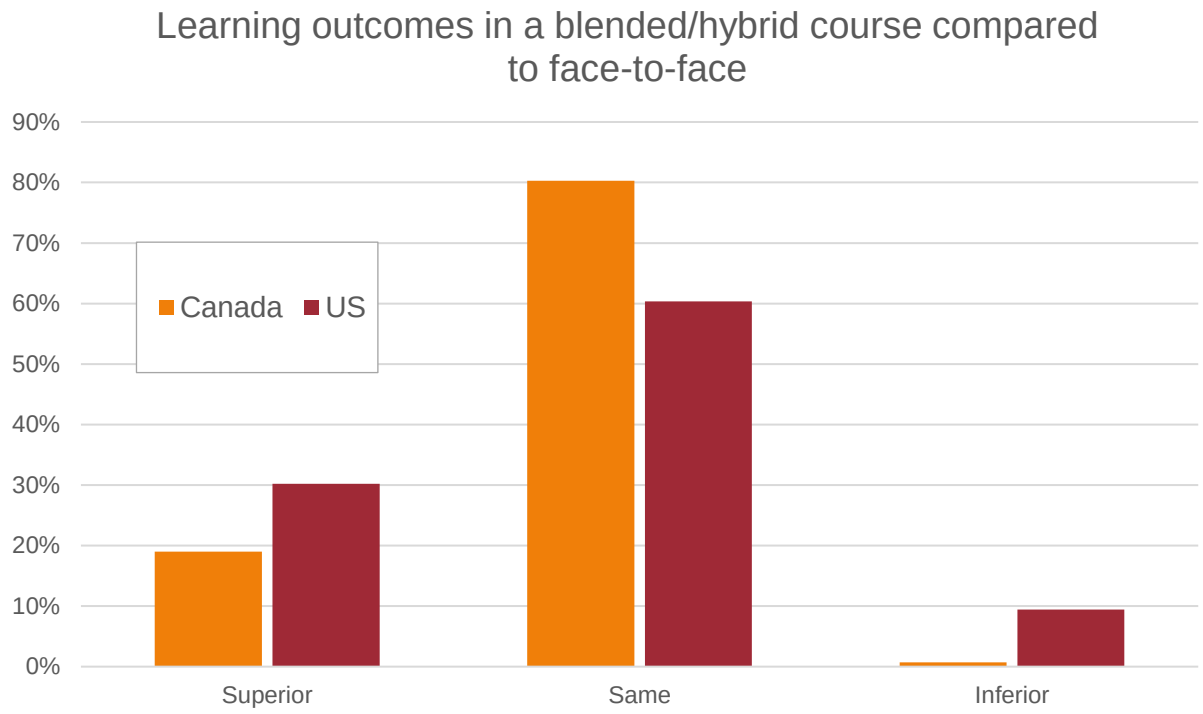
Similar proportions of leaders in both the United States and in Canada believe that the learning outcomes in an online course is superior to those in a face-to-face course (10% in Canada and 9% in the U.S.). However, there is a big difference in those who believe learning outcomes in online courses to be inferior - only 12.5 of the Canadian respondents reported this, while over a quarter (26%) of U.S. leaders thought that this was true.

Figure 14.4 Learning outcomes comparison between online and face-to-face



Academic leaders in the United States, however, did have a more positive view of the relative learning outcomes for blended/hybrid courses. With 30% thinking they were superior to those of face-to-face instruction, compared to only 19% in Canada (see Figure 14.5 below).

Figure 14.5 Learning outcomes comparison between blended/hybrid and face-to-face



In conclusion, we recognize an interest in Canadian post-secondary institutions to make some comparisons with our counterparts in the United States. Differences in how post-secondary institutions are governed and regulated in each country and within the provincial and state systems suggest we exercise caution in comparison of some data attributes. We did compare the responses to opinion and strategy questions that were administered to academic leaders in both countries in early fall, 2018.

