

How do Canadian Faculty Members Imagine Future Teaching and Learning Modalities?

Abstract

This study, originally prompted by the impact of the COVID-19 pandemic on educational practices, examined Canadian faculty members' expectations of teaching and learning modalities in the year 2026. Employing a speculative methodology and thematic analysis, interview responses of 34 faculty members led to the construction of three hypothetical scenarios for future teaching and learning modalities: a hybrid work model, a high tech and flexible learning model, and a pre-pandemic status quo model. In contrast to radical education futures described in the literature, the findings do not depart significantly from dominant modes of teaching and learning. Nevertheless, these findings offer insights into the expectations that Canadian faculty members have with respect to future teaching and learning modalities, the contextual issues and concerns that they face, the use of speculative methodologies in educational technology research, and the potential impacts remote learning trends have on the future of education in Canada.

Keywords: Higher education futures; speculative methods; teaching and learning modality; faculty perspectives; Canadian higher education

This is a pre-print version of

Veletsianos, G., Johnson, N., & Houlden, S. (in press). How do Canadian Faculty Members Imagine Future Teaching and Learning Modalities? *Educational Technology Research & Development*.

The final version is available at <https://doi.org/10.1007/s11423-024-10350-4> and <https://rdcu.be/dA87N>

How do Canadian Faculty Members Imagine Future Teaching and Learning Modalities?

Higher education futures have become an increasingly prevalent topic of interest for scholars, administrators, and policymakers alike, driven in part by the rapid expansion of online learning resulting from the COVID-19 pandemic and the more recent rise of generative AI. For example, these changes have compelled institutions and instructors to rethink their teaching and learning practices (Johnson et al., 2020). Within this context, potential futures that had previously seemed unlikely to most researchers and educators, such as a widespread shift to online and remote learning, abruptly became the norm. Since then, the continued trend toward greater use of online learning and educational technology, as well as ongoing calls and efforts to return to primarily in-person instruction, have sparked wide-ranging discussions in both the scholarly literature and the popular press about the lasting impacts of the pandemic on modes of learning and working.

Situated in these trends and inspired by calls to re-imagine post-pandemic education (OECD, 2022; UNESCO, 2021; UN, 2020), this study investigated Canadian faculty members' speculations about the future of higher education, and in particular their opinions about the modes of teaching and working that they believe may become part of their normal work life in the future. The specific research question asked was: What modes of teaching and working do participants believe will be part of their normal work life in 2026? Informed by Facer and Sanford's (2010) principles for speculating education futures, this study produced three hypothetical scenarios for future teaching and learning modalities grounded in a thematic analysis. Furthermore, it explored the degree to which faculty members imagine education futures which depart significantly from the status quo. The study is significant firstly because current speculative research is rarely informed by empirical data on faculty members' ideas about the future of education, resulting in the absence of faculty members' voices in imagining

the future of education. Addressing this absence is important as faculty, occupying research and teaching roles as they do, are key stakeholders in education futures and stand to be impacted directly by how such futures are directed and unfold. The research is relevant for those thinking about and seeking to direct higher education towards particular, preferable futures, including scholars, faculty, administrators, and policymakers. Secondly, this research is situated in the Canadian sociocultural context. To date, there has been limited research into how Canadian faculty imagine the future of higher education in this context, which as noted below, is unique and therefore relevant for comparative analyses and speculations about the future of education around the world. By addressing this limitation in the broader speculative education literature, this research contributes to a more robust and diverse field, while also being sensitive to the necessity of situating futures work in specific contexts, as some have argued (Facer & Sriprakash, 2021). We proceed by reviewing relevant literature, explaining the context and theoretical framework of the study, describing our methods, and detailing our findings and conclusions.

Review of Relevant Literature

The existing literature on the future of education is published across academic disciplines as well as in the grey literature. Many educational actors—including administrators, academics, and non-profit and for-profit organizations—have explored this topic in several formats and genres (Alexander, 2020; Cawood, 2018; Costello et al., 2020; Eringfield, 2021; Facer, 2011; Glenn, 2008; Levine & Van Pelt, 2021; Staley, 2019; UNESCO, 2020). The topics addressed are varied, but often explore the experiences that various stakeholders, such as students, might have in future learning environments characterized by increased use of online learning, artificial intelligence, learning analytics, and digitization.

This study builds upon the growing literature using speculative methods to investigate education futures (Costello et al., 2021; Garcia & Mirra, 2023; Selwyn et al., 2020). Speculative methods offer researchers a systematic way to generate plausible and evidence-informed scenarios that can help make sense of both the present and the future of higher education (Ross, 2017). For instance, imagine that when a group of parents was invited to develop future education scenarios their descriptions predominantly featured indoor classrooms consisting of rows of learners sitting at their desk and using high-end computing devices. Such descriptions not only speak to technology integration, but may also speak to unconscious mindsets around how classrooms ought to be organized, how individual vs. cooperative work is valued, and so on. In other words, speculative methods are forward-looking *and* offer insights into the present.

Speculative methods are particularly helpful during times of change and crisis as they offer opportunities for exploring future possibilities that might be less constrained by the permanence of the present (Ross, 2017). Unsurprisingly therefore, speculative education research has expanded since the start of the COVID-19 pandemic, running the gamut between favorable or hopeful education futures and less favorable or pessimistic education futures (Houlden & Veletsianos, 2023). Much of this recent writing, as well as earlier writing, features the role and impact of various technologies on education. For example, Selwyn et al. (2020) imagined a high school in 2030 that was dependent upon data captured via digital technologies, and therefore relied upon the datafication of one's physical and virtual activities through digital monitoring. Jandrić and Hayes (2021) imagined Earth as becoming increasingly uninhabitable and educational operations as becoming more deeply shaped by militarization and geopolitical conflict, with genetic technologies a significant factor in these changes. Costello et al. (2020) and Costello and Girme (2021) have similarly explored education futures that are less hopeful,

including one shaped by post-truth in which the written word is banned. More positive fictions include Bell et al.'s (2020) exploration of the hopeful advancement of curricular futures and Molitorisz's (2020) account of the pandemic as a turning point for positive change. Eringfield's (2021) findings suggest two opposing views: one in which the pandemic is a tipping point that led to "a complete and definitive shift toward online learning" (p.150) and one that includes more online learning options, providing greater flexibility and choice.

