2021 Ontario Report:

Tracking the Impacts of the Pandemic on Digital Learning in Ontario

Report Author:

Dr. Nicole Johnson
Executive Director, Canadian Digital Learning Research Association

Research Team:

Dr. Nicole Johnson
Executive Director, Canadian Digital Learning Research Association

Dr. Jeff Seaman
Director, Bay View Analytics and Director of Analytics, Canadian Digital Learning Research Association

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

ACKNOWLEDGEMENTS

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

Table of Contents

EXECUTIVE SUMMARY

Over the course of 2021, institutions were able to shift from delivering courses primarily online, due to pandemic restrictions, and return to in-person or hybrid (partially online) learning. Although there has been a somewhat renewed sense of normalcy for students and faculty, health concerns persist, and institutions face ongoing challenges as the pandemic continues.

One of the greatest impacts of the pandemic has been the increased interest in teaching and learning online. There is no doubt that many students and faculty struggled in the spring of 2020 when institutions rapidly moved to emergency online course delivery at the pandemic's onset. Yet, as students and faculty became more familiar with an online course modality and the technology required, some realized that they preferred an online or hybrid context.

After a one-year hiatus due to the challenging nature of 2020, the CDLRA resumed our *National Survey of Online and Digital Learning* in Spring 2021. Our key research objective was to assess the ongoing impacts of the pandemic on the state of digital learning in Canada. The survey was conducted prior to the rise of the delta variant, which led the CDLRA to launch a short follow-up survey in the Fall 2021 to explore whether there were changes in responses from spring to fall. The CDLRA also conducted an additional, Ontario-specific study in Fall 2021 to investigate the perspectives of teaching and learning leaders related to changing instructional practices.

Overall, the findings from the research conducted in 2021 indicate a shift at Ontario post-secondary institutions toward greater technology use.

Key Findings:
- There are strong indicators that there will be more hybrid course offerings (e.g., flipped classrooms, hyflex learning, etc.) and increased technology use, regardless of course delivery mode, at Ontario post-secondary institutions.
- Institutions hold the perception that faculty and students have a greater interest in online and hybrid learning (especially hybrid learning) than prior to the pandemic.
- Institutions are planning increases to their technology infrastructure and anticipate greater use of digital teaching materials (including increased support for open educational resources (OER)).
- The need for ongoing professional development for faculty is emphasized throughout the report and nearly all institutions expect to provide further professional development related to online and digital learning.

The mass shift to online course delivery at the onset of the pandemic was a watershed moment for digital learning at Canadian post-secondary institutions and it is becoming clear that the lasting impact will drive innovation and change in the years to come.

Special Note:

Ontario's publicly-funded post-secondary institutions include Indigenous Institutes, colleges, and universities. The CDLRA and eCampusOntario have welcomed conversations with stakeholders from Indigenous Institutions and affirm that the voices, perspectives, and histories of Indigenous Peoples are critical for the understanding of the landscape of online and digital learning. Through ongoing work with Indigenous Institutes, eCampusOntario has identified a number of priorities for Indigenous learners and communities which will continue to inform future programs and services, such as protecting Traditional Knowledge and increasing access to digital fluency training for faculty and staff. eCampusOntario and the CDLRA are working to ensure future reports include Indigenous Institutes as an equal and third pillar in the Ontario postsecondary system.

INTRODUCTION

The 2021 Ontario Report on the annual National Survey of Online and Digital Learning focuses on the ongoing impact of the COVID-19 pandemic on institutions in Ontario. The report brings together the findings from three research efforts: the 2021 National Survey of Online and Digital Learning conducted in the spring of 2021 (referred to in this report as the National Survey), a qualitative study on the perspectives of teaching and learning leaders (referred to as the Teaching and Learning Study), and a short follow-up survey to the National Survey conducted in Fall 2021 (referred to as the Fall Follow-Up Survey).

All our research efforts focused on the following themes:

- Institutional challenges during the 2020-21 academic year

- Anticipated trends

- Teaching and learning preferences, expectations, and changes

- Effective instructional practices for digital learning contexts

- Faculty professional development

- How to best track the growth of online and hybrid learning going forward

- Lessons learned from the pandemic experience (related to digital learning)

In this report, we present Ontario-specific findings for the above themes followed by a discussion of the implications for post-secondary education in Ontario going forward. The collective findings represent 71% of Ontario publicly-funded institutions. Further details about the research methods can be found in the methodology section of this report.

In all our 2021 research initiatives, when asking open-ended questions, we asked institutions whether they would prefer to remain anonymous or whether they would like to be quoted and named in our reports. As a result, the 2021 Ontario Report features direct quotes from institutions and interview respondents who desired to publicly showcase the work that they are doing to support and advance digital learning. We thank these institutions for their willingness to share their experiences and practices openly with others.

INSTITUTIONAL CHALLENGES DURING THE PANDEMIC

As part of the National Survey, the CDLRA asked institutions across Canada about their most pressing challenges during the 2020-21 academic year.

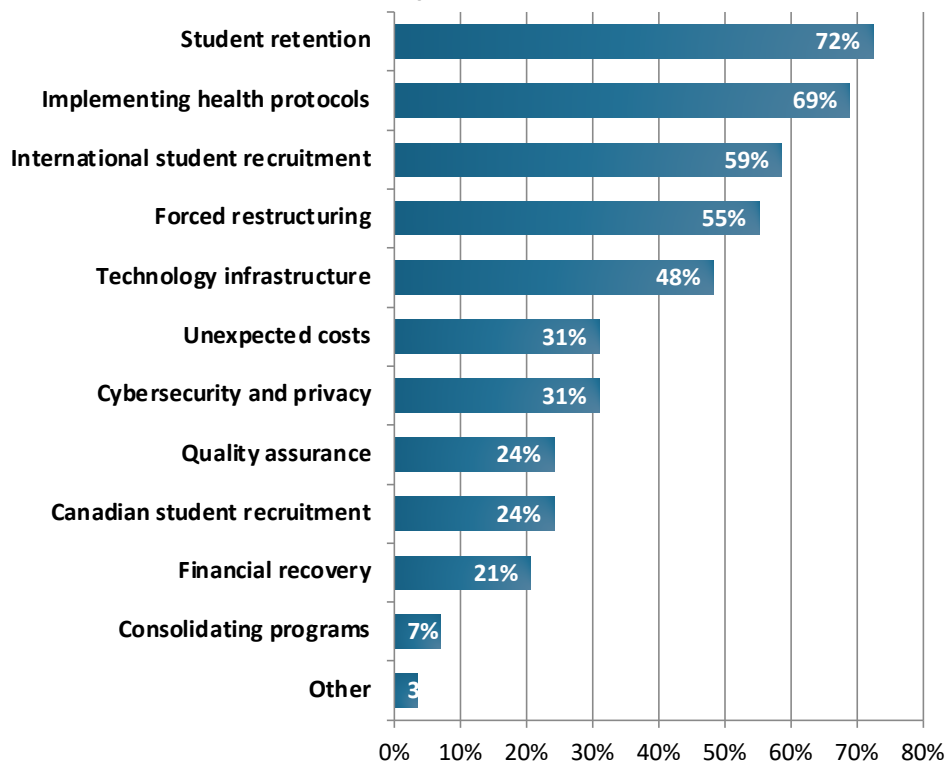**Challenges Related to Institutional Operations**

Most courses at Canadian institutions were delivered online in the Fall 2020 and Winter 2021 semesters and any activity on campus had to adhere to provincial health orders. To identify critical challenges related to institutional operations within the pandemic context, the survey listed a series of challenges and participating institutions were asked to select up to five challenges that they deemed most pressing. The challenges we listed in the survey (seen in the chart below) were informed by our previous studies on the impact of the pandemic and through discussions with institutional leaders, government working groups, and other organizations that work with post-secondary institutions.