While the distance and online learning market may be more mature in terms of development, the opinions of Canadian academic leaders who responded to this survey hold generally more positive opinions of online education. The responses from leaders in both countries demonstrate a shift in perspective of quality in online and blended/hybrid courses toward wider acceptance of the quality of learning outcomes across modality.

SECTION 15:
SUMMARY AND CONCLUSIONS

15.1 Better methodology: more institutions, higher response rate, better data, more agreed definitions

15.1.1 An improved roster
In this, the second year of the survey, we extended the roster from 203 institutions in 2017 to 234 in 2018. We added:

- on the advice of Québec organizations, 21 semi-private institutions in Québec that are partially funded by the Québec government,
- three Québec institutions to our roster of universities that had in 2017 been incorrectly considered as constituent components of the Université de Montréal,
- one Cégep/professional college omitted in 2017,
- two federally funded institutions (one college, one university),
- four francophone divisions of otherwise Anglophone universities.

We also improved the database to include an up-to-date and wider range of institutional contacts for the survey response.

Thus the 2018 roster includes:

- 82 universities and francophone colleges of Anglophone universities
- 80 colleges outside Québec
- 51 CEGEPs
- 21 private subsidised colleges in Québec

15.1.2 A higher response rate
We were able to increase the response rate from 69% of institutions in 2017 to 80% of institutions in 2018, through the efforts of the consultants in the team, a better database, and a great deal of work by staff in the institutions.

Because most of the non-responders were smaller institutions, the responding institutions covered 92% of all students in post-secondary education in Canada. The total number of students covered within our roster is within 1.84% of the total number of students reported in the last Statistics Canada publication.

15.1.3 Better data
Because of preparatory work with institutions to improve definitions and to identify what data kinds of enrolment data they were able to provide before we implemented the questionnaire, we were able to obtain detailed and reliable institutional data in 2018 on:

- students taking at least one online course
- the number of online course registrations

- the number of all course registrations
- the total number of students taking credit courses

Enough institutions were able to provide reliable data for us to make reasonably reliable estimates of missing data for not only institutions that responded to the questionnaire but could not provide data, but also for those who did not respond to the questionnaire.

Thus, we believe our enrolment data to be within 1%-2% variance in reliability.

15.1.4 Better definitions

It became clear from the 2017 survey that there were no generally agreed upon definitions of the terms used to describe courses that are offered as 'distance education', 'online' or 'blended/hybrid'.

Clearly, it is difficult to collect data, conduct meaningful research, create effective policies, or make meaningful comparisons if the terms used differ in meaning depending on each institution's or department's interpretation.

In the 2018 project, we asked about the definitions for a distance education, online, and blended/hybrid course to test the real-world fit of the survey definitions. Institutions were asked to identify if they had a definition at their institution and if so, did it match ours? We were also interested to know if institutions did not have a definition, or if they had more than one definition. Institutions were asked to share their definition if it didn't match the one provided. This set of questions was answered by a total of184 responding institutions and there was a majority of agreement for each definition provided.

There was agreement with our definitions by between a half and two-thirds of the respondents. However, there is more agreement on the definition of online courses and less on the definition of distance education. Perhaps more significantly, between a fifth to a quarter of the institutions have no definitions of these terms. More work needs to be done to foster further agreement.

15.3 Distance education across Canada

Altogether 185 of the 234 institutions in the roster that responded to the questionnaire, and, two that did not answer this question. Of the 185 that answered the question, 153 (83%) offered distance education courses for credit. This was the same percentage as in 2017, when 83% (116) answered 'yes'.

Small institutions (less than 1,000 students) and CEGEPs and private subsidised colleges in Québec, were least likely to offer distance education courses. Of the 32 institutions that reported that they did not:

- 20 (63%) were CEGEPs or private subsidised colleges in Québec,
- 6 (19%) were colleges outside Québec, and
- 6 (19%) were universities.

