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Accessing Education: Equity, Diversity, and Inclusion in Online Learning
Accès à l'éducation : équité, diversité et inclusion dans l'apprentissage en ligne

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Résumé de l'article

Alors que les établissements d'enseignement postsecondaire canadiens sortent des restrictions liées à la pandémie, ils sont dans une position historiquement unique pour évaluer comment l'éducation en ligne a à la fois facilité et entravé l'apprentissage et comment les effets pourraient être plus importants pour certains que pour d'autres. Dans cette étude, les commentaires ouverts du sondage national du printemps 2022 de l'Association canadienne de recherche en apprentissage numérique ont été analysés afin de comprendre comment l'apprentissage en ligne et/ou hybride soutenait l'équité, la diversité, et l'inclusion (EDI) et présentait des défis liés à l'EDI. Les conclusions étaient les suivantes : (a) l'apprentissage en ligne et hybride présente des défis d'accès pour les élèves marginalisés par la « race », la classe et l'emplacement ; (b) l'apprentissage en ligne et hybride soutient l'EDI en augmentant l'accès et la flexibilité; (c) la pédagogie et la conception des cours sont essentielles pour s'assurer que l'apprentissage en ligne et / ou hybride soutient l'EDI; et (d) les expériences et les attentes des élèves en matière d'apprentissage en ligne indiquent un besoin de soutien et de flexibilité. Ces résultats mettent en évidence certaines des promesses de l'apprentissage en ligne et hybride, mais ils mettent également en lumière certains des défis. Ce document traite de trois défis, l'accès, la pédagogie, et la technologie, et la flexibilité, et les recommandations qui pourraient commencer à aborder l'EDI.

Accessing Education: Equity, Diversity, and Inclusion in Online Learning

Accès à l'éducation : équité, diversité et inclusion dans l'apprentissage en ligne

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Abstract

As Canadian post-secondary institutions emerge from the pandemic restrictions, they are in a historically unique position to assess how online education has both facilitated and hindered learning, and how the effects might be greater for some. In this study, open-ended comments from the Canadian Digital Learning Research Association 2022 Spring National Survey were analyzed to understand how online and/or hybrid learning both supported equity, diversity, and inclusion (EDI) and presented EDI-related challenges. The findings were that: (a) online and hybrid learning presents challenges of access for students marginalized by "race," class, and location; (b) online and hybrid learning supports EDI by increasing access and flexibility; (c) pedagogy and course design are central to ensuring that online and/or hybrid learning supports EDI; and (d) student experiences and expectations around online learning indicate a need for support and flexibility. These findings highlight some of the promises of online and hybrid learning, but they also bring to light some of the challenges. This paper discusses three challenges, access, pedagogy, and technology, as well as flexibility, and recommendations that might begin to address EDI.

Keywords: equity; diversity; inclusion; online learning; hybrid learning; accessibility

Résumé

Alors que les établissements d'enseignement postsecondaire canadiens sortent des restrictions liées à la pandémie, ils sont dans une position historiquement unique pour évaluer comment l'éducation en ligne a à la fois facilité et entravé l'apprentissage et comment les effets pourraient être plus importants pour certains que pour d'autres. Dans cette étude, les commentaires ouverts du sondage national du printemps 2022 de l'Association canadienne de recherche en apprentissage numérique ont été analysés afin de comprendre comment l'apprentissage en ligne et/ou hybride soutenait l'équité, la diversité, et l'inclusion (EDI) et présentait des défis liés à l'EDI. Les conclusions étaient les suivantes : (a) l'apprentissage en ligne et hybride présente des défis d'accès pour les élèves marginalisés par la « race », la classe et l'emplacement ; (b) l'apprentissage en ligne et hybride soutient l'EDI en augmentant

l'accès et la flexibilité; (c) la pédagogie et la conception des cours sont essentielles pour s'assurer que l'apprentissage en ligne et / ou hybride soutient l'EDI; et (d) les expériences et les attentes des élèves en matière d'apprentissage en ligne indiquent un besoin de soutien et de flexibilité. Ces résultats mettent en évidence certaines des promesses de l'apprentissage en ligne et hybride, mais ils mettent également en lumière certains des défis. Ce document traite de trois défis, l'accès, la pédagogie, et la technologie, et la flexibilité, et les recommandations qui pourraient commencer à aborder l'EDI.

Mots-clés : l'équité; la diversité; l'inclusion; apprentissage en ligne; apprentissage hybride; accessibilité

Introduction

The COVID-19 pandemic profoundly impacted post-secondary education in Canada. With restrictions lifted, the impact of the pandemic continues to ripple through the education system. While the move to online learning, necessitated by the pandemic, was and is a traumatic experience for many, the lessons learned from this shift have the potential to shape educational systems in profound ways. As they emerge from the pandemic restrictions, Canadian post-secondary institutions are in a historically unique position to assess how online education has both facilitated and hindered learning and how these effects might affect some more than others.

Context

According to Johnson (2021b), while fully online course enrollments were expected to drop as restrictions were lifted, it was not expected "that fully online course enrolments [would] drop to the pre-pandemic levels" (p. 2). Further, this report showed that of the responding institutions,[1] "when comparing perceptions of student preferences for online learning compared to 2019, 75% of universities and 63% of colleges agreed that undergraduate students would be more likely to prefer online courses" (p. 5). This demand likely drives, at least in part, the likelihood that online offerings will be increased. According to the Canadian Digital Learning Research Association (CDLRA) 2022 survey data, when asked about the likelihood of courses and/or programs being offered online in the next 24 months, 53.5% of those surveyed reported that it was more likely that they would be offered fully online, 62.8% reported that it was more likely that they would be offered partially online, and 37.2% of those surveyed said that it was more likely that they would be offered in a multi-access (e.g., hyflex [2]) format.

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[1] The "CDLRA roster of public post-secondary institutions in Canada consists of 234 institutions (colleges, universities, polytechnics, and CEGEPS). In 2021, 121 institutions responded to the national survey for a response rate of 52%" (Johnson, 2021a, p. 4). The CDLRA "invited a primary contact from each institution (typically the Provost/VP Academic, Vice-President Education, or Directeur général) to participate" (p. 17). While most respondents have firsthand knowledge and access to data, others may be reporting based on more limited perspectives.