In Ontario, student retention (72%) and implementing health protocols (69%) were the most pressing challenges related to institutional operations. Other pressing challenges identified by the majority of responding institutions were international student recruitment (59%) and forced restructuring (55%). Nearly one-half of institutions (48%) reported technology infrastructure as one of their top 5 most pressing challenges.

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

Ontario: Challenges relating to institutional operations

Challenge	Percentage
Student retention	72%
Implementing health protocols	69%
International student recruitment	59%
Forced restructuring	55%
Technology infrastructure	48%
Unexpected costs	31%
Cybersecurity and privacy	31%
Quality assurance	24%
Canadian student recruitment	24%
Financial recovery	21%
Consolidating programs	7%
Other	3

To better understand the nuances of the pandemic challenges, the survey also posed an open-ended question asking participants to describe any strategies that they have implemented to overcome these challenges. Some common strategies included:

- Increased professional development for faculty on best practices for teaching online

- Institutional working groups to facilitate decision-making and to address health and safety protocols

- Procurement and implementation of new technologies

- Staff redeployments to balance workloads and to provide additional supports for online learning

The following quotes further illustrate some strategies used to overcome institutional operational challenges at a time when widespread online course delivery was required:

"Remote program delivery to maintain international enrolment including extensive training for faculty to engage students in this modality." ~Ontario College

"Increased forecasting and reporting was used to track unanticipated costs associated with the pandemic. Where possible, some staff were redeployed to other areas that required additional support." ~Ontario University

"Staff were issued secured laptops to ensure continuity of business processes in a secure online environment." ~Ontario University

"Employee furloughs were established to contain costs. Numerous health and safety protocols consistent with those prescribed by Public Health Ontario. Additional steps were applied to enhance recruitment activities in order to mitigate declines in enrolment." ~Ontario College

"Emergency funding enabled software licensing to support online delivery." ~Ontario University

Challenges Related to Faculty and Students

With regard to faculty and students, many had not experienced online education prior to the onset of COVID-19 pandemic. Institutions put forth considerable effort in providing professional development for faculty and making preparations to deliver instruction primarily online during the 2020-21 academic year. In the National Survey, institutions were asked to reflect upon the 2020-21 academic year and identify up to five challenges (from the options listed in the chart below) related to faculty and students that they deemed to be most pressing.

For Ontario institutions, the primary challenges were student stress and mental health (90%), faculty stress and mental health (76%), and online assessment practices (76%).

Ontario: Challenges relating to faculty and students

Challenge	Percentage
Student stress and mental health	90%
Faculty stress and mental health	76%
Online assessment practices	76%
Faculty attitudes toward online	55%
Student access to technologies	41%
Student engagement with school community	38%
Addressing inequities	34%
Student attitudes toward online	31%
Faculty access to technologies	24%
Faculty engagement with students	21%
Student learning outcomes	3
Other	3

The survey also asked institutions two open-ended questions related to faculty and student challenges. The first question was: Please describe strategies, if any, that you have implemented to overcome the challenges that you have encountered over the past 12 months?

The strategies described by institutions included increased professional development and teaching support for faculty, financial support or loaner devices to ensure students had access to technology, and increased health and wellness supports for faculty and students alike. Several institutions also described how they used the challenges of the pandemic context as an opportunity to rethink their assessment practices.

Below are several direct quotes from institutions describing in more detail the strategies they implemented to overcome faculty and student challenges:

Carleton University:

"We re-designed and adjusted our professional development opportunities for instructors and teaching assistants so that they allow for flexibility and help meet instructors' individual needs while building their skills and confidence. Some of the activities include:

- *Facilitating faculty-led sessions on their practices "Welcome to my online classroom"*

- *Creating templates and guides on all aspects of digital teaching and learning*

- *Substantially increased staffing to support instructors, TAs, and teaching staff, including extended and weekend hours*

- *Created a technology library to ensure that instructors and TAs had access to appropriate tech including Internet access, tablets, webcams, microphones, etc.*

- *Outreach and communication – we visited every academic unit multiple times to answer questions and share discipline-specific practices related to teaching in an online environment.*

- *Established a Shared Online Projects Initiative in collaboration with uOttawa to encourage online course development that could be shared between the two institutions*

- *Established the Students as Partners program which brought faculty and students together to co-design courses suitable for online [delivery]."*

Durham College:

> *"At the outset of the pandemic, students who did not have laptops and/or Internet access were provided with 'loaner' technologies so they could continue their studies. Numerous additional (primarily online) supports were quickly established to assist students and faculty in the area of mental health and stress management. Extensive supports were provided to faculty to help them pivot to online delivery. While some online tests continue to be used, a high percentage of courses have now shifted assessment practices to move away from tests/exams and towards assignments."*

Northern College:

> *"Online assessments were a very challenging situation and academic integrity was brought to the front of the line as something that really needed to be addressed. In the end it also became more about developing a different form of assessment strategy."*

The second open-ended question, related to faculty and student challenges, was: Do you have any recommendations for other institutions that may be struggling with faculty and/or student resistance toward teaching and learning online?

Common recommendations from institutions included providing faculty with training related to online education, establishing communities of practice, and celebrating their successes. For students, institutions recommended implementing virtual initiatives to facilitate socialization and engagement with their instructors and peers. Several institutions also highlighted the importance of listening to concerns (from both faculty and students) and ensuring that adequate supports and resources are in place.
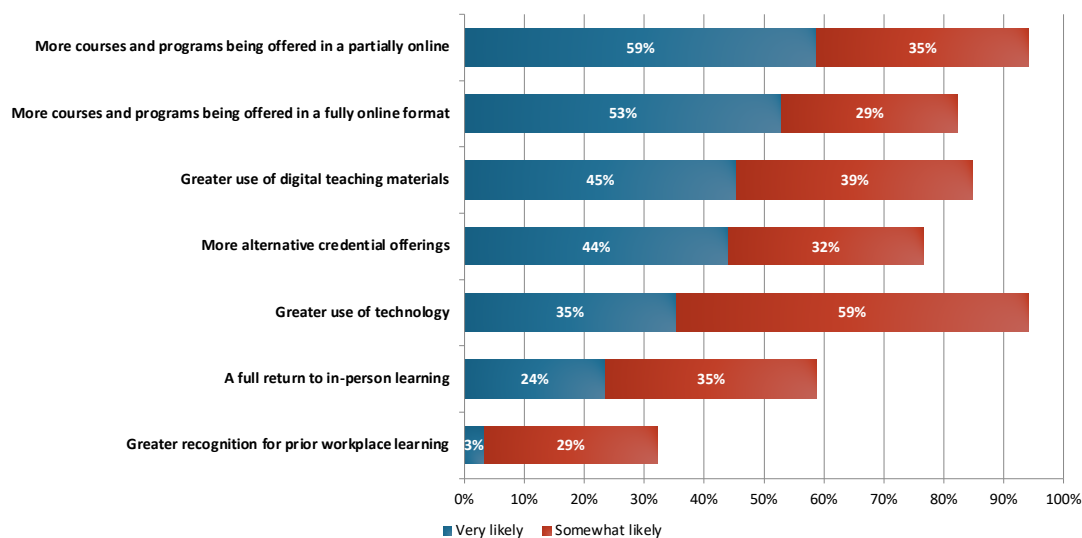
ANTICIPATED TRENDS

Institutions were asked the same questions about anticipated trends in both the National Survey and the Fall Follow-up Survey. The charts below reflect the collective findings from the two surveys and provide insights as to how various forms of digital learning may grow and evolve in the coming years at Ontario post-secondary institutions.