However, it is likely that many of the non-responders did not respond to the questionnaire because they do not offer distance education courses for credit. Therefore, it may be safer to conclude that about two-thirds of all the institutions in the roster (153 out of 234) are known to offer distance education courses for credit, but most of the institutions that do not are smaller in size and are likely to be private subsidized colleges or CEGEPs in Québec.

15.4 Online learning across Canada

Altogether there were 187 of the 234 institutions in the roster that responded to the questionnaire. Of these 187, five did not answer this question. Of the 182 that did, 149 (82%) offered online courses for credit, the same proportion as in in 2017.

Size of institution is very much a determining factor. Over half the institutions with less than 1,000 (52%) did not offer online courses, while almost every institution with more than 10,000 students did (only one did not).

The private subsidised colleges in Québec and CEGEPs were least likely to offer online courses. Universities (including in Québec), and colleges outside Québec, were the most likely. The following illustrates the differences between institutions in offering online courses:

- 91%: universities
- 90%: colleges outside Québec
- 56%: CEGEPS
- 37%: private subsidised colleges in Québec

Of the 46 institutions that did not respond to the questionnaire plus the five that did not answer this question, we found evidence that 11 did in fact offer online courses for credit, making a minimum total of 160 institutions, or 68% of all institutions on the roster, offering online courses.

The 2018 data shows a significant increase in the number of institutions offering online courses between 2010 and 2011 (from 68% in 2010 to 76% in 2011), and then a more gradual increase between 2011 and 2016 (from 76% in 2011 to 79% in 2016). The increase from 2008 to 2016 is 14%, or 2% per annum, but between 2011-2016 only 3%.

The main growth has come from the very small institutions. In 2008, only 14 responding institutions with fewer than 2,000 students were offering online programs, but by 2016 this had grown to 26, almost doubling in numbers.

With a growth rate in the number of institutions moving into online education of around 3 per cent per annum for the last six years, and with 82% of all responding institutions offering online courses in 2016, Canadian post-secondary education

appears to be a relatively mature market for online learning, as was noted in the 2017 study. Many have been offering online courses for more than 15 years.

However, there are signs that the growth in institutions offering online courses is now slowing or flattening out. It will be interesting to see how many of the remaining 74 institutions that we believe are not currently offering online learning will move to online learning in the coming years.

15.5 Online course enrolments

1. It is estimated that in 2016-2017, 18% of all Canadian post-secondary students were taking at least one online course for credit, 19% in universities, and 21% in colleges outside Québec. In other words, one in every five students was taking an online course for credit, except for the colleges and CEGEPS in Québec.

2. Of all credit course enrolments, about 8% were fully online, representing 1.33 million online course registrations.

3. The average course load for students taking online courses was between 3 to 4 online courses a year. Overall course loads ranged from 7-8 courses a year in universities to around 10 courses a year in colleges.

4: The following are fully distance institutions and by definition have 100% fully distance students:

- Athabasca University, Alberta
- Téluq, Québec
- Cégep à distance, Québec
- Collège Éducacentre, British Columbia

However, some campus-based institutions also have high percentages of fully online course registrations, as follows:

- Northern Lakes College, Alberta (58%)
- BCIT, British Columbia (42%)
- Université Ste.-Anne, Nova Scotia (41%)
- Yukon College (37%)
- Royal Roads University, British Columbia (35%)

5. As well as the fully distance teaching institutions, the following institutions have large numbers of online course registrations:

Universities:

- Université Laval, Québec: 74,229
- University of Waterloo, Ontario: 43,572
- Concordia University, Québec: 32,401

Colleges/CEGEPs

- Algonquin College, Ontario: 29,600

- Fanshawe College, Ontario: 28,612
- Centennial College, Ontario: 22,528
- British Columbia Institute of Technology: 20,492

6. These enrolments figures (combining actual and estimated data) are likely to be accurate for Canada as a whole, and especially for all universities, and for colleges outside Québec. Lower response rates and a lower number of institutions offering online courses may affect the accuracy of the results for private subsidised colleges and to a lesser extent CEGEPs in Québec, and colleges in New Brunswick, but these limitations are unlikely to influence the overall picture.