With respect to futures explored by organizations and institutions rather than scholars, the pandemic is often cited as a watershed moment for rethinking the future. For example, Contact North (2022), a distance education network in Canada, proposed five possible scenarios for the future, four of which suggested that institutions will have to adjust to increased use of remote education. Professional organizational firm Klynveld Peat Marwick Goerdeler (KPMG) (2020) reached a slightly different conclusion. They suggested that to be successful, universities will need to become borderless, offer shorter courses and degrees, emphasize experiential and lifelong learning, and become competitive at a global scale. Common elements in such speculations include ubiquitous digital technologies, extensive online and blended learning, and the use of learning platforms.

Notably, much of the speculative fiction literature reports on education futures conceptualized and written by researchers without relying on *participant* data. While such writing is worthwhile, there remains an ongoing need for a diversity of voices to inform, speculate, and tell stories about the future of education which encompass "the locally situated values, worldviews, institutions, structures, and practices by which people want to live" (Macgilchrist et al., in press, p. 8). This study adds to the literature on higher education futures

by producing three speculative scenarios informed by data gathered from Canadian faculty members.

Theoretical Framework and Context

In a foundational investigation of the likely implications of socio-technical changes for education over the next 25 years, Facer and Sandford (2010) named four principles for developing responsible and ethical projections of educational futures. Those principles offer a helpful framework to explore and assess discourses related to the future of education. We use them in this study to guide our analysis and conclusions. Those principles are as follows:

- Principle 1: educational futures work should aim to challenge assumptions rather than present definitive predictions.
- Principle 2: the future is not determined by its technologies.
- Principle 3: thinking about the future always involves values and politics.
- Principle 4: education has a range of responsibilities that need to be reflected in any inquiry into or visions of its future. (pp. 76-77).

This study is situated in the Canadian context. Canada is a diverse, politically stable, and economically prosperous nation. At the same time, it faces several challenges, such as housing unaffordability, health care system vulnerabilities, economic uncertainty, and longstanding and under-addressed work tied to decolonization and reconciliation with First Nations Peoples. These societal issues impact higher education, including students and faculty. For example, a recent study reported that “housing unaffordability and inaccessibility creates many barriers for different groups of newcomers in search of housing, including international students—barriers that permit discrimination” (Pottie-Sherman et al., in press, p. 11).

Additionally, the Canadian education context is unique. Unlike nations in which the higher education system is overseen at the national level, higher education in Canada is the responsibility of provinces and territories. This results in some variation among institutions that invariably impact faculty members' day-to-day work, as well as the ways they imagine the future. For instance, while provincial governments' 2023 mandate letters identifying government priorities for public post-secondary institutions in British Columbia¹ and Alberta² both identify skills training as a priority, the former emphasizes equity and anti-racism, while the latter highlights free speech on campus, providing a glimpse into the ways in which the government of the day shapes the public post-secondary sector. This is especially worth mentioning because most Canadian colleges and universities are public and primarily publicly funded. Canadian institutions are also characterized by a strong focus on applied research and contribute to ongoing efforts toward reconciliation with Indigenous peoples. Finally, although Canadian faculty members enjoy a high level of academic freedom, many also face increasing economic and employment precarity; as the Canadian Union of Public Employees notes, approximately half of faculty appointments are on a contract rather than permanent basis (CUPE, 2022). Such factors shape the perspectives of faculty members and how they imagine the future of higher education.

Methods

This paper draws on data collected as part of a larger research study with Canadian faculty members who participated in semi-structured interviews during which they were asked a series of questions about their hopes, fears, and perspectives on the future of higher education in

¹ <https://www2.gov.bc.ca/gov/content/education-training/post-secondary-education/institution-resources-administration/mandate-letters>

² <https://open.alberta.ca/dataset/bf7f9a42-a807-49b3-8ba3-451ae3bc2d2f/resource/e29f7d8b-73c4-4dd4-af7d-833ae3e01bef/download/ae-mandate-letter-advanced-education-2023.pdf>

Canada (Veletsianos & Johnson, 2023). The study took place from March through May 2021, which coincided with the 3rd wave of COVID-19 infections in Canada. The research question addressed in this specific paper was the following: What modes of teaching and working do participants believe will be part of their normal work life in 2026, or, 5 years from the date of their interviews? We chose 2026 because we believed that five years into the future would allow individuals to ground their speculation on current trends and realities, without it being far enough to engage in prognostication and imagining of a world that is otherwise unknown.

Participants

Individuals who were faculty members in Canada were invited to participate in the broader study. The invitation to participate was disseminated through (a) two of the authors' social media accounts on Twitter, Facebook, and LinkedIn and (b) a widely-read newsletter delivered to Canadian faculty email published by a Canadian higher education consulting company. Potential participants were encouraged to share the recruitment notice in their own networks. The recruitment notice included a link to a pre-interview demographic survey that allowed for participant screening. Fifty-nine potential participants responded to the recruitment call. Of these, we incrementally added participants to the interviewee pool, to include participants from a range of institutional types, ranks, disciplines, locations, and ages. A total of 37 Canadian faculty members participated in the interviews, all of whom provided answers to the specific question quoted above. Three participants did not describe teaching/working modes in their responses and were excluded from the analysis, leading to a final sample of 34 participants. Thirty-one identified as White or Caucasian. The rest identified as Métis (1), Latin American (1), and South Asian (1). They were employed by universities (21) and colleges (13), and were full professors (13), associate professors (8), assistant professors (5), or in permanent full-time (4)

and adjunct (4) status. Twelve were between 35 and 44 years of age, eleven were between 45 and 54, and eleven were 55 and older. They worked in numerous disciplines, including the social sciences (11), healthcare (6), education (5), arts (4), sciences (3), business (3), political Science (1), and the culinary arts (1), and they listed their province or region as Ontario (22), Alberta, (3), British Columbia (2), Manitoba (2), New Brunswick (2), Northwest Territories, and prince Edward Island (1). Table 1 provides demographic details for each participant. Each participant was assigned a number, which is used in the results section to identify the source of quotations.