[2] Johnson (2020) defined hyflex learning as where "students enrol in a course that offers them the ability to choose their mode of delivery (in-person or online) and shift modes of delivery during the course in accordance with their individual needs and preferences" (p. 9).

Understanding how online/hybrid and hyflex learning impact equity, diversity, and inclusion (EDI) is of vital importance as institutions increase their online offerings. According to *Equity and Inclusion in the Classroom*, "EDI considerations are in danger of falling by the wayside as administrators evaluate which aspects of teaching and learning are deemed 'critical' and which are not. Paradoxically, without an EDI lens, online learning, which is often assumed to make learning more accessible, can actually exacerbate pre-existing inequities" (Centre for Teaching and Technology, Equity and Inclusion Office, n.d., para. 2). This article reflects on qualitative data from the CDLRA 2022 Spring National Survey to elaborate on some of the challenges and promises of online and hybrid learning for EDI. Through a qualitative analysis, this article addresses the following two research questions:

1. How has online and/or hybrid learning presented EDI-related challenges?
2. How has online and/or hybrid learning supported EDI practices?

Literature Review

Studying post-secondary education in Canada is a complex task. Given that education is a provincial or territorial responsibility and there is no national jurisdiction over education, understanding national trends in online education is a daunting task. McGreal and Anderson (2007), for instance, concluded that understanding the Canadian situation requires an approach that focuses on specific provincial initiatives, as Canada is unable to "sustain national strategies, such as those implemented in many other countries, due to the fractious nature of federal and provincial relations" (p. 5). However, understanding the context of online learning is necessary in order to determine potential next steps. While the literature on online learning in Canada is limited, three main bodies of literature are relevant here.

The first body focuses on developments in online learning, such as massive open online courses (MOOCs) and open educational resources (OER), and how these relate to EDI. The second body focuses specifically on EDI in online learning. The third body focuses on the need for pedagogy in course development and highlights the need for more faculty training in this area. These bodies of work provide context for this project, highlight the importance of an EDI focus, and support the need for pedagogical development and training. Online learning tools and technologies are useful, but as the pandemic has taught us, how they are used has implications for EDI.

Developments in Online Learning

The two developments that are most relevant to the discussion of EDI are MOOCs and OER. The rise of MOOCs has been met with both praise and critique. While some laud this approach as being more inclusive due to the removal of spatial and temporal constraints (Veletsianos et al., 2021), others, such as Irvine et al. (2013), have pointed to the high rates of attrition and low rates of accreditation. Additionally, as Veletsianos et al. (2021) suggested, the benefits of MOOCS may be experienced

unevenly. Houlden and Veletsianos (2021) also pointed out that the shift to flexible education, including MOOCs, favours "an ideal version of the human, namely the independent, white, male, able-bodied human" (p. 144).

The second development is the movement toward OER. Open educational resources are defined as "materials designed for teaching and learning that are both openly available for use by teachers and students and that are devoid of purchasing, licensing, and/or royalty fees" (Brown et al., 2020, p. 26). These materials not only save "students money but can also provide additional affordances by way of improved inclusivity" (p. 27). Despite the advantages of OER, according to Johnson (2021a), only 49% of institutions surveyed by the CDLRA in 2021 "agreed that faculty were more likely to use open education resources" (p. 3). This may be attributable to a lack of training. Johnson (2021b) stated that "although 69% of institutions agree that they encourage faculty to use OER, a smaller proportion (58%) agree that they provide effective training on how to find and use OER" (p. 4). Morgan (2019) supported this contention, stating that in addition to a need for strong institutional leadership, professional development around OER is needed "as both an awareness and capacity building effort" (p. 376). However, it should be noted that this need for professional development must be balanced with faculty members' needs to recover from the worrying effects of the pandemic on their "mental health, workload, and research productivity" (Brennan et al., 2021, p. 880).

The Challenges and Promise of EDI in Online Learning

Literature on EDI in online learning has burgeoned in the years following the pandemic, focusing on the promise and the challenges of technology in ameliorating existing cultural, economic, and social inequalities, as well as in meeting the needs of a diverse set of learners (Simon et al., 2014). As Johnson (2020) reported, Canadian higher education administrators and faculty "remain concerned about equity: the pandemic amplified and shone a spotlight on persistent inequities in higher education" (p. 4). Thus, for online and hybrid learning to be successful, "needs like affordable widespread access to high-speed internet, affordable learning devices, and accommodations for students with disabilities must be addressed" (p. 4). These themes are supported by Farley and Burbules' (2022) meta-synthesis of current research.

Farley and Burbules (2022) argued that online and blended learning offer the potential to expand access to education, but caution that a one-size-fits-all approach does not address the diverse needs of students. There is a "substantial body of research that documents differential access and unequal educational satisfaction and outcomes in online and blended learning environments" (Introduction section, para. 5. See also Bartek et al., 2022). Their analysis uncovered both structural impediments (such as access to technology, location and environment, and academic preparation), and institutional impediments (such as design of online learning and needed support for marginalized groups and older students). Similar concerns were raised by Boys (2022), who argued that although pandemic teaching was often framed "as a massive shift from normal (face-to-face) to abnormal (virtual) delivery modes … its impact both continues and alters assumptions about what constitutes 'proper' university education, and both perpetuates and disrupts what is 'noticed', valued and supported in conventional teaching and learning processes" (p. 13). In other words, some of the

inequities that we are seeing in online learning were already evidenced in the social, spatial, and material practices of higher education.[3] In their discussion of disability, Facknitz and Lorenz (2020) have argued that while the assumption is often that online learning is "automatically more accessible for disabled learning … that is not the case" (p. 2), as accessibility "appears as an addendum or afterthought at the end of production," which often occurs without input from disabled people (p. 2). As Facknitz and Lorenz (2020) contended, "moving face-to-face learning to an online medium is not the same as teaching online; indeed, online learning uses very different pedagogies" (p. 2).

