ONLINE LEARNING AT A TIPPING POINT?

November 2020

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In March 2020, some 1.6 billion learners around the world were suddenly being taught through online learning, with many instructors and learners experiencing an online platform or hybrid platforms for the first time. For others, it was a chance to showcase new approaches to teaching and learning they wanted to try for some time. For a growing number of faculty and students with experience in distance education and online learning, it was an opportunity to do even more online as more programs and courses were available in this mode than ever before.

Some key commentators, such as Michael Moe and Adam Nordin of Goldman Sachs, say the pandemic acted as an accelerant to existing trends toward online learning, although the shift to "remote teaching" is a potential problem for instructionally designed courses. Many instructors and students will say "we tried it and it didn't work," and veterans of online learning like Tony Bates, Stephen Murgatroyd, Audrey Watters, Mark Nichols and Martin Weller shared this concern. But there appears to be a growing sense that online and fully blended learning is here to stay, and will become a more substantial component of our post-secondary learning ecosystem.

Some of the developments that arose from the switch from face-to-face to online learning were remarkable. Some colleges and universities, which had not previously embraced online learning, did so and succeeded. Faculty and instructors paid attention not just to what students needed to learn, but how they might do so, finding new ways to leverage combinations of synchronous and asynchronous learning. Assessment was reimagined, especially for science, technology, creative arts and design, and apprenticeship. Some real insights were developed about the future of teaching and learning in higher education.

Many students were pleasantly surprised by the complexity and rich possibilities of online learning. But not everyone was satisfied with their experience. A study of the United States (US) response, for example, suggests:

> "While emergency remote teaching enabled many students to continue the spring semester amidst the pandemic, this form of education is not a viable long-term solution. Going forward, institutions need to develop sustainable educational plans that can withstand the challenges and unknowns of the ongoing pandemic."

According to a recent US study, students, faculty and administrators maintain a strong and abiding preference for face-to-face learning — despite no significant difference in learning outcomes between face-to-face and online learning. And under certain conditions, online can be better than face-to-face. Students have expressed concerns about remote teaching and learning in Canada.

SOME HISTORY AND CONTEXT

Distance education is not new. There is a history of correspondence and distance education dating back to the 1850s. Online learning – full online programs and courses – dates to the 1990s. Effective online and distance education features five key components:

- Courses designed by instructional designers, subject matter experts and technology advisors that fully leverage available expertise, expert design and evidence-based teaching.

- Authentic assessment, with continuous opportunities for formative self-evaluation and assessment for learning and the summative assessment of learning.

- Tutorial support, from experienced and knowledgeable instructors (even though they may not have been involved in the development of the course) and, more recently, artificial intelligence (AI)-enabled chatbots.

- Interaction between students, instructors and multi-media resources.

- The systematic use of analytics and data to improve programs and courses based on student feedback, data about how the components of courses were used or not used, and evidence of efficacy.

Some instances of online and distance learning have other features, including a desire to get to scale (especially for Massive Open Online Courses or MOOC) or the focus on measurable competencies, especially in applied and skills-based programs.

Before the pandemic, some 6 million US students chose to take at least one credit course fully online and 1.34 million Canadians did the same. Online learning has been growing at a faster rate than face-to-face learning (12-15% versus 2-4%), especially in Canada where 12-16% of all credit courses available at colleges and universities across the country are online.

THE FACTORS THAT MAY SHAPE THE POST-COVID COLLEGE AND UNIVERSITY

In a course on futures studies, the idea of the tipping point relates to a transformational change triggered by the cumulative effects of events — a series of events or developments that, taken together, change the "direction of travel" of an organization, industry sector, community or society.

The pandemic created several conditions suggesting that in order to cope with the current reality, universities and colleges may need to reimagine aspects of what they do and how they do it while at the same time sustaining their strong advantages. And in a post-pandemic world, they'll need to adjust to another new reality. There will be more

choice in how institutions deliver and distinguish themselves, and this will determine what the true transformation looks like going forward. It is likely that significantly different strategies will emerge in different institutions as they respond to local circumstances.

Some of the challenges they face include:

- The impact of large-scale, global unemployment and recessionary forces will likely be medium to long-term for higher education, especially in terms of demands for existing programs and qualifications. For example, given restaurant closures and the challenges faced by those who run hotels, travel organizations and large events, where will demand be for a degree in hospitality and tourism?

- We are experiencing what is known as a "K-shape recovery" with some industries doing very well (technology companies) and some looking at long-term distress (airlines, hospitality and tourism). There is a clear need for rapid reskilling and upskilling of large sections of the workforce and a rethink of key components of learning and training (i.e. apprenticeships, degrees, diplomas and the role of continuing education).

- More rapid deployment of technology — artificial intelligence, robots, drones, 3D manufacturing — across a variety of industries aims to make the workplace and services "safer," more cost-effective and efficient.

- Significant new levels of debt assumed by all levels of government will force them to recast their finances and reimagine their budgets. Universities and colleges may have to reorganize and collaborate more to "make ends meet."

- The expansion of global credentials offered through Massive Open Online Courses (MOOC) platforms such as FutureLearn, edX and Coursera attracted about 16 million new users during the pandemic and created opportunities for students anywhere to register for degrees, diplomas and credentials at any time.

- Having so many instructors and students teaching and learning online exposes them not only to the potential of online learning, but also to its weaknesses.