With regard to course offerings in different modes of delivery (e.g., online, hybrid, in-person), the vast majority of institutions (94%) reported that they expect to see more courses and programs offered in a hybrid (partially online) format. Similarly, 82% expected to see more fully online courses and programming. The findings also showed consensus among institutions that there is likely to be a greater use of digital teaching materials and technology as well as more alternative credential offerings.

The one area where institutions did not expect to see growth this year was recognition for prior workplace learning.
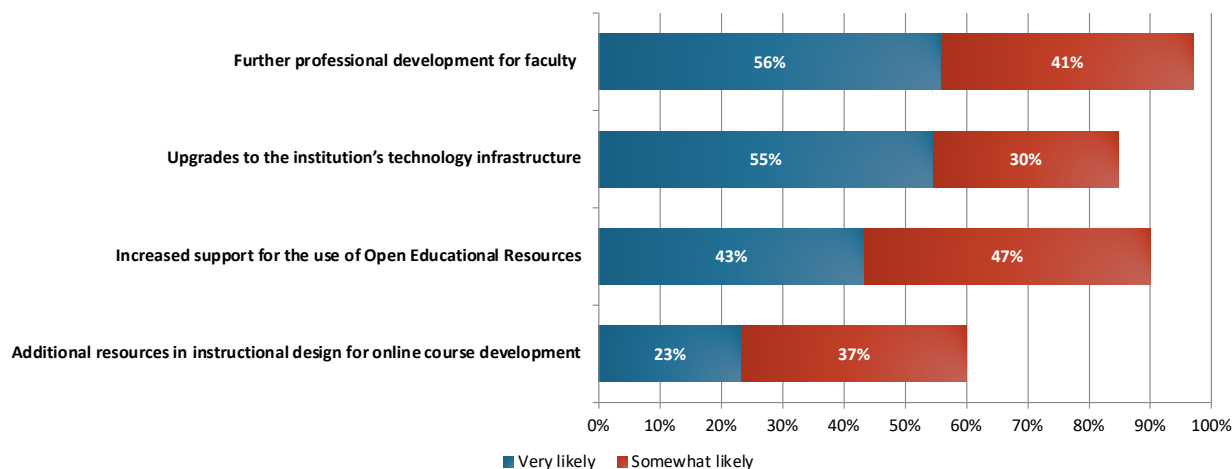
With the state of the pandemic in flux, there has been a sense of ambiguity around whether a full return to in-person learning would be likely by January 2022. At the point of writing this report, many institutions are offering on-campus learning; however, new COVID-19 variants continue to emerge that may impact how courses are delivered.

Ontario: Offerings: What is the likelihood of the following happening at your institution by the 2022 Winter semester (e.g., January 2022)?

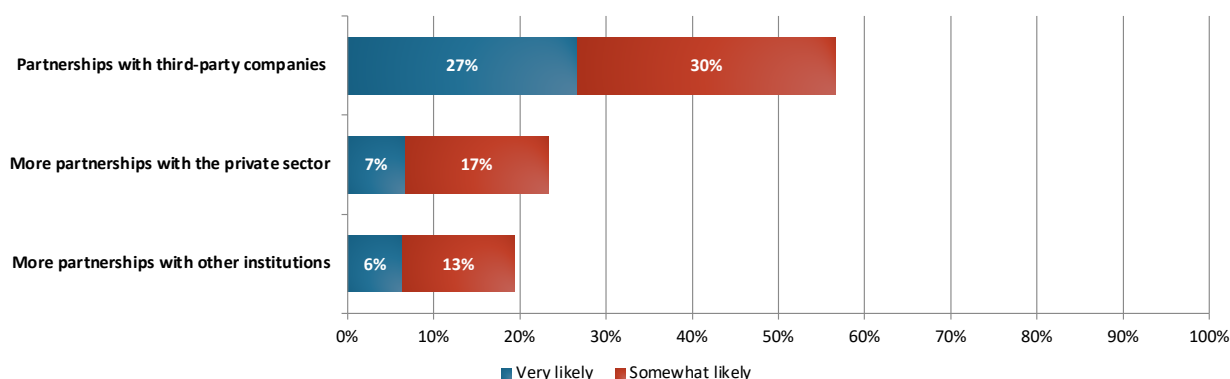| Category	Very likely	Somewhat likely
More courses and programs being offered in a partially online	59%	35%
More courses and programs being offered in a fully online format	53%	29%
Greater use of digital teaching materials	45%	39%
More alternative credential offerings	44%	32%
Greater use of technology	35%	59%
A full return to in-person learning	24%	35%
Greater recognition for prior workplace learning	3%	29%

When asked about types of supports that would be likely by January 2022, nearly all Ontario institutions expected to provide further professional development for faculty (97%). A strong majority of institutions also expected to provide upgrades to the institution's technology infrastructure (85%) and increased support for the use of OER (open educational resources) (90%). Many institutions (60%) anticipated that they would have additional resources in instructional design for online course development.

Ontario: Support: What is the likelihood of the following happening at your institution by the 2022 Winter semester (e.g., January 2022)?

Category	Very likely	Somewhat likely
Further professional development for faculty	56%	41%
Upgrades to the institution's technology infrastructure	55%	30%
Increased support for the use of Open Educational Resources	43%	47%
Additional resources in instructional design for online course development	23%	37%

Institutions appear to have some interest in partnerships to support digital learning, particularly partnerships with third party companies (e.g., companies that are able to help institutions with support or funding). Just over half of institutions (57%) reported that partnerships with third-party companies were likely, which was significantly higher than the likelihood of having more partnerships with the private sector (24%) or more partnerships with other institutions (19%).

Ontario: Partnerships: What is the likelihood of the following happening at your institution by the 2022 Winter semester (e.g., January 2022)?

Category	Very likely	Somewhat likely
Partnerships with third-party companies	27%	30%
More partnerships with the private sector	7%	17%
More partnerships with other institutions	6%	13%

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

TEACHING AND LEARNING

For nearly two years, the teaching and learning landscape at post-secondary institutions in Ontario, and across the country, has been profoundly changed. Many faculty and students with little to no previous online learning experience found themselves facing a steep learning curve in March of 2020 at the onset of the pandemic. Yet, as the pandemic has progressed, so have faculty and student comfort levels in terms of digital and online learning.