Pedagogy and Online Learning

The relationship between pedagogy and online learning is referenced in much of the work on educational technologies. For instance, Vanleeuwen et al. (2020) highlighted the importance of pedagogical training in education and set out to answer the question of how "post-secondary institutions describe faculty training and support for digital education in Canada" (p. 5). What they found was that wide variations in professional development opportunities were offered and/or mandated and concerns were raised about the fact that some "faculty are expected or asked to teach online with little or no techno-pedagogical training and support" (p. 11). Carter et al. (2014) concurred, stating that faculty "involved in e-learning must likewise integrate web-based and online delivery techniques, engagement strategies, and other activities *grounded in evidence-based pedagogical principles* [emphasis added] into their e-teaching repertoires" (p. 2). The shift to online teaching due to the COVID-19 pandemic highlighted the importance of pedagogically informed approaches to e-learning. As Barbour et al. (2020) have argued, the "design process and the careful consideration of different design decisions have an impact on the quality of the instruction" and it is "this careful design process that is absent in most cases in these emergency shifts" (p. 4). Their discussion of emergency remote teaching highlighted the fact that this type of learning should not be considered the same as carefully planned, pedagogically informed online learning. They do, however, believe it can provide new insights and solutions to "intractable problems, such as equal access to digital learning technology and broadband internet" (p. 6), a point that is discussed in the Findings section of this report.

Methodology and Data Analysis

The data analysis is based on answers to two open-ended questions from the CDLRA data set. The CDLRA tracks "the development of online and digital learning in public post-secondary institutions" (Canadian Digital Learning Research Association, n.d., "About" section, para. 1). While the survey is primarily quantitative, some open-ended questions are included. Data was collected in June and July of 2022 by the CDLRA. Identifying information was removed from the data before it was released to graduate student researchers. The CDLRA survey had 171 responses, with 32 from British Columbia, 81 from Ontario, and the remaining 58 from other provinces and territories. The respondents self-identified as senior administrators (27), teaching and learning leaders (44), other administrators (41), faculty (27), and other (33). Of the 172 survey respondents, 61 responded to at

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[3] For an example of how this plays out globally, see Siergiejczyk (2020).

least one of the two open-ended questions that this report addresses, with 53 responses to the first question and 56 responses to the second. The first question was: In what ways, if any, has online and/or hybrid learning presented EDI-related challenges? The second question was: In what ways, if any, has online and/or hybrid learning supported EDI practices at your institutions?

The data was imported to NVivo qualitative data analysis software (Version 12). While an inductive approach was used to determine initial codes, themes were determined using a deductive approach. To inductively identify initial codes, NVivo was used to perform a word frequency query for the qualitative data in each of the two questions. This analysis highlighted common words. The codebook was refined through the removal of words that were not relevant to the focus of the study (e.g., provost, president), common words (e.g., many, also) or words that were too broad to be analytically useful (e.g., education). During manual coding, new codes were added to the codebook. Each question was coded as a subset of the larger data set. To reduce possible bias, both inductive and deductive approaches were used, and coding was reviewed at multiple stages by another researcher to ensure trustworthiness of results. Additionally, the quantitative data was also reviewed to establish that the themes found in the qualitative data were consistent. While some of the codes used in the two questions were the same, each also had codes that were unique to that subset. Figure 1 shows a comparison of the codes used in each question. Two of the themes overlapped the two question subsets, while two themes were unique to each question.

Figure 1

Comparison of Nodes Between Data Sets
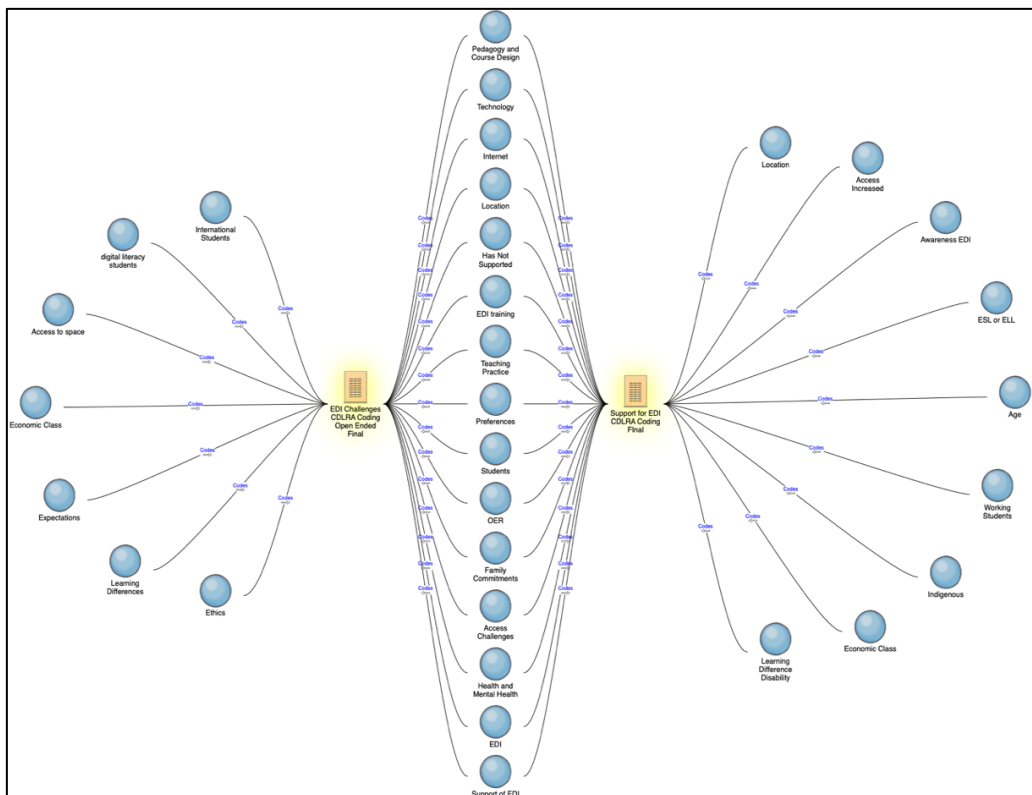
After the initial coding process was complete, unused codes were removed. Related codes were grouped under broader codes. Once all comments had been coded, a mapping strategy was used to draw connections between concepts and identify themes. Codes were then categorized within the identified themes. Codes that were not reflected within the themes and which had fewer than five references were deleted. Out of this process, four main themes emerged: challenges to EDI, support for EDI, pedagogical and course design, and student concerns. Table 1 outlines the four themes, the number of codes within each one, and the total number of references across all codes. These will be discussed in greater detail in what follows.