- Attracting international students is difficult due to COVID-19 travel restrictions. Many colleges and universities depend on a certain volume of these students for their financial health. Students from China, for example, constitute 23% of the international student body worldwide and many are unable to leave China at this time.

The combination of these factors suggests the business models, program designs and delivery of learning are likely to be subject to review and, more likely, moderate change.

CANADA-SPECIFIC BARRIERS

A barrier to significant expansion of online learning in Canada remains access to broadband, especially in Northern and rural Canada. Not all Canadians have access to reliable, affordable broadband. Some can't use it effectively for online learning due to low upload/download speeds. And although many people who live in cities have access to super-fast 5G networks, some rural Ontarians can only secure speeds of 9 Mbps download and 5 Mbps upload, far less than what's needed for effective online learning, especially if live streaming is required. The Canadian Radio-television and Telecommunications Commission (CRTC) suggests the required speeds are 50 Mbps download and 10 Mbps upload, but fewer than 60% of rural Canadian households meet these requirements.

A related barrier, exacerbated by the pandemic, is the challenge of inequitable access to appropriate technological devices and appropriate space and support for online learning. Several studies highlighted the difference in the ability of high-income students versus low-income students to afford higher education and the technology that online learning requires. Many low-income students use only a smartphone and have no other digital devices. They also tend to have fewer social supports for learning.

The availability of technology may be a factor in changing the direction of travel, but public finance, public policy and the collapse of existing business models in the higher education sector are more likely drivers of change. In the US, with the permanent closure of community colleges and small universities, Moody's rating agency sees the higher education sector to be at high risk. This is also the case in the United Kingdom and Canada.

THE POST-COVID COLLEGE AND UNIVERSITY

No one knows when face-to-face classes and "normal" university or college activities will resume. The working assumption of some is that the earliest date for a return to normal activity would be summer or fall 2021 or even 2022, although some administrators are more optimistic. A limited return to campus is now occurring on some campuses in Canada, and many US colleges and universities reopened, despite a surge in cases in colleges and universities.

When "normal" activities do resume, we can expect to see:

- More blended learning, with instructors integrating some of their online experiences into "normal" classes and courses.

- More use of open educational resources, which many faculty discovered as a result of the pandemic.

- More use of technology for components of learning, including chatbots as tutorial assistants, more extensive use of support from

instructional designers, and the emergence of augmented and virtual reality for simulations and games.

But we are also likely to see only a modest expansion of online learning in Canada unless:

a. Universities and colleges are incentivized to expand flexible and online learning;

b. Online learning becomes a financial imperative in terms of sustaining programs and markets;

c. Investments of substance are made in faculty development; and

d. Significant new investments are made in broadband infrastructure (especially for rural Canada) and supports are found for students with limited or no access to appropriate technology.

[Students and staff will be pleased to be "back in the classroom,](#)" even though a great deal of face-to-face instruction is known to be no more effective in delivering learning outcomes than instructionally designed online learning. In particular, students will welcome the return of social activities, sports, networking and accessing shared spaces.

A key part of the reason for this view is that a massive shift to online learning requires a fundamental rethinking of the business model of the institution, the employment contracts of faculty and non-academic staff (especially instructional designers, technology experts and librarians) and a new understanding of the potential role of expert students. Significant and [substantial investments in the professional development of faculty and the expansion of centres for learning in colleges and universities](#) are also prerequisites for the substantial expansion of online learning.

What we may see is the emergence of new ways of recognizing learning from third parties — MOOC providers, for example — and new ways of using assessment as the basis for qualifications – assessment only qualifications, such as those offered by the [University of Wisconsin.](#)

The demand will be for greater flexibility, with more options to "mix and match" courses so students learn what they need for employment, more start dates for programs and courses, more short courses that can be accumulated for credit, and more cross-faculty options within programs. These elements of flexibility were emerging for some time, especially in colleges, and will now become more important as demand for work-related learning and skills education grows.

THE REAL TIPPING POINT

The key question for colleges and universities will not be the balance of online versus face-to-face or other teaching methods, but survival. As one [September 2020 review of university and college finances](#) in Canada concluded, "the system will no doubt survive, but it's not yet guaranteed that all individual institutions will do so in their current form."

It will be the pandemic and its consequences — financial, operational and personal — that reveal the vulnerabilities and dependencies within our post-secondary system.

At least one jurisdiction commissioned a review of its post-secondary system with the intention of a significant and substantial re-structuring. Initial reports suggest that budget cuts already made to colleges and universities in Alberta, amounting to 20% by 2022-23, will be followed by mergers and possible closures. Performance-based funding, to be introduced by Ontario and Alberta, will be another consequential development that might create tipping points for institutions in terms of programs, student selection and flexibility.

After this pandemic, not all institutions will be able to return to the former operating status. Some will not survive. Others will survive and prosper, but in new and different ways. A few will return to their former ways of working, strengthened by their resilience and adaptability. The future will not be a straight line from the past. We can expect some disruption and change and a shift in demand for programs and courses. Universities and colleges will need to be adaptive and nimble in their responses, and online learning is just one tool in their armoury of possible responses to a different future.

The key will be the attitude and responsiveness of students, faculty and institutions to adapt and change. It remains to be seen whether the "new normal" will enhance opportunities for students, faculty and institutions or highlight the unsustainability of those that take a business-as-usual approach to higher learning.