Table 1
Participant Demographic Information

Participant	Age	Degree	Discipline	Position	Province or Region	Type of institution
1	45-54	Doctoral	Science	Full professor	Ontario	University
2	55+	Master’s	Healthcare	Associate professor	Manitoba	University
3	45-54	Doctoral	Science	Full professor	New Brunswick	University
4	55+	Master’s	Education	Permanent full-time	Ontario	College
5	35-44	Doctoral	Social Sciences	Assistant professor	Ontario	University
6	55+	Doctoral	Education	Permanent full-time	Northwest Territories	College
7	35-44	Doctoral	Social Sciences	Associate professor	Ontario	University
8	55+	Doctoral	Political Science	Full professor	PEI	University
9	35-44	Master’s	Arts	Full professor	Ontario	College
10	35-44	Master’s	Business	Adjunct faculty	Ontario	University
11	55+	Bachelor’s	Business	Adjunct faculty	Ontario	University
12	35-44	Doctoral	Healthcare	Assistant professor	British Columbia	University
13	45-54	Master’s	Social Sciences	Full professor	Ontario	College
14	55+	Master’s	Arts	Full professor	Ontario	College
15	35-44	Doctoral	Healthcare	Associate professor	Ontario	University

16	35-44	Doctoral	Science	Assistant professor	British Columbia	University
17	45-54	Doctoral	Social Sciences	Associate professor	Ontario	University
18	55+	Master's	Education	Adjunct faculty	Northwest Territories	College
19	35-44	Doctoral	Social Sciences	Associate professor	Manitoba	University
20	45-54	Doctoral	Social Sciences	Full professor	Ontario	University
21	55+	Master's	Healthcare	Permanent full-time	Ontario	College
22	55+	Master's	Healthcare	Full professor	Ontario	College
23	45-54	Master's	Social Sciences	Full professor	Ontario	College
24	45-54	Doctoral	Social Sciences	Adjunct faculty	Ontario	University
25	55+	Master's	Healthcare	Permanent full-time	New Brunswick	College
26	35-44	Doctoral	Arts	Assistant professor	Alberta	University
27	45-54	Master's	Business	Full professor	Ontario	College
28	45-54	Master's	Arts	Full professor	Ontario	College
29	45-54	Doctoral	Social Sciences	Associate professor	Ontario	University
30	35-44	Master's	Culinary Arts	Full professor	Ontario	College
31	35-44	Doctoral	Social Sciences	Assistant professor	Alberta	University
32	55+	Doctoral	Education	Associate professor	Alberta	University
33	35-44	Doctoral	Education	Associate professor	Ontario	University
34	45-54	Doctoral	Social Sciences	Full professor	Ontario	University

Data Collection

We conducted virtual interviews with participants, each of which lasted between 30 and 40 minutes. These were recorded and transcribed verbatim using transcription software. Each transcript was read and checked for accuracy against the audio file prior to analysis. For this study, we extracted participants' responses to the following question from the larger data set:

I am going to ask you to take out your fictional crystal ball and imagine that you're teaching a course at your institution in 2026. Describe to me what a typical day at work might be like. What happens during that day? What is life like from your perspective? (Follow-up prompts: Tell me more about [topic/concept/practice]. What makes you say [X]?)

The question was intentionally open-ended and invited participants to discuss actions and feelings. It did not direct participants to discuss modalities, and by asking the question in this way we remained open to the topics that might have emerged, as suggested by speculative methods researchers (Ross, 2017). Participants' responses resulted in a final data set of approximately 25,500 words.

Data Analysis

To answer the research question, we analyzed the collected data to generate multiple plausible futures, which Facer and Sandford (2010) describe as a common speculative approach that “challenges the assumption of a single inevitable future and provides an accessible means of collating significant amounts of evidence and opinion” (p.77). The process we used involved an iterative thematic analysis of participant responses using a constant comparative approach (Glaser & Strauss, 1967), aiming to identify common ideas, narratives, scenarios, and patterns of thought described by participants. Two of us coded the data independently, shared codes with each other, and met weekly over the course of approximately three months to discuss, critique, and review emergent findings. Through this process we were able to identify overlapping aspects of future scenarios suggested by participants. Next, we used Selwyn et al.'s (2020) “think together” strategy to further probe the data and to generate fictional narratives for each of the main themes that emerged. This strategy led to three fictional narratives that depicted the daily

life of a faculty member, each corresponding to one of the main possible trajectories described by participants. This process involved discussion and consensus about how each narrative would be told, the writing of an initial draft of the agreed-upon narratives by one researcher, editing by the other researcher, and ongoing collaborative discussion and editing until both researchers were satisfied with the result. The narratives that we present below include ideas, descriptions, feelings, and direct quotes made by participants, taking special care to preserve the key points made during the interviews. We applied Facer and Sandford's (2010) theoretical principles in two ways in our analysis. First, in constructing speculative scenarios and narratives, we paid special attention to avoid definitive predictions (principle 1), avoid technological determinism (principle 2), and remain mindful of the likelihood that participant responses were shaped by their values and politics (principle 3). Second, the principles come into play primarily in the conclusions we draw from the data, which are presented in the discussion section of this paper.

Credibility and Trustworthiness

We took multiple steps to minimize the incidence of bias in the analyses, following recommendations in the literature regarding both qualitative and speculative methods. First, prior to deciding whom to interview, we examined the demographic information of potential participants who completed the pre-interview survey and purposefully selected who to interview incrementally to include as diverse a sample as possible. Second, we continued adding participants to our dataset until the data we had gathered were both rich and considerable. Third, we employed investigator triangulation by independently reviewing transcripts prior to discussing scenarios with each other to avoid influencing another's understanding of the data. Fourth, we continued discussing, developing, and conjecturing scenarios until we felt that the scenarios generated captured the data (i.e., inductive thematic saturation as described by

Saunders et al., 2018). Fifth, a third researcher read through the data and the themes to examine the degree to which the three themes reflected the data. The third researcher did not identify any new patterns but made suggestions and asked questions that resulted in minor modifications to the themes for clarity. Finally, we have provided an extensive description of our methods as recommended in the speculative methods literature. Because the results of this kind of research are not directly replicable, it is especially important to provide a clear description of one's methods (Costello et al., 2021; Selwyn et al., 2020).

Results

To present our findings, we developed three speculative scenarios, each narrated by a composite and fictional character. The scenarios represent the three most common modalities projected for 2026: (1) a hybrid work model, (2) a high tech and flexible learning model, and (3) a return to the pre-pandemic status quo. The thoughts, reflections, and actions of each character represent responses provided by participants, and direct quotations are attributed to specific participants using the superscript numbers assigned in Table 1. Each scenario is based on the responses of approximately a third of the participants and figure 1 below illustrates participant assignment to each model highlighting participant overlaps in the models. Following standard practices in qualitative research, we made slight edits to participants responses to aid the flow of the narrative that did not change participants' intended meaning.