One of the CDLRA's research objectives for 2021 was to better understand how teaching and learning has changed from an institutional perspective. To capture the nuances of this change, the National Survey asked several open-ended questions related to teaching and learning along with multiple choice questions about student preferences, student expectations, faculty attitudes, and faculty support. Further, our Teaching and Learning Study conducted in Fall 2021 asked a series of open-ended questions focusing on the perspectives of teaching and learning leaders in Ontario. In this section, we bring together the findings related to teaching and learning from the National Survey and the Teaching and Learning Study.

Perceptions of Student Experiences

The National Survey asked institutions the following open-ended question: What feedback have you had from students about remote/online course delivery during the pandemic and how is this feedback impacting your plans for the 2021-22 academic year? The responses to this question suggest that students expect quality learning experiences in online learning contexts, consistent learning tools and technologies across courses, and greater flexibility.

Below are a series of quotes that provide insight into the feedback that institutions have received from students:

Quality Learning Experiences

> *"The feedback has changed over the course of the last 12+ months. The rapid move to remote [learning] was challenging for students, but there was a degree of forgiveness at that time. As long as supports were in place to help students deal with the pivot, students, for the most part, were accepting of the new reality. Once we were more settled, student expectations increased and that put an increasing demand on the college to better prepare our faculty and keep a closer eye on quality." ~Ontario College*

Consistent Learning Tools and Technologies

"Consistency of use by our faculty of the learning management system continues to be a challenge." ~Ontario College

"Too many tools was a complaint expressed by students. We are addressing this in that it is unreasonable to expect students to become comfortable and do well in multiple courses where there are different tools used in different courses." ~Ontario University

"Students do not want to have a ton of technology. They expect that the existing technology is reliable." ~Ontario University

Greater Flexibility

"There is not one answer for these questions. Many want and expect more online and many want and expect more in person and on campus." ~Ontario University

"They do appreciate the flexibility afforded by online learning, and we will endeavour to provide this moving forward." ~Ontario College

"Overall, most of our students were satisfied with their online courses, and they appreciated the flexibility. They also felt that online courses are more accessible . . . to ensure that students have flexibility in the Fall 2021 academic term, we will be implementing the HyFlex teaching model, in which students will choose for each class whether to attend in person or online. We are updating several learning spaces to allow for HyFlex instruction." ~Ontario University

"Many students appreciate the additional flexibility of online courses/programs." ~Ontario College

"We have run Online Learning Experience Student Surveys in each term since Spring 2020 to gather student perspectives and understand their experiences. Focus groups have also been conducted. Additional tools and strategies have also been integrated into cyclical program review activities. There are numerous take-aways from the data, but the main one is that students are diverse and have diverse needs, and are best served by a range of hybrid approaches to curriculum delivery that give them flexibility and agency to self-direct their learning in relation to their own lived experiences." ~Ontario University

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

Additionally, as seen in the following quotes, students desired to feel a sense of connection to their peers when learning in online contexts:
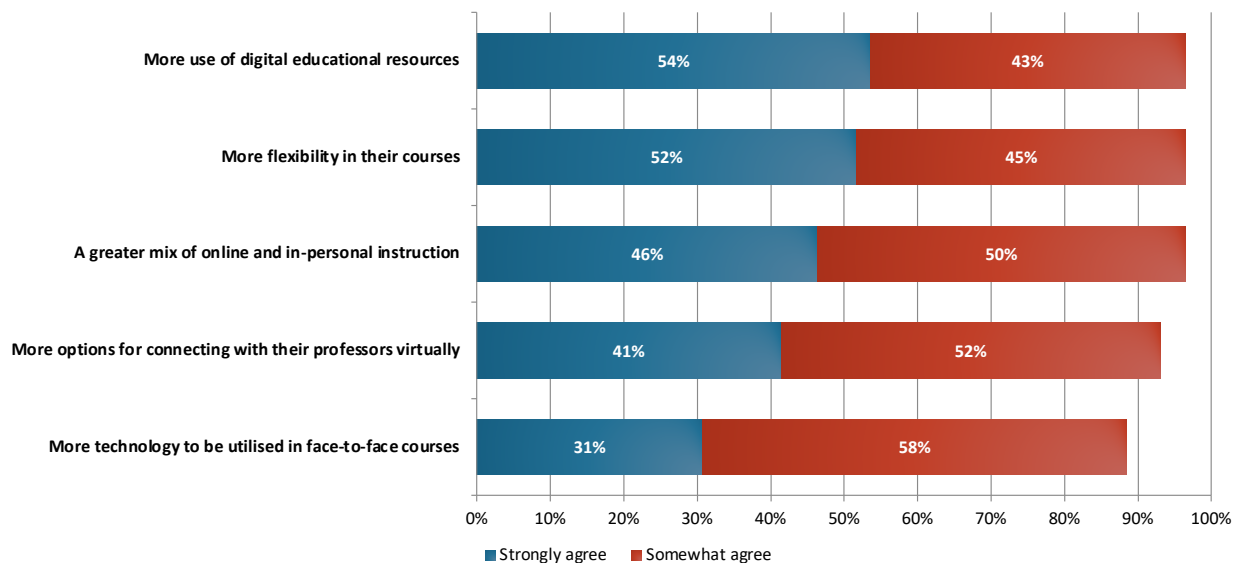
> *"On the other side, compared to learning in a face-to-face setting, students found the workload in their online courses to be more demanding, and they identified the lack of in-person contact with their peers and instructors as a challenge for them in adapting to online learning." ~Ontario University*

> *"Students have voiced concerns around the need for greater connectivity - both with peers and faculty - in the online environment. Our Centre for Teaching and Learning will continue to expand its professional development offerings for faculty to develop communities of learning within their courses." ~Ontario College*

> *"Many students have expressed concern at the loss of face-to-face relationships and the loss of casual on-campus meetings, conversations, etc. Some students with disabilities have found online delivery better for them -- easier to attend classes, access lectures and notes, and participate in discussions." ~Ontario University*
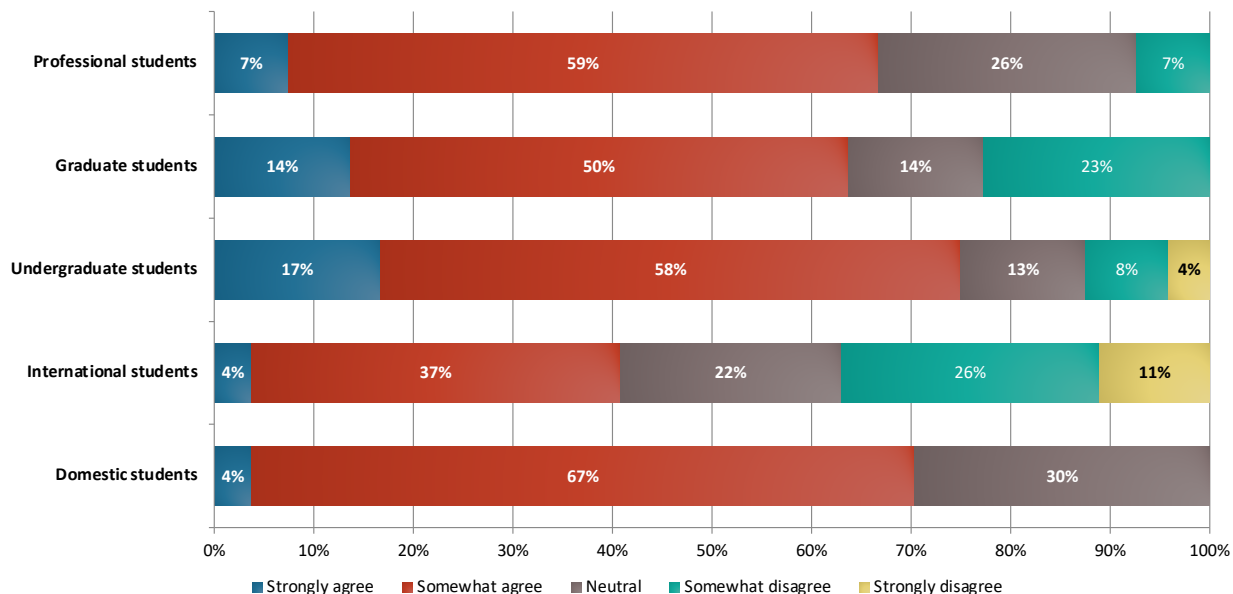
The data from the multiple-choice questions asked in the National Survey show that institutions overwhelmingly agree that students will expect far more digital learning opportunities and technology use as part of their post-secondary experience going forward.