Table 1

Themes, Codes, and References

Theme	Codes	References
	n	*n*
Challenges to EDI	7	71
Support for EDI	9	59
Pedagogy and course design	6	48
Student concerns	4	23

Findings

The four main findings that emerged from the data were:

1. Online and hybrid learning presents challenges of access for students marginalized by "race,"[4] class, and location.

2. Online and hybrid learning supports EDI by increasing access and flexibility.

3. Pedagogy and course design are central to ensuring that online and/or hybrid learning supports EDI.

4. Student experiences and expectations around online learning indicate a need for support and flexibility.

Although these four findings are discussed separately in what follows, it is important to note that while online and hybrid learning was seen to present challenges to EDI (Finding 1) and support EDI (Finding 2), this seeming contradiction can be explained in part by the third finding, as each can be explained, at least in part, by the strength of the relationship between course design and pedagogy.

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[4] Given that the notion of biological races has been discredited, I am using "race" to refer to the socially constructed category of race and the ongoing consequences of this social construction.

Further, pedagogy and course design are most effective when they are focused on meeting the needs of students (Finding 4).

Finding 1: Online and Hybrid Learning Presents Challenges of Access for Students Marginalized by "Race," Class, and Location

Within the data, challenges to EDI were often discussed as issues of access. As indicated in Figure 2 this included access to technology, Internet, and space. Together, these three points of access accounted for 62% of the coded references. Of the 71 references coded as challenges to EDI, 17 mentioned access to technology as being a barrier to EDI. A further 19 identified access to the Internet as a barrier. Access to study space was referenced in five of the responses. Access issues were rarely discussed individually. For instance, access to technology was discussed with access to the Internet in 12 of the 17 references. Likewise, discussion of access to study space was always paired with discussions of access to technology and/or the Internet.

Figure 2

Challenges to Equity, Diversity, and Inclusion
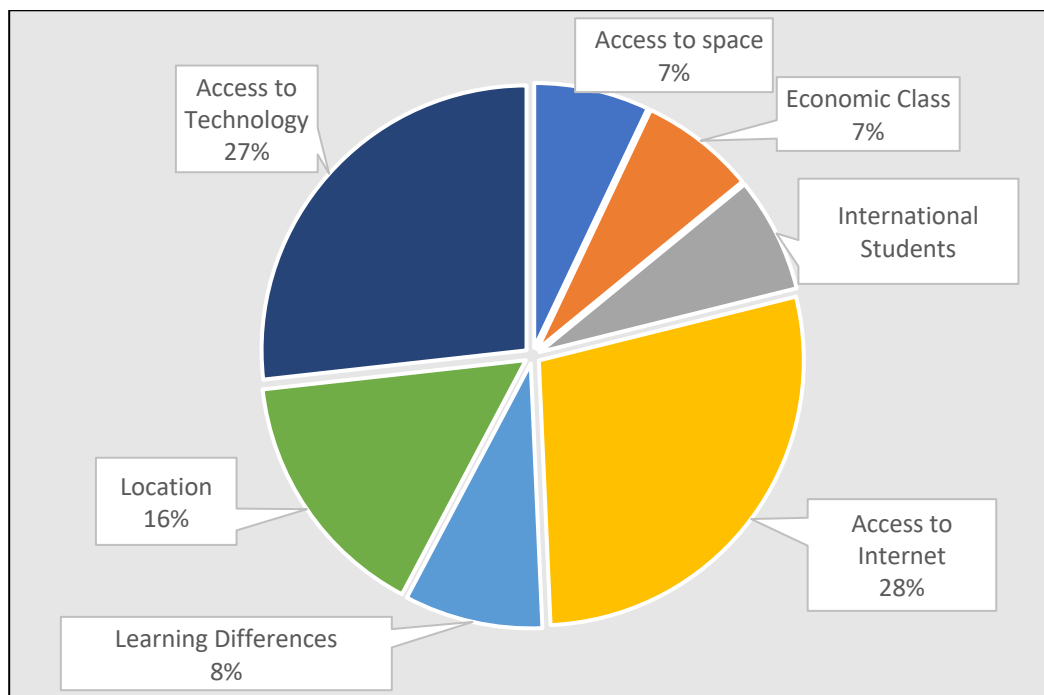
Note. n of responses = 53.

For instance, one administrator explained that "e-learning and/or hybrid learning has highlighted inequities between students: access to the Internet and the required technological tools; challenges related to the family environment and learning environment."[5] In terms of technology, lack of access was most often attributed to economic class (six responses) and location (five responses with rural/

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[5] Google Translate was used to translate this comment from French to English.

remote accounting for four of the responses). Indigenous, visible minority, or marginalized students were identified in five of the cases as having less access to technology. Access to the Internet, like technology, was also attributed to economic class (4 responses), location (13 responses), and Indigenous/marginalized students (3 responses). However, class was identified in fewer of the responses with location having the most responses (13 responses). Nine of these responses identified remote or rural locations as having poorer access to the Internet or as having bandwidth issues. International locations were also identified as having access issues by four respondents.

While access issues were often linked to class, racialized groups, or location, concerns around how online learning was a challenge for students with disabilities or learning differences were more concerned with the nature of online learning. For instance, one teaching and learning leader mentioned how videos allow some students to revisit the material, which benefits students with learning differences. However, they went on to explain that the "same videos that are appreciated and desired by many, become more difficult to use for many students since reading tools do not allow benefit from these advantages (e.g., blind students)."[6] Another teaching and learning leader echoed this sentiment, championing choice as central to addressing the needs of online learners. They stated that "online learning is not ideal for all learners—choice is a much better option to allow learners to choose the mode that works best for them." Despite that online and hybrid learning were seen to pose challenges to EDI, there were also comments which praised online and hybrid learning for supporting EDI.