7. There has been a steady growth in online enrolments between 2015-2016 and 2016-2017, with almost two thirds of institutions showing growth in online enrolments from last year, and less than a quarter showing a decline. Just over a third reported modest growth (up between 1-10%) and almost a third reported fast growth (more than 10% from last year).

The expectations for next year are even higher, with three-quarters reporting likely growth and only 3% expecting a decline in enrolments. Taking into account data from last year's survey as well as this year's, it appears that online learning enrolments continue to grow at a significant rate.

15.6 Blended/hybrid learning

Of the 165 institutions that provided information on the provision of blended/hybrid learning, 78% have introduced some form of blended/hybrid learning. This can be broken down as follows:

- 87%: universities
- 84%: colleges outside Québec
- 58%: CEGEPs
- 43%: private subsidised colleges in Québec

The 2018 data reinforce the conclusion from the 2017 survey that more than three quarters of Canadian institutions are now integrating online with classroom teaching, but no more than one in five have a significant number of courses in this format. In other words, blended/hybrid learning is wide but not yet deep.

15.7 Open textbooks

1. A substantial number of Canadian post-secondary institutions (just over half) are using open textbooks and a further fifth are exploring their use.

2. Universities and larger institutions are most likely to adopt open textbooks

3. The highest proportions of institutions using open textbooks were in British Columbia (90%) and Alberta (78%)

4. Open textbooks are being used in all modes of delivery, but mostly in face-to-face courses,

5. A small but significant number of institutions are offering training to instructors in the use of OER.

15.8 Continuing education

1. Continuing education is offered by the vast majority (93%) of institutions in each sector and in every province and territory that responded.

2. Continuing education is offered both for-credit and not-for-credit, and institutions take advantage of face-to-face, online and blended/hybrid delivery methods.

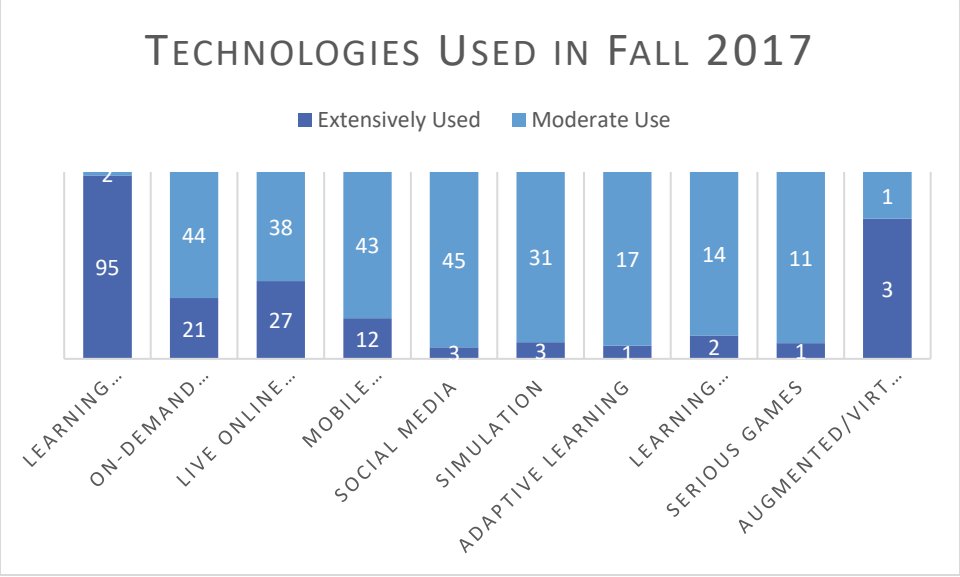
3. Face-to-face, not-for-credit courses were the choice most selected by responding institutions (87%).