Ontario: Compared to Fall 2019, to what extent to do you agree with the following statements about student expectations for digital learning in the 2021-22 academic year?

	Strongly agree	Somewhat agree
More use of digital educational resources	54%	43%
More flexibility in their courses	52%	45%
A greater mix of online and in-personal instruction	46%	50%
More options for connecting with their professors virtually	41%	52%
More technology to be utilised in face-to-face courses	31%	58%

Ontario institutions also perceive that undergraduate students are most likely to prefer online courses. International students are the one group for which online learning is perceived as a less likely preference.

Ontario: Students at my institution are more likely to prefer online courses in the 2021-22 academic year than prior to the pandemic

Group	Strongly agree	Somewhat agree	Neutral	Somewhat disagree	Strongly disagree
Professional students	7%	59%	26%	7%	
Graduate students	14%	50%	14%	23%	
Undergraduate students	17%	58%	13%	8%	4%
International students	4%	37%	22%	26%	11%
Domestic students	4%	67%	30%		

■ Strongly agree ■ Somewhat agree ■ Neutral ■ Somewhat disagree ■ Strongly disagree
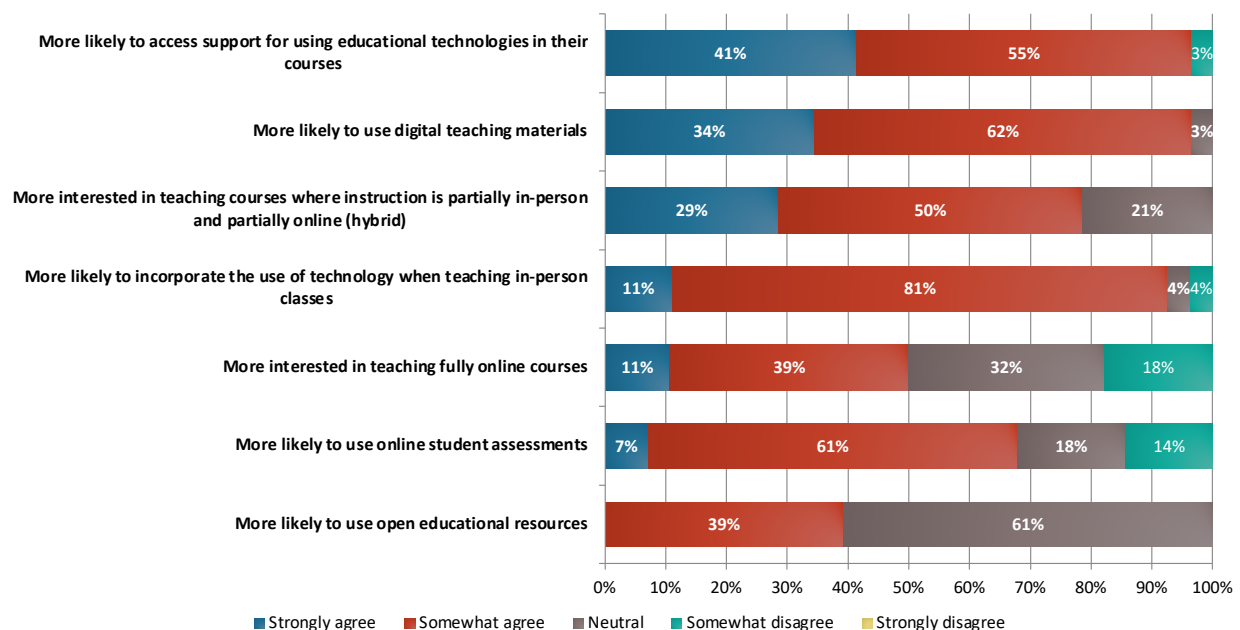
Perceptions of Faculty Experiences

The National Survey asked institutions two multiple choice questions about perceptions of faculty experiences. The first question focused on institutional perspectives on faculty attitudes related to online learning, the use of digital resources, and the use of technology. The second question focused on the support and resources available to faculty to facilitate online and digital learning.

In comparison to Fall 2019, before the pandemic, almost all Ontario institutions agree that faculty are more likely to access support for using educational technologies in their courses (96%) and to use digital teaching materials (96%). Institutions also largely agreed that faculty are more likely to incorporate the use of technology when teaching in-person classes (91%). Ultimately, from an institutional perspective, there is mostly consensus that Ontario faculty are more interested in teaching in digital contexts, particularly hybrid contexts (79%) and are more likely to use digital resources and technologies than they were pre-pandemic. The one exception appears to be with OER. Although, Ontario institutions reported that 96% of faculty are more likely to use digital teaching materials, only 39% of these institutions reported that faculty are more likely to use OER.
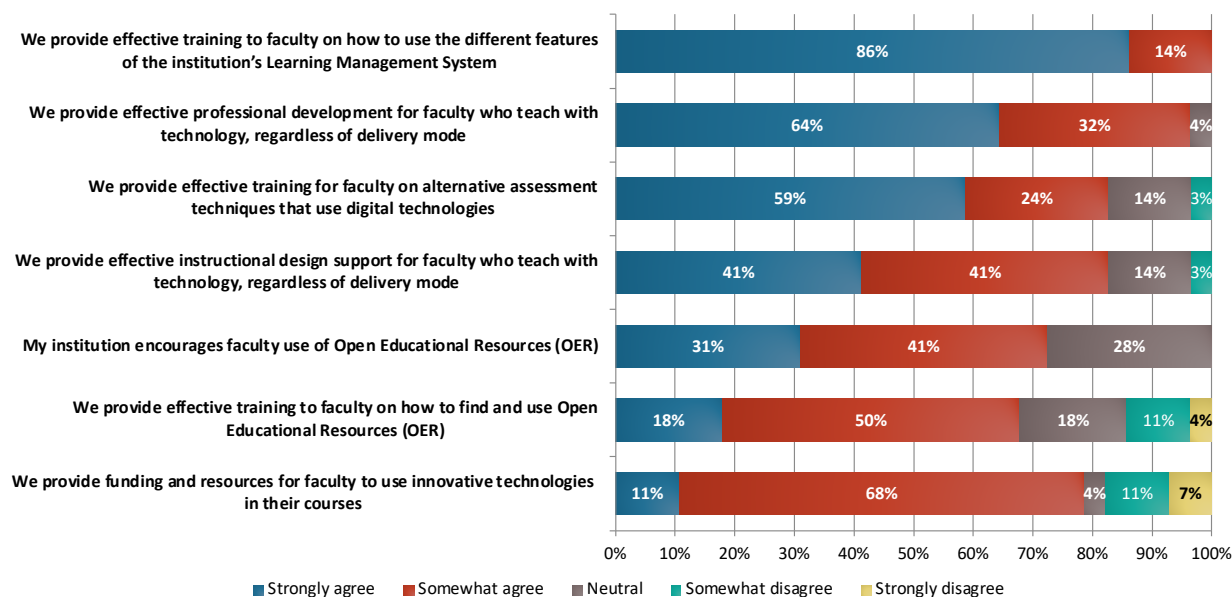
Ontario: Faculty at my institution are...