Finding 2: Online and Hybrid Learning Supports EDI by Increasing Access and Flexibility

The discussion of the ways that online and hybrid learning supported EDI focused largely on increased access (Figure 3). When asked to identify ways that online and/or hybrid learning supported EDI practices, the word *access* was used by 21 of the 56 respondents. While some respondents chose not to expand on how online and/or hybrid learning supported greater access, most respondents provided insights into which groups were granted greater access. Online/hybrid learning was touted as increasing access for working students, mature students, Indigenous students, students with family commitments, economically-disadvantaged students, students with disabilities or learning differences, English as a second language/English language learners, and students living in rural or remote locations.

The group that was mentioned most frequently as enjoying greater access was those with disabilities or learning differences. While learning differences/learning disabilities were most often cited, a few comments also noted how physical disabilities may pose challenges for in-person attendance as well. This distinction illustrates how access was used to describe both intellectual and physical access. One faculty member, for instance, referenced how "pre-recorded lectures with captions can allow students to rewatch content multiple times (benefits those with learning differences, English as a second language students, etc.)" and a teaching and learning leader noted that "lecture recordings, open book exams with longer timelines eliminated most of the accommodations requests for our access centre." Although some discussions of access referenced how content was presented and accessed by

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[6] Google Translate was used to translate this comment from French to English.

specific groups, others reflected on how the removal of spatial or temporal constraints supported EDI, specifically for those with work commitments, family commitments, or who lived in remote/rural areas.

Figure 3

Support for Equity, Diversity, and Inclusion
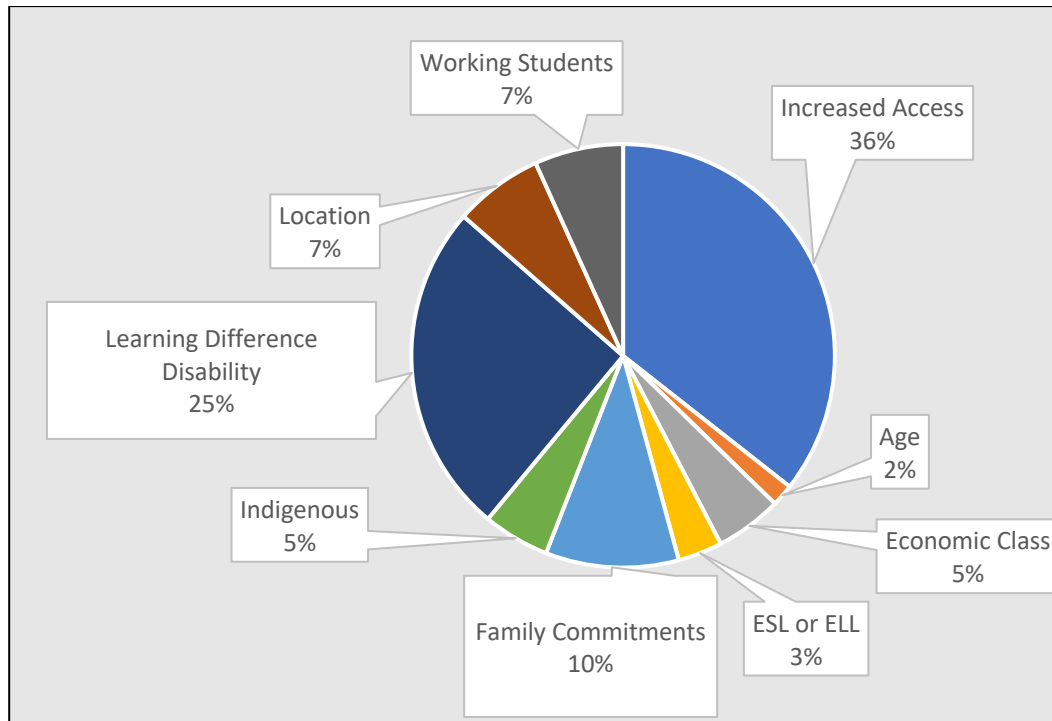
Note. *n* = 56.

One senior administrator who identified reliable Internet access as a challenge for those in remote areas also included learners in remote communities in their discussion of increased access:

> Our online and flexible delivery model provides access to post-secondary education to learners who would otherwise be excluded. This includes learners with health issues; learners with disabilities; learners in remote communities; learners with work and/or family commitments; marginalized learners and Indigenous learners, among others.

Likewise, while those with learning differences and/or disabilities were identified as being marginalized by online and/or hybrid learning, this group was also identified as a group that benefited from online and/or hybrid learning. In fact, while six respondents mentioned learning differences and/or disabilities as challenges for EDI, there were far more references (15) that spoke of support for EDI in this area. These seeming contradictions will be taken up in the Discussion portion of this article.

Finding 3: Pedagogy and Course Design Are Central to Ensuring That Online and/or Hybrid Learning Supports EDI

As outlined above, discussion was often framed around increased or decreased access for

students. Another topic of discussion was concerned with how courses were designed and delivered. In fact, 60% of responses that referenced EDI related to teaching and/or course design specifically. This included both barriers to EDI and support for EDI (Figure 4).

Figure 4

Pedagogy and Course Design
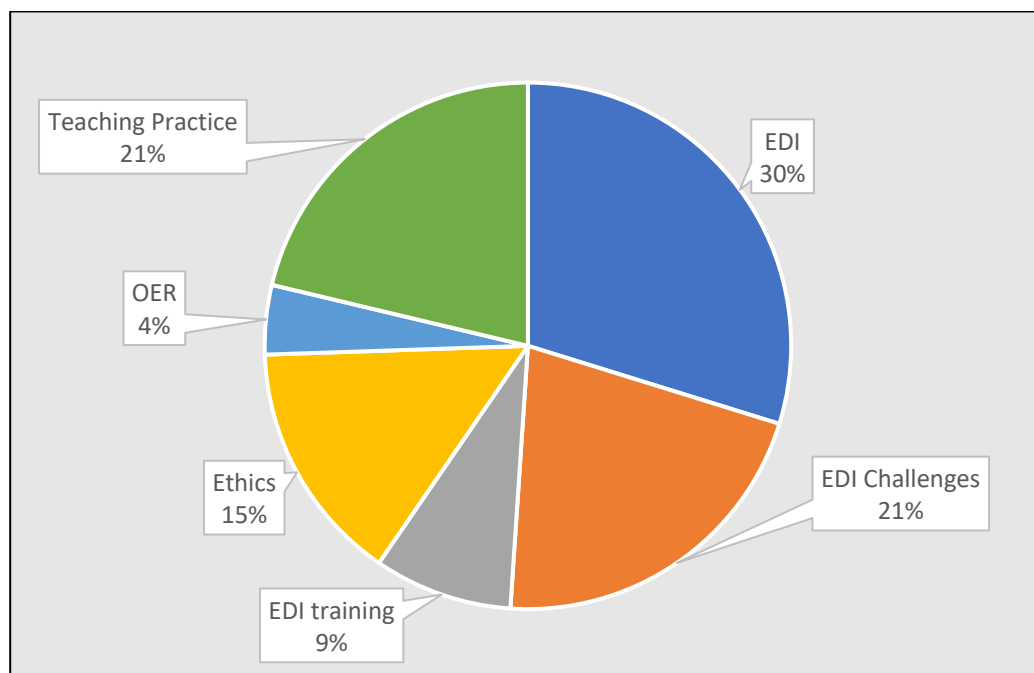
Note. n = 48.