4. Continuing education courses are offered by a majority of both Anglophone and Francophone responding institutions.

15.9 Technologies

The differences in the extent of use of each of these technologies is best illustrated through Figure 15.1

Figure 15.1 Extent of use of different technologies, 2017



Learning management systems continue to be the backbone technology used by institutions for their online and blended/hybrid courses. Nearly all institutions are combining various web-based technologies to augment the LMS and support increased interaction and engagement in their courses. Many are increasing the use of video, lecture capture and web-conferencing and some are developing 360-degree photos and videos to support student engagement.

Respondents also noted the high use of LMS and applications of technologies in their face-to-face classes. While the number of institutions that identified moderate to extensive use of some of the emerging technologies such as adaptive learning, learning analytics and serious games is very low, our experience in working with

institutions suggest that the degree of use and adoption of these emerging technologies may be higher than reported in this survey.

15.10 MOOCs

There is relatively little MOOC activity in Canadian institutions. Of the 165 institutions responding to this question:

- 32 (18%) offered MOOCs in the previous year. Most of these offered between one to five MOOCs in the last 12 months
- 66 (40%) were unsure of their future plans for MOOCs,
- 58 (36%) indicated they have no interest in offering MOOCs in the future.
- 13% were willing to support the increased use of MOOCs in future,
- 11% were leaving it to individual faculty to decide without necessarily providing institutional support.

15.11 Policies and practices

The following are the main conclusions from this section:

- online learning is very or extremely important for the institution's long-term strategic or academic plan in 68% of responding institutions;
- most responding institutions recognise the importance of having a plan or strategy for e-learning:
    - 65% either had a plan or were developing one;
    - just under a third (30%) did not have a plan, but reported that they needed one;
    - only 5% reported that a plan or strategy was not needed;
- institutions reported that faculty on balance accepted the value and legitimacy of online learning;
- a slight majority of institutions (55%) agreed with the statement that retaining students is a greater problem than it is for face-to-face students;
- a clear majority of responding institutions (61%) reported that students were at least as satisfied with online courses as with face-to-face courses;
- there was general agreement that students do need more discipline to succeed in online courses, although a substantial number of institutions did not answer this question
- online course learning outcomes are considered by most institutions to be the same as for face-to-face courses, although a few institutions (11%) thought online were inferior
- blended/hybrid learning outcomes are considered by most institutions to be the same as for face-to-face courses, although a few institutions (19%) thought blended/hybrid were superior.
- the most important strategic reason for online learning for most institutions was to increase student access, with 95% of institutions rating it as either important (23%) or very important (72%); similarly, online learning is important for accessing students from outside the regular catchment area (88% reported this as important or very important)

- the most significant barrier to online learning was identified as the additional faculty effort required to develop or deliver online courses (85%), followed closely by inadequate training/pedagogical knowledge available for faculty in online learning (73%), then lack of acceptance of online instruction by faculty (62%).
- Some institutions forecast course registration activity for the upcoming year, results were slightly more optimistic for growth in online registrations than overall institution course registrations.

These results indicate clearly that more needs to be done to train and prepare faculty better for teaching environments that are increasingly becoming online or digital.

15.12 Comparisons with the USA

1. Distance education is more firmly established in the United States than it is in Canada. The latest data for U.S. higher education institutions shows that

- 18 percent of all students are taking a mixture of distance and face-to-face courses, while another 15 percent take exclusively distance courses.
- in Canada, only 8% of all credit course registrations are for online courses.
- among U.S. higher education students, 33 percent take at least one distance course as of fall 2017, compared with approximately 20% in Canada.

2. Leaders in the U.S. appear to be further along in actually implementing their strategic plan incorporating "e-learning, hybrid learning and/or online learning."

- roughly 15 percent of the respondents from both countries report that these are part of the plan and that the plan is fully implemented.
- however, a far larger proportion of those in the U.S. report that they are now implementing such a plan (38% compared to only 21% in Canada).
- far more Canadian institutions report that they need a plan, but they have not yet begun working on it (30% in Canada compared to 13% in the U.S.)
- academic leaders in the United States have a more positive view of the relative learning outcomes for blended/hybrid courses, with 30% thinking they were superior to those of face-to-face instruction, compared to only 19% in Canada.