Given the trend toward increased interest in digital learning and increased technology use among faculty, the majority of Ontario institutions reported that they are providing various supports and resources to faculty related to digital learning. Supporting faculty in the effective use of the institution's learning management system (LMS) is a top priority, with all responding institutions agreeing to some extent that they provide effective training in this regard. Ontario institutions also mostly agree that they provide effective professional development for faculty who teach with technology (96%), that they provide effective training for faculty on alternative assessment techniques that use digital technologies (83%), and that they provide funding and resources for faculty to use innovative technologies in their courses (79%).

Institutions have reported that they are more likely to increase the support for OER (as reported in the section on anticipated trends) but that only 39% of institutions agree to some extent (as reported on the previous chart) that faculty are more likely to use OER. With this in mind, it is noteworthy that support and resources for OER ranked the lowest on the chart below: 72% of Ontario institutions agree to some extent that they encourage faculty use of OER and 68% agreed to some extent that they provide effective training to faculty on how to find and use OER (with most of the responses being "somewhat agree" rather than "strongly agree"). Collectively, these findings indicate that it may be beneficial for institutions to offer additional training to faculty regarding the use of OER.

Ontario: To what extent do you agree with the following statements about support and resources for faculty at your institution?

The National Survey also asked institutions about any feedback they have received about faculty interest in teaching online and incorporating the use of digital technologies into their classes. The quotes below illustrate some of the common responses:

"Many faculty are genuinely interested in trying new types of technology for engagement and student success. Some faculty cannot wait to return to in-person teaching with zero LMS or educational technology. They prefer their classrooms and labs. Academic integrity of digital assessments continues to be a huge issue. We conducted a pilot of online proctoring (with facial recognition) that was a disaster (Proctortrack). We have piloted several enterprise-wide options including Zoom (very successful), Padlet, Grammarly, and Nearpod. We anticipate faculty will want to keep these technologies" ~Ontario College

"While the initial transition to online teaching was difficult, the pandemic experience "demystified" online learning and faculty members now have a much better understanding of how online and blended approaches can enhance their face-to-face classes. The faculty's confidence in the use of many edtech tools have significantly increased, as well as their awareness of all pedagogical and technological support resources on campus. Going forward, many faculty members will continue to incorporate digital resources and tools in their on-campus classes." ~Ontario University

"It's 50/50 and depends on the program. Some faculty love it and others hate it." ~Ontario College

"Many like the online teaching format, while there are some who very much wish to return to campus. My impression, however, is that longer term, the use of digital technology will be increased compared to pre-covid levels, regardless of whether teaching is happening in-person or online." ~Ontario College

"Faculty requests for more ed tech tools and more support appears to be insatiable. At times we struggle to keep up with the demand for training and the demand for new/better/enhanced tools. We try to leverage licenses through eCO [eCampusOntario], but even then the appetite is voracious and we have to make difficult decisions with regards to what tools we can afford." ~Ontario College

"There is a mix in terms of faculty attitudes and dispositions. Some like the variety and have embraced the educational technologies for teaching and learning. They have embraced this circumstance as personal and professional development. Others remain eager to return to the face-to-face classroom." ~Ontario University

"While not systematically collected, there have been a number of faculty vocally expressing a desire to teach more online, hybrid, and technology enabled courses, with some suggesting a shift away from traditional lectures to more active learning approaches for in-person learning. Faculty have expressed in a number of venues that they wish to maintain some of what they have learned over the course of the pandemic when they are able to go back to in-person teaching. Approximately 85 courses will be taught in a modified form of hyflex teaching in Fall 21, which indicates that despite the desire to be back on campus, there is a willingness to continue using technology and even exploring new ways of teaching." ~Ontario University

Teaching and Learning Study

In Fall 2021, the CDLRA reached out to teaching and learning leaders at Ontario post-secondary institutions to investigate their perspectives on instructional practices that have emerged, shifted, or become more prevalent during the pandemic. The research team collected data through interviews (two participants) and an open-ended survey (nine participants). Participants were asked how teaching and learning has changed at their institution, effective teaching and assessment practices, professional development needs for faculty, and top lessons learned during the pandemic.

With regard to how teaching and learning practices have changed during the pandemic, nearly all participants commented that faculty have become more comfortable and skilled with online instruction and technology use, regardless of their personal preferences. Several participants noted faculty attitudes are now more positive toward online learning, compared to pre-pandemic times, and there is a sense of openness among faculty to try new ways of teaching.

As noted by a teaching and learning leader at an Ontario institution,

> *"Many profs discovered new ways to teach, deliver content, hold discussions, meet with students, meet students' needs, etc. They also developed a new openness to creative ways to engage students and other scholars. As a result of the pandemic, there is definitely a willingness on the part of faculty to experiment with technology for teaching and learning. Now that they have both remote teaching and in class teaching experience, some faculty have agreed to teach in a hybrid modality - teaching to both face-to-face and remote learners at the same time. Many faculty now make more use of the learning management system as opposed to a reliance on paper-based delivery of content, completion of quizzes, retrieval of assignments, and posting of grades."*

Participants also highlighted several teaching and assessment practices (listed below) that emerged during the pandemic, which they identified as particularly effective.

Effective teaching practices included:

- Shorter lectures

- Recorded lectures

- Taking advantage of technological affordances for collaboration (e.g., virtual breakout rooms for small group discussion)

- Creating opportunities for learners to get to know one another and develop a sense of community

- Virtual work-integrated learning placements

Effective assessment practices included:

- Alternative assessments to exams

- Open book exams

- Conversational assessments (e.g., students responding verbally to a series of questions)

- Multimodal student presentations

- Continuous assessment throughout the semester

In relation to faculty needs, the Teacher and Learning Study participants identified several pressing professional development needs that included the following topics: rethinking assessment practices, how to make coursework more accessible for learners, facilitating student engagement, and how to teach effectively in multiple course delivery modes (e.g., online, hybrid, in-person).

One participant commented:

> "What is now needed are faculty development workshops geared toward integrating these new approaches and techniques [that emerged during the pandemic] from a thoughtful pedagogical and design perspective to ensure that such innovative ways are maximized for teaching and learning."