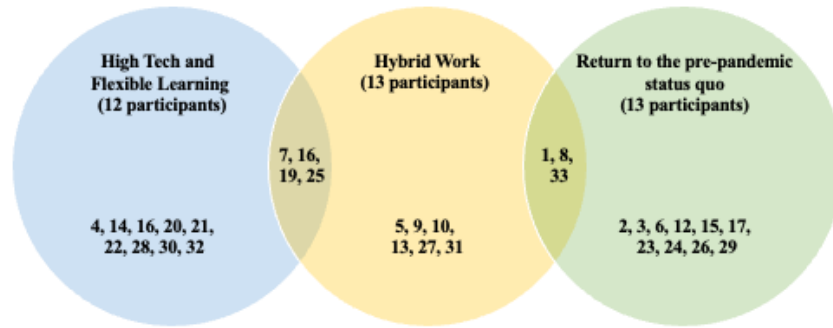


Figure 1. Participant assignment to each model

Scenario 1: Hybrid Work

The participant responses reflected in this scenario described a future in which the hybrid forms of work that became typical in 2021 and 2022 persist without any sort of radical change other than faculty members having ongoing opportunities to work remotely. In this vision of participants' work life and teaching in 2026, the pandemic has abated but some pandemic-era health protocols remain. Technologies that were used daily in 2021 (e.g., smartphones, laptops, learning management systems, email, videoconferencing applications) continue to be widely and commonly used among faculty and students. This scenario draws upon statements made by 13 participants (1, 5, 7, 8, 9, 10, 13, 16, 19, 25, 27, 31, and 33), and reflects the following patterns that emerged from our analysis of the data:

- A teaching and work context that is partially on-campus and partially remote.
- A physical campus with fewer people and some health protocols still in place.
- The conversion of classrooms into hands-on learning spaces.
- A loosening of traditional work hours with more flexibility and the ability to work remotely when necessary.
- More options for faculty, based on their preferences, regarding modes of instruction and connection with students and colleagues.

- A combination of in-person and online meetings.

Narrative

Hassan is a tenured faculty member at a Canadian university. The courses he teaches are held in-person but include online components. At Hassan’s institution, students and faculty are expected to have laptops and smartphone devices that they can use both at home and on campus to access the institution’s Learning Management System. While the COVID-19 pandemic no longer presents a major health threat, some of the practices adopted during the worst of the pandemic continue and a feeling of vulnerability continues to persist for many.

Walking through a courtyard on his way to teach a lab, Hassan pauses momentarily, and staring at the tall building in front of him reflects on how “even with a greater reliance on technology and having a mix of online and in-person students,⁵” many things remain the same. Although Hassan’s institution returned to so-called “normal operations” as early as 2022, there are still noticeably fewer people on campus than before the pandemic. As the COVID-19 pandemic has abated but persists—something, he hopes, that shall eventually pass—people’s sense of belonging to a collective and desire to participate in various forms of in-person activities appear to have fractured somehow. Although some students and faculty had been eager to return to campus, others wanted to retain alternative options and support for remote work and online learning. Recognizing that integrating some online activities, such as online assessments, can provide some advantages to courses, Hassan has included a number of those in his courses, even though much of his teaching has been taking place in-person. His colleague Tracey, on the other hand, often conducts her class sessions online despite having a dedicated classroom next to his. Tracey has two young children, and it is not uncommon for her to switch to online sessions when one of her kids has to miss school due to a runny nose or if the kids passed their cold along to

her³¹. Hassan is “glad that we can make that happen for her, as opposed to staying home with a sick child when she wants to attend a class session³⁴,” and estimates that on any given day, probably “half the faculty will be there in person and half will be connecting from home now that we have the technology to support people in choosing whether to attend meetings in person or remotely⁷.”

Today is one of Hassan’s in-person teaching days. His pre-pandemic classroom used to be a lecture hall but had now been converted into a lab²⁵. Before the pandemic, Hassan spent between three to five hours per week of on-campus time with each section of students, but now that part of his course is taught online, he spends just one to two hours per week in person with each section and the remaining hours online⁹. Preparing for in-person teaching now also involves some additional responsibilities: ensuring that masks are available for anyone who would like one, checking that the classroom was recently disinfected, double-checking the air ventilation system, and encouraging physical distancing whenever possible²⁵. “I have a funny feeling that this sense of vulnerability to viruses is not going to go away anytime soon⁸,” he reflects as he presses a button on a dashboard on his teaching station to begin the process of recording today’s session for anyone who is unable to attend. Seeing a few students wearing face masks seems to affirm those thoughts and reminds him that after class he needs to reach out to several students who had not been in attendance in the last week.

The thought of conducting office hours in-person instead of via videoconferencing technology seems odd to him now. When on-campus learning first resumed, his department chair had emphasized the need to support students and recommended that faculty continue the practice of holding virtual office hours, arguing that “when students don't have to physically come to your office, they seem to be more willing to connect or stay online after a zoom call, which will

create more opportunities for interactions with students and opportunities for students who are maybe commuting a really long way⁷.” Virtual office hours are helpful to faculty members as well. Hassan is planning on teaching online when he will be out of town for a conference next week, informing students, with a chuckle, that “I’ll call in from my hotel room to run the class. I know that you all are used to that kind of approach by now¹”.

The day went on with meetings and hallway conversations with faculty and students who are also on campus that day. Despite a steady stream of interruptions as several students and colleagues drop by Hassan’s office, he thinks of his time on campus as an opportunity to connect with others as much as possible²⁷ and to fulfill his mentor’s advice to make himself visible on campus, even if doing so seems to reinforce a culture of presenteeism. He thus reminds himself that “these on-campus days are for teaching courses, having meetings on campus, and connecting with people here. Tomorrow I’ll be working from home, and I can be more focused⁷” on other tasks then. Mentally planning his scheduled work-at-home day, which will include both research⁶ and teaching prep,¹⁹ he welcomes the thought of “being able to work from the comfort of my own home while wearing comfortable clothing”: “I can wear my pajama bottoms all day while I work and put on a blazer for meetings: professional up top, comfy on the bottom. I don’t mind that⁹!”