3. In all other areas measured, Canadian leaders have a much more positive view of online education than do the leaders in the United States:

- Only 21% of the U.S. respondents believe that online credentials have the same level of respect as face-to-face credentials, compared to over one-half (54%) of the Canadian respondents.
- Likewise, Canadian academic leaders are twice as likely to report that students are at least as satisfied with an online course as they are with a face-to-face course (50% compared to only 27% among U.S. leaders).
- U.S. leaders are more likely to believe that

    - students need more discipline to succeed in an online course (65% compared to 52% for Canadian leaders) and that
    - retaining students in online courses is harder (43% for the U.S., 25% for Canada).
- in the U.S. over three-quarters of the respondents report that the fact that students need more discipline to succeed in online courses is a "Very important" or an "Important" barrier. Only one-half of Canadian leaders think that this is the case.
- there is a big difference in those who believe learning outcomes in online courses to be inferior - only 6% of the Canadian respondents reported this, while over a quarter (26%) of U.S. leaders thought that this was true.

Appendix 1: Roster

Universities

Alberta	**Nova Scotia**
Athabasca University	Acadia University
MacEwan University	Cape Breton University
Mount Royal University	Dalhousie University
University of Alberta	Mount Saint Vincent University
Campus Saint-Jean	NSCAD University
University of Calgary	Saint Mary's University
University of Lethbridge	St. Francis Xavier University
	Université Sainte-Anne
British Columbia	
Capilano University	**Ontario**
Emily Carr University of Art + Design	Algoma University
Kwantlen Polytechnic University	Brock University
Royal Roads University	Carleton University
Simon Fraser University	Lakehead University
Thompson Rivers University	Laurentian University
The University of British Columbia	Université de Hearst
University of Northern Brit. Columbia	McMaster University
University of the Fraser Valley	Nipissing University
University of Victoria	OCAD University
Vancouver Island University	Queen's University
	Ryerson University
Manitoba	Trent University
Brandon University	University of Guelph
Canadian Mennonite University	University of Ontario Institute of Technology
University College of the North	University of Ottawa
The University of Winnipeg	University of Toronto
University of Manitoba	University of Waterloo
Université de Saint-Boniface	University of Windsor
New Brunswick	Western University
Mount Allison University	Wilfrid Laurier University
St. Thomas University	York University
Université de Moncton	
University of New Brunswick	

Continued

Universities (cont.)

Newfoundland	**Prince Edward Island**
Memorial University of Newfoundland	University of Prince Edward Island
Québec	**Saskatchewan**
Bishop's University	University of Regina
Concordia University	La Cité Universitaire francophone de l'Université de Régina
École nationale d'administration publique	University of Saskatchewan
École Polytechnique de Montréal	
École de technologie supérieure	**Federal**
HEC Montréal	Royal Military College of Canada
Institut national de la recherche scientifique	
McGill University	
TÉLUQ	
Université de Montréal	
Université de Sherbrooke	
Université du Québec à Chicoutimi	
Université du Québec à Montréal	
Université du Québec à Rimouski	
Université du Québec à Trois-Rivières	
Université du Québec en Abitibi-Témiscamingue	
Université du Québec en Outaouais	
Université Laval	

Colleges and CEGEPS

Alberta	**British Columbia**
Alberta College of Art & Design	British Columbia Institute of Technology
Bow Valley College	Camosun College
Grande Prairie Regional College	Collège Éducacentre
Keyano College	College of New Caledonia
Lakeland College	College of the Rockies
Lethbridge College	Douglas College
Medicine Hat College	Justice Institute of British Columbia
Norquest College	Langara College
Northern Alberta Institute of Technology	Nicola Valley Institute of Technology
Northern Lakes College	North Island College
Olds College	Northern Lights College