Research conducted by the CDLRA in 2020, identified hands-on and experiential learning as being a particular challenge for institutions during the mass shift to online course delivery. To explore strategies and innovations to overcome this challenge, Teaching and Learning Study participants were asked to share their top lesson learned during the pandemic for hands-on or experiential learning. Below is a collection of the responses:

> "XR technologies can provide a solid introductory component to hands-on learning, so that when students are working within lab settings, they already understand the basics. For experiential learning, a number of employers were able to provide virtual opportunities that worked well for students." ~Ontario College

> "As a College, we had permission to continue required hands-on programs in certain vocations such as welding, carpentry, heavy duty, health sciences such as dental, ultrasound, etc. Theory courses for these programs were taught online when possible. We had to manage smaller class sizes and therefore we were stretched in terms of lab time and staffing. For many of these programs the hands-on components could not be accomplished safely or effectively in virtual or online contexts. In terms of the theory courses, we learned that there are many imaginative ways to simulate traditionally in-person experiences in virtual environments. Group work, presentations, discussions, debates, etc." ~Ontario College

> "There aren't many 'ready-to-use' alternatives to experiential components of courses. We looked for platforms that we could easily create our own content for in simulations." ~Ontario College

"In order to integrate digital hands-on or experiential learning components into remote or online courses, a lot of planning and design thinking is required. Many substitutes were utilized during the pandemic and were acceptable for the situation (e.g. online labs, simulations, virtual activities, and "MacGyvered" activities designed by profs with items students are likely to have at home). In order to integrate these experiences moving forward, however, thoughtful planning and design should be considered." ~ Ontario institution

"As an institution, we were encouraging people to be more creative in their thinking about what counts as experiential learning, in particular about co-op experiences, and so a number of experiential opportunities went online. It allowed us to think through what counts as an experiential opportunity and what does not . . . More opportunities were created to examine the curriculum in terms of what underpinned the hands-on opportunities. In some cases, students were doing things at home. They received equipment at home, if that was possible, and filmed themselves . . . Overall, the pandemic afforded us an opportunity to reflect on our assumptions about what constitutes these kinds of opportunities and to explore different pedagogical opportunities, but the need for in-person learning did not go away." ~Ontario University

"My top lesson learned is that we train the faculty and make sure to teach them how to teach well in a multimodal way. I would recommend that it [multimodal teaching training] be mandated before they start teaching." ~Ontario University

Teaching and learning leaders at Ontario post-secondary institutions reported that students expect flexibility, quality, user-friendly technology, and a sense of connection and community with their peers in their courses. The participants also noted that many faculty are interested in rethinking their teaching practices to add opportunities for innovation and to facilitate student engagement. Lastly, the participants identified a strong need for professional development to train faculty in effective teaching practices for multiple modes of course delivery.

TRACKING THE GROWTH OF ONLINE AND HYBRID LEARNING

Since 2017, one of the CDLRA's primary initiatives has been the tracking of online enrolment data. Our previous data gathering efforts between 2017 and 2019 revealed a lack of consistency in the data, both within and across institutions nationwide. In 2021, when the CDLRA resumed our annual national survey, we focused our efforts on better understanding the source of problems with gathering consistent data in previous years. We found that inconsistent definitions relating to online and digital learning were at the root of the problem.

The 2021 National Survey and Fall Follow-up Survey asked Ontario institutions whether they have a single institutional definition for the following terms related to digital learning: online learning, remote learning, distance learning, and hybrid learning. Roughly three-quarters of Ontario institutions have an institution-wide definition for online learning and approximately two-thirds have a single definition for hybrid learning. Of the institutions that did not have a single, institution-wide definition, some reported having varying definitions at their institution or no definition at all.

Although the majority of Ontario institutions have a single institutional definition for online learning and hybrid learning, the CDLRA's previous work on collecting online course enrolments signaled that these definitions may also vary from institution to institution. To investigate this further, the National Survey asked institutions with single, institution-wide definitions to share their definition as an open-ended response. The findings from this question showed considerable variance in how key terms are defined from institution to institution. The CDLRA has addressed this in more detail in a special report on definitions (http://www.cdlra-acrfl.ca/2021-cdlra-definitions-report/).

More work is needed on establishing common definitions for key terms related to digital learning going forward.

IMPACT OF THE PANDEMIC

The National Survey asked two open-ended questions to explore the lasting impact of the pandemic on operational and teaching practices at Canadian post-secondary institutions. Below are the questions that were posed and a collection of insightful responses from Ontario post-secondary institutions that emphasize trends toward increased flexibility, more online and hybrid course offerings, continued professional development for faculty to support best practices in digital learning, and more technology use in teaching regardless of mode of delivery.

Operational Practices

Question:
Assuming the pandemic is under control and institutions are able to return to a more normal way of operating, in what ways will your institution's pandemic experiences impact your practices for the 2021-22 academic year as compared to Fall of 2019?

Insights:

> *"Student Success Central was able to make many resources virtual as a result of the pandemic. We will continue to offer these types of supports based on the increase of student access."*

> *"More services offered remotely as opposed to using the campus as the primary source for receiving services, likely including Registrarial Services, tutoring, counselling. Hours of operation are likely expanded into evenings, and weekends."*

> *"We have significant faculty buy-in for blended and flexible digital models of learning that we did not have in Fall 2019. Mixed-mode program delivery will be our norm going forward. Change management has become easier to enact and we will continue the strong practices of consultation and communication with students, faculty, and staff that help make change more successful. We have established strong relationships and teaching and learning strategy sharing practices with other Ontario colleges, we anticipate this will remain as a norm going forward."*

> *"Increased alternatives and approaches for teaching (synchronous teaching tools are viable ways to offer online courses in specific contexts, disciplines, and teaching strategies), HyFlex as an approach to support student choice/flexibility."*

"Professional development of our teaching community has worked extremely well. This includes consultations and small group sessions. In some ways, this has worked better than in-person sessions."

"While in-person services will return for students in Fall 2021, online options will continue and be significantly more prevalent than in Fall 2019."

"There will be an increase in the number of employees who work from home. HyFlex delivery of student wrap-around services and faculty supports will increase. This will lead to greater efficiency and access to these services and supports. There will also be an increase in online course delivery compared to Fall 2019."

"We have a better sense of what "flexible learning and delivery" means and we will leverage what we have learned to ensure that students have (should) have more options when it comes to their higher education needs."

"We also have a better understanding of how accelerated programs and more competency-based programming (micro credentials for examples) can enhance our offerings."

"An agile workforce policy is being developed to better support remote learning and staff work going forward, incorporating lessons learned during the pandemic about technologies, engagement, and core business."

"We anticipate that faculty will be more comfortable in intentionally using educational technologies in their courses and will seek innovative ways to engage with students. We encourage pedagogical innovation by establishing a task force exploring four areas: assessments, experiential and community-engaged learning, diverse learning, and cross-discipline teaching."

"We anticipate new models of delivery being available ongoing. Hybrid models may be continued in some program areas to provide flexible options for students and optimization of time on campus/in the classroom. Some graduate programs may retain courses in online and hybrid formats that have been shown to be popular with more mature learners who are balancing other life-work needs."

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

Question:
 With regard to teaching and learning, what are several practices that your institution will be carrying forward based on your pandemic experiences?