Scenario 2: High Tech and Flexible Learning

In a second scenario constructed from participant responses, technology continues to play a prominent role in facilitating teaching and learning, although its adoption is now driven primarily by student preferences and institutional policy to provide extensive digital learning opportunities rather than by health concerns and the pandemic, which have diminished but

remain persistent. This scenario is based on data from 12 participants (4, 7, 14, 16, 19, 20, 21, 22, 25, 28, 30, and 32) and reflects the following patterns that emerged from the data:

- Heavy use of technology.
- Student choice in their mode of attendance (e.g., virtual, in-person, or a mixture of the two throughout the course), currently referred to as hyflex learning.
- Teaching and learning supported by artificial intelligence (AI).
- New models of course delivery and work (e.g., a block model for courses and a compressed workweek).
- Instructional practices that leverage technology to make student learning experiences more accessible.
- Increased class sizes.

Narrative

Sam is an adjunct instructor at a Canadian college which, like most colleges in Canada, focuses on applied or vocational training and offers practical and hands-on preparation. Although students can choose whether to attend synchronous classes in-person or online, Sam is required to be on campus to facilitate the lesson. Since the onset of the pandemic, a number of rapid technological advances have impacted teaching and learning, and approaches that enable students to choose whether to attend class virtually or on-campus have become the norm. Faculty are expected to be proficient in the use of the latest learning technologies to facilitate their courses.

Standing in front of his classroom, Sam exclaims, “Hey LearnBot, let’s start this session, shall we?” cueing the AI teacher-support system to start livestreaming the class. Although only five students are present in the classroom, they are joined by more than 100 students scattered

around the world who have logged on to participate virtually³⁰. Cameras posted in various places around the room begin livestreaming and recording the proceedings,³² and as different learners speak, the main video feed switches to give remote learners different views of the classroom.

Sam signals to LearnBot to use the camera at the demo station and proceeds to perform a hands-on demonstration of a job skill that students had reviewed the previous week through asynchronous digital resources posted to the college's learning management system. "Even with relying on digital resources, it's important to have activities that are physical," Sam relays to the students while explaining the appropriate applications of the skill at hand in a job setting. Continuing the demonstration, Sam explains the criteria listed on the assessment rubric by which students will be evaluated on this particular skill. As Sam reminds students to sign up for a small group videoconference or an in-person meeting during the final week of the course to perform a series of skills, he reflects upon how "the decision to transform the old 14-week semester into a block model has been ideal for this course²⁸", as "students can focus intensely on skill development without facing competing priorities from other courses."

A guest presenter is also scheduled to join today's lesson. Sam directs the in-person students' attention to the large screen at the front of the room and indicates to the remote students that the main camera will momentarily switch to a livestream of their guest presenter. Presenting students with multiple perspectives has become a key priority at Sam's institution,²¹ and class discussions with guest experts from other institutions, both within Canada and around the world, have become a popular teaching strategy⁷. The guest presenter, an expert whom Sam had met in graduate school, expands the discussion of the skill that Sam has just demonstrated by beginning a live demonstration of an alternate technique for performing that same skill. The in-class cameras and microphones allow students in the classroom to be visible to the presenter and

to ask questions during the presentation. Remote students have the same opportunities through the camera and microphone on their own devices^{14,30}. The guest lecturer ends their talk and Sam thanks them for sharing their knowledge with the class before closing the livestream. To end the class, Sam reminds their students, “The core content for tomorrow’s lesson is hosted on the virtual platform. You are expected to view the content and master it before our synchronous session at 1600 GMT²⁰.”

Reflecting on the prevalence of technology in teaching, Sam can’t help but wonder whether students are spending too much time on screens. Still, Sam recognizes that “it isn’t all terrible, I mean for some students, it’s working well for them¹⁴” and that ultimately “it’s not too draining for me or them as long as we’re actually actively participating while online⁴.”

Scenario 3: A Return to the pre-pandemic status quo

This final scenario describes a future in which, in contrast to the previous ones, post-secondary education has largely returned to its pre-pandemic state. This scenario posits that although the COVID-19 pandemic was disruptive at the time, it did not have lasting impacts on higher education in Canada. Participants whose narratives fell within this category described online and hybrid learning options as being still available but at levels of student and institutional interest comparable to that of 2019 and with the majority of faculty largely teaching in in-person settings. The scenario draws upon data from 13 participants: 1, 2, 3, 6, 8, 12, 15, 17, 23, 24, 26, 29, and 33. The major patterns appearing in the data that inform this scenario are the following:

- A full return to in-person learning.
- Minimal use of online learning.
- The ways in which faculty teach and students learn have reverted to pre-pandemic norms.

Narrative

Jyoti is a tenure-track faculty member at a Canadian university. Waiting in the auditorium for her institution's May 2026 commencement ceremony to begin, she remarks, "we're about to start" to the colleague beside her, as they both glance at their smart watches. She watches as people walk into the auditorium smiling to one another, talking loudly, and pausing to give hugs or handshakes when they see someone they know. The auditorium is packed almost to capacity, and the energy in the room is palpable.

She finds herself thinking back on the year that has passed. During the earlier stages of the COVID-19 pandemic, she and many of her colleagues had been concerned that everything that they knew and loved about higher education would change. But although the COVID-19 pandemic had been, without a doubt, a major disruption for several years, the health threat had abated with the development of vaccines that prevent transmission, clean air initiatives, and new treatment options, with life being able to largely return back to "normal," or what it had been like before the pandemic. Some faculty who had taught online prior to the pandemic are continuing to do so⁶, but most of Jyoti's colleagues are now back on campus. She remembers "feeling frustrated when others spoke about the notion of a 'New Normal' back then" and is very "glad that I could go back to doing what I love, which is engaging with young individuals and always being around their youthful energy²³."

Jyoti is happy to be on campus, teaching in-person, holding office hours in her office, and navigating the maze of Victorian style architecture buildings that define her university. The years of living through the pandemic have given her a greater appreciation for many daily activities that she had previously taken for granted: working out at the gym to start off the day³³, standing in line at a coffee shop to get her morning coffee²⁹, walking into her office and chatting with the office staff^{12,15}, eating lunch with colleagues²⁶, and running into students and colleagues

throughout her day^{3,29}, even going to committee meetings². And, of course, most of her days are still taken up by the usual juggling of a never-ending list of responsibilities and demands of being a professor: writing reference letters, writing, mentoring new colleagues, creating course materials, planning lectures, grading, peer-reviewing articles, and all the other things required to succeed in an academic career²³.