Portage College	Northwest Community College
Red Deer College	Okanagan College
SAIT Polytechnic	Selkirk College
	Vancouver Community College
Manitoba	**Ontario**
Assiniboine Community College	Algonquin College
Manitoba Institute of Trades and Technology	Cambrian College
Red River College	Canadore College
	Centennial College
New Brunswick	Collège Boréal
Collège communautaire du Nouveau-Brunswick	Conestoga College
Maritime College of Forest Technology	Confederation College of Applied Arts and Technology
New Brunswick College of Craft + Design	Durham College
New Brunswick Community College	Fanshawe College
	Fleming College of Applied Arts and Technology
Newfoundland	George Brown College of Applied Arts and Technology
College of the North Atlantic	Georgian College of Applied Arts and Technology
	Glendon College
Nova Scotia	Humber College
Nova Scotia Community College (NSCC)	La Cité
Gaelic College	Lambton College
Nunavut	Loyalist College of Applied Arts and Technology
Nunavut Arctic College	The Michener Institute of Education at UHN

	Mohawk College
Prince Edward Island	Niagara College
Collège de l'Île-du-prince-Edouard	Northern College
Holland College	Sault College
	Seneca College
Saskatchewan	Sheridan College
Carlton Trail College	St. Clair College
Collège Mathieu - Saskatchewan	St. Lawrence College of Applied Arts and Technology
Cumberland College	
Great Plains College	**Yukon**
North West Regional College	Yukon College
Northlands College	
Parkland College	**Northwest Territories**
Saskatchewan Polytechnic	Aurora College
	Collège Nordique francophone
	Federal
	Canadian Coast Guard College

Continued

Colleges and CEGEPS (CONT.)

Québec: CEGEPS	**CEGEPS (continued)**
Cégep André-Laurendeau	Collège de Bois-de-Boulogne
Cégep Beauce-Appalaches	Collège de Maisonneuve
Cégep de Baie-Comeau	College de Valleyfield
Cégep de Chicoutimi	Collège Gérald-Godin
Cégep de Drummondville	Collège Lionel-Groulx
Cégep de Granby Haute-Yamaska	Collège Montmorency
Cégep de Jonquière	Collège Shawinigan

Cégep de l'Abitibi-Témiscamingue	Dawson College
Cégep de l'Outaouais	Institut de tourisme et d'hôtellerie du Québec
Cégep de la Gaspésie et des Îles	Centre Matapédien d'études collégiales
Cégep de La Pocatière	Institut de technologie agroalimentaire
Cégep de Lévis-Lauzon	
Cégep de Matane	**Private subsidized colleges**
Cégep de Rimouski	Campus Notre-Dame-de-Foy
Cégep de Rivière-du-Loup	Collège André-Grasset
Cégep de Saint-Félicien	Collège Bart
Cégep de Saint-Hyacinthe	Collège Centennial
Cégep de Saint-Jean-sur-Richelieu	Collège Ellis
Cégep de Saint-Jérôme	Collège international des Marcellines
Cégep de Saint-Laurent	Collège international Marie de France
Cégep de Sainte-Foy	Collège Jean-de-Brébeuf
Cégep de Sept-Îles	Collège Laflèche
Cégep de Sorel-Tracy	Collège LaSalle
Cégep de Sherbrooke	Collège Marianopolis
Cégep de Thetford	Collège Mérici
Cégep de Trois-Rivières	Collège O'Sullivan de Québec et Montréal
Cégep de Victoriaville	Collège Stanislas
Cégep du Vieux Montréal	Collège TAV
Cégep Édouard-Montpetit	Collège Universel - Campus Gatineau
Cégep Garneau	Collégial international Sainte-Anne
Cégep Heritage College	École de musique Vincent-d'Indy
Cégep John Abbott College	École de sténographie judiciaire

Cégep Limoilou	École nationale de cirque
Cégep Marie-Victorin	Séminaire de Sherbrooke
Cégep régional de Lanaudière	
Cégep Vanier College	
Cégep@distance	
Champlain Regional College	
Collège Ahuntsic	
Collège d'Alma	