Insights:

> *"Live virtual professional development sessions, guest speakers and featured webinars from other organizations, asynchronous professional development opportunities, curation of current and relevant literature and examples of digital practice, collaboration on professional development with other schools, continuing exploration and pilots of effective engagement tools and pedagogically relevant ed tech."*

> *"The pandemic highlighted the importance of student experience and student-centred learning environments and enhanced our institutional focus on learning spaces (digital and face-to-face) that are diverse, inclusive, caring and innovative. The pandemic also reinforced the idea that institutional investments in educational technologies need to be guided by their pedagogical values in supporting student success."*

> *"Providing faculty development opportunities in the same modes students will be experiencing so faculty can experience best practices in: in-person, online asynchronous, online synchronous (remote) hybrid (including Hyflex). Faculty have found this convenient and effective."*

> *"Just in time training (e.g., live webinars) will continue in an online format -- numbers of attendees is better, and it doesn't require faculty to physically travel from one campus to another. In other words, online training is more accessible and sustainable. We may also continue to host keynote speakers virtually, as it eliminates travel expenses and allows for expertise from around the world. Finally, we will be developing more online programming for faculty to engage in (e.g., online micro-credentials)."*

> *"I don't think we will abandon any of the new T+L practices instituted during the pandemic. Tweaks to how and when we offer supports are ongoing, but we don't plan on taking a step backwards in any of our supports."*

"While there has been a mammoth effort to support the practice of teaching and learning remotely, a gap exists in relation to dedicated instructional design. While this is due to the realities of IP and collective agreements, the outcomes are mixed for students. The university's Continuing Education department does offer focused instructional design to the subject matter experts and instructors it works with and the outcomes show this. In a fall 2020 survey delivered across the university to faculty and students, the experiences of teachers and learners in the CE department were considerably more positive than elsewhere on the campus."

"Technology and pedagogical support needs to be available for all courses no matter the mode of delivery. Support for investigation of eTextbooks and OER needs to be expanded."

"Online proctored exams have been a source of student stress and are difficult to administer; alternative methods of assessment will continue to be encouraged and developed."

"We have made strategic investments in technology to support flexible teaching approaches in physical classrooms, as well as in technologies that were previously gaps in the educational technology suite (media creation and management, online assessment tools). We are also heading into a review of the LMS and associated technologies, and the learning from the past year will help campus to have a more informed conversation about the needs for these systems. More use of students as partners in supporting teaching and learning is likely to remain as a positive outcome."

CONCLUSION

The pandemic has had a marked impact on post-secondary education in Ontario and, as the pandemic has progressed, the interest in digital learning and teaching with technology has increased. There now appears to be a sense of collective agreement that online and hybrid course offerings hold the potential to improve accessibility and to inspire new (and in some cases) more effective teaching practices.

This anticipated shift toward increased learning in digital contexts also brings important concerns to the forefront, namely quality assurance and student engagement. Ontario institutions are putting forth training to support faculty in being able to teach effectively (to provide a quality learning experience) in multiple course delivery modes and they recognize the need for students to feel a sense of connection with their peers and instructors, regardless of delivery mode.

Overall, it is clear that post-secondary education in Ontario is experiencing a shift toward increased digital learning opportunities and technology use in the classroom. The pandemic has created opportunities for educational innovation, and it is expected that many practices that have emerged over the past two years will continue for the long term. This is a time for exploration, discovery, and for rethinking past approaches to teaching and learning. Ontario institutions have shown that, despite the challenges they continue to face, they understand the potential for improving the post-secondary experience through the use of digital technologies and that they are taking important steps to increase digital learning opportunities going forward.

METHODOLOGY

The universe of interest for this study is all publicly-funded post-secondary institutions in Canada. Almost all universities in Canada are funded provincially. Institutions that are not included in the roster include Canadian private for-profit universities, most of which are very small, as well as fully private career colleges and institutes.

The 2021 roster includes:

- 82 universities (including Francophone colleges of Anglophone universities)

- 80 colleges outside Québec

- 51 CEGEPs

- 21 private subsidized colleges in Québec

The national-level roster included 152 colleges and 82 universities for a total of 234 institutions. The Ontario roster included 25 colleges and 23 universities for a total of 48 institutions.

National Survey and Fall Follow-up Survey

From March through April 2021, a pre-survey was distributed to all institutions on the roster to get feedback from the institutions as to topics of interest for the 2021 reports and to better understand what information institutions could provide. The pre-survey also enabled the research team to update the contact information for each institution. The research team modified the questionnaire based on institutional feedback from the presurvey to develop the final version of the National Survey.

The National Survey data were collected from June through August 2021. The research team designed the questionnaire design based on prior CDLRA surveys from 2017 to 2020. The Provost/VP Academic or Vice-President Education or Directeur général for each institution on the roster received an email invitation to participate in the National Survey. The outreach email and questionnaire content were identical in both the English and French versions.

The research team distributed the National Survey questionnaire as a fillable PDF file, that could be shared among multiple people at the institution. Members of the research team actively followed up with institutions to answer any of their questions and to encourage them to participate. Post-secondary educational networks (e.g., Academica Group) and provincial organizations (e.g., BC Campus, Campus Manitoba, eCampusOntario).

To reach institutions that did not respond to the National Survey and to test whether the ideas and opinions reported in the Spring had changed, the research team designed a Fall Follow-up Survey. The Fall Follow-up Survey used a smaller subset of the questions included in the National Survey. In November 2021, the research team sent an email with a link to the Fall Follow-Up Survey to the Provost/VP Academic or Vice-President Education or Directeur général for each institution on the roster. Unlike the Spring survey, respondents completed the Fall questionnaire using an online survey form.

The combined institutional response rate for the National Survey and the Fall Follow-up Survey was 52% for all types of institutions. Responses were highest from universities (72%) and lowest from the Cégeps in Québec (33%). The response rate was lower from the smaller institutions and higher among the larger institutions, so while the questionnaire responders represent just under half of all institutions, they enroll 74% of the student population base.

In Ontario, the combined institutional response rate for the National Survey and the Fall Follow-up Survey was 71% across all types of institutions. Responses were higher from universities (78%) than for colleges (64%). Responses represent 79% of all student enrolments in the province, with similar rates for both colleges (80%) and universities (78%).

Overall, and especially considering that this was a voluntary questionnaire, the responses provide a good, representative sample of colleges and universities across all provinces, and across all sizes of institutions Canadian publicly-funded post-secondary institutions.

Teaching and Learning Study

In Fall 2021, an invitation to participate in a semi-structured interview or an open-ended survey was sent to a list of 101 teaching and learning leaders at the Ontario post-secondary institutions. From October through November, 2021, two teaching and learning leaders participated in interviews conducted using videoconferencing technology and nine teaching and learning leaders completed the open-ended survey. Participants had the option of remaining anonymous or being named. A constant comparative method of analysis was used to identify common themes. All participants in the Teaching and Learning Study were from institutions that had completed the National Survey.

CONTACT

Dr. Nicole Johnson, Research Director, Canadian Digital Learning Research Association

Email: nicole.johnson@cdlra-acrfl.ca

Web: www.cdlra-acrfl.ca

For more information about the CDLRA team, please visit: http://www.cdlra-acrfl.ca/our-team/