Teaching practices were discussed in terms of teaching style, effects of burnout, and faculty use of and resistance to technology. Specific issues that were identified were instructors trying to replicate their "old ways of teaching," and inconsistencies in use of "platforms, OER and accessible (universal design for learning) technologies." Time was cited as one reason for failures to attend to EDI. One teaching and learning leader explained that teachers were "very busy with the move to online teaching and were able to devote little attention to EDI." Although there were issues raised regarding how faculty functioned in online spaces, one of the more positive themes was an increasing awareness of EDI issues in online learning. One teaching and learning leader explained that moving courses online had "sparked conversations on accessibility of course materials and inclusive design." Another stated that awareness "of the need for EDI practices has increased," but tempered that with the contention that "instructors do not know how to apply these practices." A senior administrator stated that "there is still a lot of training work to be done at the level of teachers and instructional designers for the design of online and hybrid courses that are inclusive in their content and format."[7]

Another significant issue was ethics, especially as it related to surveillance and privacy. The use of surveillance (e.g., proctoring software or mandatory use of cameras) was identified as a barrier to

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[7] Google Translate was used to translate this comment from French to English.

EDI. One teaching and learning leader commented that "instructional practices, such as requiring students to leave their cameras on, or using proctoring software, can make the online/blended learning less equitable." Another linked the use of surveillance to a desire to replicate face-to-face strategies.

> Often instructors try to mimic on-campus classroom teaching in the design and delivery of their virtual courses, which has led to an over-zealousness with regards to surveillance technologies (proctoring for example) and other issues. I feel in some ways instructors trying to replicate their old ways of teaching are struggling with a lack of control, resulting in worse relationship building with students. Racialized and other marginalized groups tend to also be disproportionately impacted by these technologies.

These issues were linked to teaching practices that disadvantaged specific groups or students.

Finding 4: Student Experiences and Expectations Around Online Learning Indicate a Need for Support and Flexibility

In the previous discussions of EDI, the discussion focused on how online and/or hybrid learning supported or challenged EDI. This section addresses how student experiences and expectations were framed by respondents, including discussions of their digital literacy, mental health, expectations, and needs for flexibility (Figure 5).

Figure 5

Student Concerns
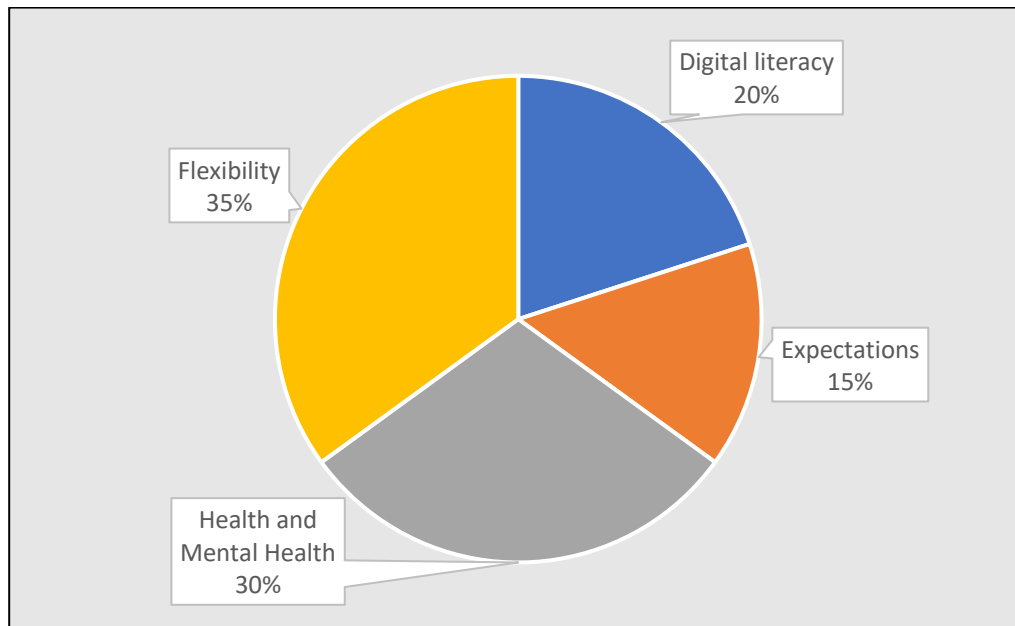
Note. n = 23.

Although not a major theme, digital literacy was identified as a barrier to EDI by four respondents. This was always paired with discussion of inadequate access to technology. It is addressed separately here, however, because issues of access are barriers that students face. Digital literacy,

although referenced as a challenge *to* EDI, is actually a characteristic or shortcoming *of* the students themselves. This places the students themselves as barriers to their own participation. Citing "delays in digital literacy among some students" as a challenge to EDI serves to mask the real issue which is access to technology. This was an approach that was also used when discussing student expectations as barriers to EDI. One faculty member, for instance, responded to the question on how online and hybrid learning presented EDI-related challenges by commenting that "students are not self-aware enough to choose the type of learning environment that will help them be successful." A senior administrator also highlighted the following as challenges to EDI: "time management; and discipline to undertake self-directed learning." While time management, digital literacy, and self-discipline are certainly issues for some students, framing these as barriers to EDI serves to shift the focus away from pedagogical, structural, or institutional gaps.