As the processional music begins and Jyoti watches as students walk down the aisle in their caps and gowns to the seating area at the front of the auditorium, she thinks: “Most importantly, I’ve had many opportunities to engage with students this year^{17,23}.” She smiles as she reflects upon how much she has enjoyed the in-person class discussions²⁶ and students dropping by her office with a question or for conversation^{15,23,26}. “A typical day is back to what it was like before COVID¹,” she concludes, “and I like feeling satisfied again that my entire work day will be a good day, not just pieces of it²³.”

Discussion

Two models (*high tech and flexible learning* model and *hybrid work* model) reflect a difference from pre-pandemic norms. They seem to indicate that participants expect the pandemic may have lasting impacts on modes of learning and working, namely that online learning and use of technology independent of modality will become far more prevalent. On the contrary, the *return to pre-pandemic model* appears to reflect broader calls to “return back to normal,” viewing the pandemic as a temporary aberration with minimal lasting impact.

Nonetheless, no model departs significantly from the then-current dominant modes of teaching and learning. In contrast to some of the radical education futures described in the literature (e.g., Costello et al., 2020; Jandrić & Hayes, 2021; Staley, 2019), this study’s findings suggest that participants do not anticipate radical changes unfolding at their institutions over the

next few years. Nevertheless, they are valuable: Macgilchrist et al, (in press, p. 8) emphasize that descriptions of the future of education don't necessarily need to be grandiose and that they can be "tiny, situated narratives about emergent little, local futures."

Prior to exploring the implications of these findings, it is important to highlight this study's limitations. While participants were in seven territories and provinces and exhibited gender, age, discipline, rank, and institutional diversity, the key limitation of this study is participant representation. First, our sample lacks ethnolinguistic diversity which may impact the results. Second, participants were primarily full-time tenure or tenure-track faculty members, meaning that part-time, adjunct, and contract faculty members are not fully represented in the sample. Because their working conditions are qualitatively much different than tenured and tenure-track faculty, it is very likely that the ways in which they think of the future of higher education is different than the ways in which their colleagues with stable and secure employment think about that future. Third, this study faces geographic representation challenges, as most participants resided and worked in Ontario. While this is reflective of the fact that Ontario is the most populous region with the most public institutions in Canada, the fact that 22 of 34 participants were in Ontario risks over-emphasizing the perceptions of Ontario-based faculty. Because higher education in Canada is primarily a provincial and territorial responsibility, faculty members responses are likely to be partially shaped by the province or territory in which they work. As an internal check of our data, we compared the responses of our Ontario participants to those participants who were adjuncts or from provinces other than Ontario. We found that responses did not appear to differ significantly between the groups, strengthening our confidence in our results. Nonetheless, future research that addresses these challenges is necessary.

Despite these limitations, the findings appear to demonstrate the ways in which “potentially transformative technologies are domesticated by everyday practices and entrenched hierarchies” (Macgilchrist et al., 2020, p. 77). That is not to say that Canadian faculty perspectives about the future of education are uniform: The three scenarios we identified reveal some divergence in faculty perceptions of how education is likely to unfold in the near future. Whereas one group of faculty members envisioned an expansive role for online learning and technology in education, another cluster believed that teaching and learning would revert to a primarily in-person model, much like the model that had been in place before the pandemic. And a third group of participants imagined a middle ground falling somewhere between those visions, in the form of a hybrid work model that included both greater technology use to provide faculty and students with more flexibility and a return to an in-person context for those who desire that option.

In this way, our findings demonstrate Facer and Sandford’s (2010) principle that speculative education research should challenge current assumptions, in this case the widespread assumption that the pandemic would prove to be a tipping point leading to far greater technology use in the future. The first and third scenarios did not assume drastic technological advances, and while the second scenario is far more tech-dependent than the first two, its technologies, if not the infrastructures needed to support their widespread institutional use, arguably already exist. LearnBot, for example, could be seen as a specialized version of Apple’s Siri or Amazon’s Alexa, which are both widely-available voice-activated digital assistants. Thus, all three scenarios depict technologies that were currently available at the time of the interviews. Our results reveal that participants imagined that their work activities in a typical day in 2026 would be qualitatively similar to current activities, whether those consisted primarily of modes of

learning and working heavily reliant on current and emergent technologies or strongly resemble the pre-pandemic status quo of in-person instruction. The differences between those scenarios therefore also seem to demonstrate Facer and Sandford's second principle, that the future is not determined by technology, but rather by choices made by those who employ it.

This latter point is important for those working in the field of education futures as well as those more directly concerned about the future of education. For scholars, attention to the ways in which education technologies are positioned in future scenarios can yield insights into a wide array of problems and conditions of the present. Similarly for faculty, understanding how technology might actually be used rather than how it is positioned for use in future scenarios (e.g., as a requirement for or detriment to effective teaching and learning) can be a site of generative creativity, as well as a point of resistance and enactment of agency.

What could explain the relative persistence of the status quo and the lack of more radical futures in the data? One possible reason might be that five years is a short timeframe for imagining radically different futures. We chose a five-year time period for participants to reflect upon partly because we were curious as to whether they considered the pandemic as having ongoing impacts, and partly because a five-year time period seemed to remain within the realm of what is possible within their institutions. Researchers who are interested in uncovering futures radically different from the status quo, therefore, may find it worthwhile to propose a longer timeframe for participants to explore. What might futures ten or twenty years away look like for faculty members, as well as for other groups, such as learners or administrators? An expansion of timeframe is relevant for administrators and policymakers who look to creatively plan and anticipate possible futures, particularly with an eye towards more radical forms of change.

A second reason that might explain the persistence of the status quo might be humans' relative difficulty envisioning the world differently, beyond our own experience. When asked to imagine the future otherwise, few people seem to manage to resist the ideologies and influences of the moment, often imagining futures constrained by the present (Markham, 2021). In other words, some futures seem inevitable based on present factors, thus leading faculty members to imagine futures similar to the present. In this sense, the findings may reflect a tendency to revert to what is familiar or a commitment to the ways in which higher education is traditionally organized and managed. To question and probe these insights further, future research could recruit more diverse participants, including individuals with varying degrees of commitment to the status quo. Such an investigation might also further align these scenarios with the third principle of Facer and Sandford's (2010) list: that projecting the future inevitably involves values and politics, and in asking a more diverse group of participants about the future of education may reveal the ways in which broader values and politics shape visions of the future.