Health and mental health were also discussed in the context of student experiences. This took the form of both positive and negative aspects of online and/or hybrid learning. For instance, while students' mental health was seen to be negatively affected by strategies such as "'force-submit' options on tests or preventing backtracking on tests," hyflex was lauded as allowing students greater control of their health and safety, and online/hybrid formats as reducing social anxiety and allowing access for students with health issues.

Students were also discussed in the context of their need for flexibility or choice. While the discussion of flexibility was often framed around access, online and/or hybrid learning was also cited as "more adapted to particular situations." One senior administrator discussed how online and flexible delivery provides increased access not only to marginalized groups, but also to those who "by choice or through life circumstances cannot attend a place-based university, and those attending place-based post-secondaries who crave increased flexibility and control." Flexibility was also cited by another senior administrator as better serving "students with work and family duties and long commutes." Flexibility, here, was tied to the diverse needs and situations of students. Flexibility holds the promise of addressing the needs of many different groups. However, the administrator went on to say that although flexibility "improves their ability to manage … it may also degrade their experience," a point that will be taken up in the next section.

Discussion and Recommendations

The findings highlight some of the promises of online and hybrid learning, but they also bring to light some of the challenges for EDI. This section will discuss the three challenges, each followed by recommendations that might begin to address them.

Challenge 1: Access

According to the Government of Canada's (2021) report on their progress toward universal access to high-speed Internet, in 2020, rural communities had a 54.4% rate of access to minimum Internet speeds of 50/10 Mbps, as compared to 99.2% of urban Canadians. Despite the government's goal to close the gap by 2030, much work needs to be done. According to their website, and despite

claims to be "on track to connecting 98% of Canadians by 2026," the status of the projects lists only 189 out of the 535 projects as operational. The remaining are either under negotiation, in the planning stage, in the detailed design and construction stage, or have an unavailable status. In the current context, educators must be prepared to work within these constraints.

While online/hybrid learning offers the promise of greater support for learners from marginalized groups such as those with learning differences and/or disabilities, or those who live in underserved, remote/rural communities (often Indigenous communities), these are often the groups that are most identified as facing challenges of access to technology, the Internet, or accessible content. Addressing issues of access is vital if institutions want education to be equitable and inclusive. Learners cannot be expected to have digital literacy skills if they do not have access to technology. Students with learning differences and/or disabilities can only benefit from online learning if they can access the content in equitable ways.

Challenge 1: Recommendations

1. Online and/or hybrid offerings need to be designed to address the needs of diverse learners with diverse needs (e.g., closed-captioning and text or audio descriptions for all visually accessed material, including images).

2. Accessibility services that support not only learners, but also assist faculty in assuring that their material is as widely accessible as possible.

3. Increased access to technology. No student should be excluded because they do not have access to the required tools of learning. Some groups, such as Pinnguaq, have started this important work through their partnership with Computers for Success Canada (Pinnguaq, 2022).

4. Given that financial constraints were often cited as reasons for reduced access to technology or the Internet, grants need to be available for students who are unable to access these important tools.

5. While the Canadian government is committed to increasing access, in the interim, flexible options need to be provided for those with inadequate Internet/broadband access. This can include access to low bandwidth options, print options, or telelearning options.

It is important to note that some of the recommendations rely on implementation by faculty. This is concerning given that the CDLRA survey indicated that 124 of the 172 respondents identified faculty fatigue and burnout as one of the most pressing teaching and learning challenges. The importance of faculty training, which is discussed below, therefore must be balanced within their need to recover from the effects of moving to emergency remote learning.

Challenge 2: Pedagogy and Technology

In "TPACK Tried and Tested: Experiences of Post-Secondary Educators During the COVID-19 Pandemic", Manokore and Kuntz (2022) discussed their study of 140 educators in Canada. They used

surveys and open-ended questions to understand how educators ($n = 140$) applied "technological pedagogical content knowledge (TPACK) during the pandemic" (p. 1). TPACK is a framework that includes content knowledge, pedagogical knowledge, and technological knowledge (p. 1). They found high levels of confidence in content knowledge among the educators. However, they also found that although 13% of participants indicated that they felt "the quality of their teaching practice improved; about 60% said the quality declined and about 28% said the quality remained the same" (p. 3). The authors attributed this, at least in part, to the fact that only "40% of the participants had formal teaching qualifications; meaning that they might not have had an adequate pedagogical knowledge base" (p. 3). They suggested that this is likely also because participants may not have had a broad technological knowledge. Their work underscores the importance of providing both pedagogical training and technological training, a point that was also raised in the CDLRA data.

Challenge 2: Recommendations

1. Pedagogical training for all faculty who do not have formal teaching qualifications. This training should include EDI training.

2. Technological training should be made available for all faculty who are expected to teach in online or hybrid settings. Where possible, faculty should be compensated, either through release or through financial compensation, for this training.

3. Technological-pedagogical training should be made available to faculty. Pedagogical training and technological training can provide faculty with the understanding of how to teach and how to use technology. It is also important that faculty are trained to make pedagogically-informed choices with regard to technological tools/platforms.

4. Institutional guidelines should be developed for common use. Given EDI concerns around surveillance and privacy, institutions need to provide guidance on how and when such technology can/should be used. Additionally, given that inconsistencies across faculties and in use of platforms were identified as barriers to EDI, guidelines might be drafted to ensure greater consistency.

Addressing issues of access and pedagogical training are imperative for ensuring equity, diversity, and inclusion. Increasing options for students was also identified a way to increase inclusion.

Challenge 3: Flexibility

Online and/or hybrid learning was often framed as offering students more flexibility and choice. Given that students come from diverse backgrounds and have diverse needs, flexibility is desirable. However, while flexibility has the potential to increase access for some learners, the form it takes needs to be addressed. Houlden and Veletsianos (2020) argued that learners who access flexible learning do so in ways that necessitate that they, themselves, become flexible learners. Additionally, the flexibility that is afforded by such educational approaches is not equally available to all, nor does it offer the same benefits to all. The freedom offered by anytime and anyplace education creates the responsible subject who is "autonomous, independent, and [has] the ability to self-regulate" (p. 149), which is also the type

of subject that has been identified as the most desirable or necessary for the labour force. This can result in loss of freedom and disparities in the "quality of certain forms of flexible education" for marginalized groups (p. 151). They suggest a radical approach to flexible learning which is "accountable to the purpose of education itself" (p. 152). They expand on this in a separate discussion of radical flexibility (Veletsianos & Houlden, 2020), and the shift they propose is flexible education "that is responsive to learner and societal needs" (p. 850).