In addition to whatever they may tell us about the future, the speculative responses of the faculty participants in this study reveal some of the critical issues and concerns related to their work at the time they were interviewed. In particular, these findings indicate that participants valued flexibility, student engagement, and social connection. Such results are consistent with the broader online learning literature which highlights the positive outcomes associated with flexibility (e.g., Veletsianos & Houlden, 2019) and the negative outcomes associated with isolation and disconnection (Costello et al., 2020). In practical terms, these results suggest that participants appear to value flexibility both as a pedagogical approach as well as a mode of work, and it may well be worth the investment by institutional stakeholders, including administrators, faculty, and policymakers, to explore the ways in which current systems of work and learning

design accommodate or constrain flexibility. In terms of future research, these results suggest the ongoing necessity to further investigate flexibility in higher education settings. Such investigations for example, may examine various flexible learning designs and their effectiveness, explore what flexible work looks like for faculty and students, and assess the limits of flexibility, such as for example by asking for whom it works and for whom does it not.

While the futures generated in this study are in response to the COVID-19 pandemic in particular, Canadian higher education faces ongoing challenges that are of similar magnitude. How would faculty members, students, and other stakeholders describe higher education futures when prompted that the Canadian higher education system is impacted by multiple and ongoing crises? Chief amongst such crises is the climate emergency that Canada is facing. For example, the more frequent and intense wildfires facing Canada (Parisien et al., 2023) led to university semester start delays and student displacement during the 2023 wildfires (e.g., Alexander, 2023; Aurora College, 2023). What role do Canadian faculty members see for technology when asked to imagine their institution and students impacted by such extreme weather events? Because the existence of one crisis or event (e.g., COVID-19 pandemic) does not preclude the occurrence of another (e.g., the 2023 wildfires in BC), future studies in this area ought to account for the range of factors that influence education futures. In other words, education futures are impacted by a variety of crises, events, and technologies, and rather than asking about the impact of a singular issue (e.g., an extreme weather event, a pandemic, a particular technology), it may be more fruitful to ask what might education futures look like at the intersection of a variety of factors, such as, for example, the rise of generative artificial intelligence, the lasting impacts of the COVID-19 pandemic, the increased frequency of extreme weather events, etc.

Importantly, questions about the futures of higher education need to be set in context. Answers to questions about intersecting crises, may look much different when asked in the context of BC, compared to say a smaller Canadian province like Prince Edward Island, or a US state which faces a much different reality, or a much smaller nation state such as Belize, Cyprus, or Nauru. While some issues might translate well across national or international contexts (e.g., the use of online learning), others might require a much more local and nuanced approach. For example, increased emphasis on decolonization and Indigenous ways of learning and knowing in Canada might impact not just the way higher education is practiced, but also the ways in which the future of higher education is imagined. To this end, the usefulness of this study lies not only in the context-bound futures it identified, but also in the insights it generated for future research efforts, which can in turn inform policy development and administration of higher education as diverse futures are increasingly engaged.

Funding

This research was undertaken, in part, thanks to funding from the Canada Research Chairs program and the Social Sciences and Humanities Research Council.

Data availability

* Readers are encouraged to contact the authors for access to the data.

Compliance with Ethical Standards

* Disclosure of potential conflicts of interest
The authors report no potential conflicts of interest.

* Research involving human participants and/or animals
This research involves human participants and has been reviewed and approved by Royal Roads University's Research Ethics Board.

* Informed consent

Participants have provided informed consent to participate in this study, as required by ethics protocols approved by Royal Roads University's Research Ethics Board.

References

- Alexander, B. (2020). *Academia next: The futures of higher education*. Johns Hopkins University Press.
- Alexander, E. (Aug 24, 2023). UBCO students displaced by wildfires receiving support through Emergency Assistance Fund. *Kelowna Now*. <https://archive.is/fGVqY>
- Aurora College. (2023, August 14). *NWT Wildfire Update (August 14, 11:00 AM)*. Due to the wildfires situation and evacuations of several NWT communities, the decision has been made to DELAY THE START OF THE FALL SEMESTER TO TUESDAY, OCTOBER 3 AT ALL CAMPUSES AND COMMUNITY LEARNING CENTRES. [Status update].
Facebook. <https://archive.is/35avI>
- Barber, M., Donnelly, K., Rizvi, S., & Summers, L. (2013). An avalanche is coming: Higher education and the revolution ahead. *The Institute of Public Policy Research*. Retrieved from https://www.ippr.org/files/images/media/files/publication/2013/04/avalanche-is-coming_Mar2013_10432.pdf
- Bell, R., Downey, A., Noriega, A. F., & Pyrke, C. (2020). Speculative fictions and curricular futures: Envisioning rural educational utopia. *Transnational Curriculum Inquiry*, 17(2). <https://doi.org/10.14288/tci.v17i2.195967>.
- Cawood, R. (2018). *Can the universities of today lead learning for tomorrow? The University of the Future*. Ernst & Young. <https://cdn.ey.com/echannel/au/en/industries/government---public-sector/ey-university-of-the-future-2030/EY-university-of-the-future-2030.pdf>

- Clinton, G., & Hokanson, B. (2012). Creativity in the training and practice of instructional designers: the Design/Creativity Loops model. *Educational Technology Research and Development*, 60(1), 111-130.
- Contact North. (2022, May 9). Online learning Post-Covid-19 - Five possible realities. Contact North. <https://teachonline.ca/tools-trends/online-learning-post-covid-19-five-possible-realities>.
- Costello, E., Brown, M., Donlon, E., & Girme, P. (2020). ‘The pandemic will not be on Zoom’: A retrospective from the year 2050. *Postdigital Science and Education*, 2, 619-627. <https://doi.org/10.1007/s42438-020-00150-3>
- Costello, E., & Girme, P. (2021). ‘Choice is yours’: Anatomy of a lesson plan from University V. In: MacKenzie, A., Rose, J., Bhatt, I. (Eds.), The epistemology of deceit in a postdigital era. *Postdigital Science and Education*. Springer, Cham. https://doi.org/10.1007/978-3-030-72154-1_15.
- Costello, E., Soverino, T., & Girme, P. (2021). Books (are not like people): A postdigital fable. *Postdigital Science and Education (20211004)*, p.1-21. <https://doi.org/10.1007/s42438-021-00256-2>
- CUPE (2022). *Sector profile: Post-Secondary*. Retrieved from <https://cupe.ca/sector-profile-post-secondary-education>
- D2L (2020). *The Future of Lifelong Learning*. White paper. Retrieved from <https://www.d2l.com/wp-content/uploads/2020/01/Future-of-Work-and-Learning-2020-Digital-Edition.pdf>

- Eringfield, S. (2021). Higher education and its post-colonial future: Utopian hopes and dystopian fears at Cambridge University during Covid-19. *Studies in Higher Education*, 46(1), 146-157. <https://doi.org/10.1080/03075079.2020.1859681>
- Facer, K. (2011). *Learning futures: Education, technology, and social change*. Routledge.
- Facer, K., & Sandford, R. (2010). The next 25 years?: Future scenarios and future directions for education and technology. *Journal of Computer Assisted Learning*, 26(1), 74-93.
- Facer, K., & Sriprakash, A. (2021.) Provincialising futures literacy: A caution against codification. *Futures* 133, 102807.
- Garcia, A. & Mirra, N. (2023) Other suns: Designing for racial equity through speculative education, *Journal of the Learning Sciences*, 32 (1), 1-20.
<https://doi.org/10.1080/10508406.2023.2166764>
- Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory*. Chicago, IL: Aldine Publishing.
- Glenn, M. (2008). *The future of higher education: How technology will shape learning*. Austin, Texas: The New Media Consortium. <https://www.learntechlib.org/p/182088/>.
- Houlden, S. & Veletsianos, G. (2023). Impossible dreaming: On speculative education fiction and hopeful learning futures. *Postdigital Science and Education*, 5, 605-622.
<https://doi.org/10.1007/s42438-022-00348-7>
- Jandrić, P., & Hayes, S. (2021). Postdigital education in a biotech future. *Policy Futures in Education*. <https://doi.org/10.1177/14782103211049915>.
- Johnson, N., Veletsianos, G., & Seaman, J. (2020). U.S. Faculty and Administrators' Experiences and Approaches in the Early Weeks of the COVID-19 Pandemic. *Online*

Learning Journal, 24(2), 6-21.

<https://olj.onlinelearningconsortium.org/index.php/olj/article/view/2285>

Klynveld Peat Marwick Goerdeler. (2020). *The future of higher education in a disruptive world*.

KPMG. <https://assets.kpmg/content/dam/kpmg/xx/pdf/2020/10/future-of-higher-education.pdf>

Levine, A., & Van Pelt, S. (2021, October 4). The future of higher ed is occurring at the margins.

Inside Higher Ed. <https://www.insidehighered.com/views/2021/10/04/higher-education-should-prepare-five-new-realities-opinion>

Macgilchrist, F., Allert, H., & Bruch, A. (2020). Students and society in the 2020s: Three future

‘histories’ of education and technology. *Learning, Media, and Technology*, 45(1), 76-89.
<https://doi.org/10.1080/17439884.2019.1656235>

Macgilchrist, F., Allert, H., Cerratto Pargman, T., & Jarke, J. (in press). Designing Postdigital

Futures: Which Designs? Whose Futures? *Postdigital Science and Education*.

<https://doi.org/10.1007/s42438-022-00389-y>

Markham, A. (2021). The limits of the imaginary: Challenges to intervening in future

speculations of memory, data, and algorithms. *New Media & Society*, 23(2), 382–405.
<https://doi.org/10.1177/1461444820929322>

Molitorisz, S. (2020). 2020. *Surveillance and Society*, 19(4), 480-488. <https://ojs.library.queensu.ca/index.php/surveillance-and-society/index>

Mondelli, V. (2021). *2021 EDUCAUSE Horizon Report: Teaching and Learning Edition*.

EDUCAUSE <https://library.educause.edu/->

[/media/files/library/2021/4/2021hrteachinglearning.pdf?la=en&hash=C9DEC12398593F297CC634409DFF4B8C5A60B36E](https://library.educause.edu/-/media/files/library/2021/4/2021hrteachinglearning.pdf?la=en&hash=C9DEC12398593F297CC634409DFF4B8C5A60B36E)

- OECD. (2022). Trends shaping education 2022. Paris: OECD Publishing.
<https://doi.org/10.1787/6ae8771a-en>
- Parisien, M. A., Barber, Q. E., Bourbonnais, M. L., Daniels, L. D., Flannigan, M. D., Gray, R. W., ... & Whitman, E. (2023). Abrupt, climate-induced increase in wildfires in British Columbia since the mid-2000s. *Communications Earth & Environment*, 4(1), 309.
- Pottie-Sherman, Y., Christensen, J., Foroutan, M., & Zhou, S. (in press). Navigating the housing crisis: A comparison of international students and other newcomers in a mid-sized Canadian city. *Canadian Geographies*. <https://doi.org/10.1111/cag.12869>
- Ross, J. (2017). Speculative method in digital education research. *Learning, Media and Technology*, 42(2), 214-229. <https://doi.org/10.1080/17439884.2016.1160927>.
- Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., Burroughs, H., & Jinks, C. (2018). Saturation in qualitative research: Exploring its conceptualization and operationalization. *Quality and Quantity*, 52(4), 1893–1907.
<https://doi.org/10.1007/s11135-017-0574-8>
- Selwyn, N., Pangrazio, L., Nemorin, S., & Perrotta, C. (2020). What might the school of 2030 be like? An exercise in social science fiction. *Learning, Media and Technology*, 45(1), 90-106. <https://doi.org/10.1080/17439884.2020.1694944>
- Staley, D. J. (2019). *Alternative universities: Speculative design for innovation in higher education*. Johns Hopkins University Press.
- UNESCO. (2020). *Humanistic futures of learning: Perspectives from UNESCO chairs and UNITWIN networks*. United Nations Educational, Scientific, and Cultural Organization.
<https://unesdoc.unesco.org/ark:/48223/pf0000372577>

UNESCO. (2021). Reimagining our futures together: A new social contract for education.

UNESCO: Paris, France. <https://unesdoc.unesco.org/ark:/48223/pf0000379707>

United Nations. (2020). UN Research Roadmap for the COVID-19 Recovery.

<https://www.un.org/en/coronavirus/communication-resources/un-research-roadmap-covid-19-recovery>. Accessed 27 September 2022.

Veletsianos, G., & Johnson, N. (2023). Canadian Faculty Members' Hopes and Anxieties about

the Near-future of Higher Education. *Canadian Journal of Learning and Technology*, 48(3), 1-23. <https://cjlt.ca/index.php/cjlt/article/view/28319>

Veletsianos, G. & Houlden, S., (2019). An Analysis of Flexible Learning and Flexibility Over the Last 40 Years of Distance Education. *Distance Education*, 40(4), 454-468.

<https://doi.org/10.1080/01587919.2019.1681893>