Challenge 3: Recommendations

1. Flexible offerings should be designed to be responsive to learner and societal needs.

2. Flexibility should address both temporal and spatial barriers to access.

3. Flexibility should be developed through consultation with learners and instructors to ensure that learners' needs are met and that offerings are compatible with faculty workloads.

4. Institutional support for hyflex learning needs to be put in place. This includes funding for teaching assistance, technological upgrades, and pedagogical/technological training and support.

The recommendations offered here are meant to be starting points for making change or, at least, entry points into developing discussions around EDI. Many of these recommendations are institutional, and as such, it is vital that institutional leadership prioritize the implementation of policies that support equity, diversity, and inclusion.

Conclusion

The main findings that emerged from this study were that online and hybrid learning both supports and offers challenges to EDI, that pedagogy and course design must be considered as a first step in addressing some of the challenges to EDI, and that further student support is needed to facilitate equity, diversity, and inclusion in online learning. While the suggestions offered here are tentative, the goal is to highlight some of the barriers to EDI and start a dialogue that might move us forward in our pursuit of equity, diversity, and inclusion. While it is beyond the scope of this report, readers are encouraged to also engage with reconciliation, decolonization, and Indigenization as they work toward EDI goals.

Acknowledgement

References

Barbour, M. K., LaBonte, R., Kelly, K., Hodges, C., Moore, S., Lockee, B., Trust, T., Bond, A., & Hill, P. (2020). *Understanding pandemic pedagogy: Differences between emergency remote, remote, and online teaching*. Canadian eLearning Network. http://hdl.handle.net/10919/101905

Bartek, C., Pellegrino, L., Cutler White, C., & Clayton, A. B. (2022). Institutional change to support online learners: A case study for student success. *New Directions for Community Colleges*, *2022*(198), 135–148. https://doi.org/10.1002/cc.20516

Boys, J. (2022). Exploring inequalities in the social, spatial and material practices of teaching and learning in pandemic times. *Postdigital Science and Education*, *4*, 13–32. https://doi.org/10.1007/s42438-021-00267-z

Brennan, J., Deer, F., Trilokekar, R., Findlay, L., Foster, K., Laforest, G., Wheelahan, L., & Wright, J. (2021). Investing in a better future: Higher education and post-COVID Canada. *FACETS*, *6*(1), 871–911. https://doi.org/10.1139/facets-2021-0006

Brown, M., McCormack, M., Reeves, J., Brooks, D. C., & Grajek, S. (with Alexander, B., Bali, M., Bulger, S., Dark, S., Engelbert, N., Gannon, K., Gauthier, A., Gibson, D., Gibson, R., Lundin, B., Veletsianos, G., & Weber, N.). (2020). *2020 EDUCAUSE horizon report: Teaching and learning edition.* EDUCAUSE. https://library.educause.edu/-/media/files/library/2020/3/2020_horizon_report_pdf.pdf?la=en&hash=08A92C17998E8113BCB15DCA7BA1F467F303BA80

Canadian Digital Learning Research Association. (n.d.). *About*. http://www.cdlra-acrfl.ca/digital-learning-canada/

Carter, L. M., Salyers, V., Myers, S., Hipfner, C., Hoffart, C., MacLean, C., White, K., Matus, T., Forssman, V., & Barrett, P. (2014). Qualitative insights from a Canadian multi-institutional research study: In search of meaningful e-learning. *The Canadian Journal for the Scholarship of Teaching and Learning, 5*(1), 1–17. https://doi.org/10.5206/cjsotl-rcacea.2014.1.10

Centre for Teaching, Learning, and Technology—Equity & Inclusion Office. (n.d.). *Equity and inclusion in the classroom. Equity, diversity and inclusion in online teaching: Where to begin?* University of British Columbia. https://ctlt-inclusiveteaching.sites.olt.ubc.ca/files/2020/04/Equity-Diversity-Inclusion-Online-Teaching.pdf

Facknitz, H. S., & Lorenz, D. E. (2020). *Cripping pandemic learning in higher education*. CJDS. https://www.researchgate.net/publication/348477935_Cripping_Pandemic_Learning_in_Higher_Education

Farley, I. A., & Burbules, N. C. (2022). Online education viewed through an equity lens: Promoting engagement and success for all learners. *Review of Education*, *10*(3), Article e3367. https://doi.org/10.1002/rev3.3367

Government of Canada. (2021, December 31). *Progress toward universal access to high-speed Internet*. Innovation, Science and Economic Development Canada. https://ised-isde.canada.ca/site/high-speed-internet-canada/en/progress-toward-universal-access-high-speed-internet

Houlden, S., & Veletsianos, G. (2021). The problem with flexible learning: Neoliberalism, freedom, and learner subjectivities. *Learning, Media and Technology, 46*(2), 144–155. https://doi.org/10.1080/17439884.2020.1833920

Irvine, V., Code, J., & Richards, L. (2013). Realigning higher education for the 21st-century learner through multi-access learning. *Journal of Online Learning & Teaching, 9*(2), 172–186.

Johnson, N. (2020). *Evolving definitions in digital learning: A national framework for categorizing commonly used terms*. Canadian Digital Learning Research Association. http://www.cdlra-acrfl.ca/wp-content/uploads/2021/07/2021-CDLRA-definitions-report-5.pdf

Johnson, N. (2021a). *2021 national report: Lessons from the COVID-19 pandemic*. Canadian Digital Learning Research Association. http://www.cdlra-acrfl.ca/wp-content/uploads/2022/05/2021_national_report_en.pdf

Johnson, N. (2021b). *2021 Special topics report: The growth of online learning and digital learning resources in Canadian post-secondary education*. Canadian Digital Learning Research Association. http://www.cdlra-acrfl.ca/wp-content/uploads/2022/04/2021_special-topics_en.pdf

Manokore, V., & Kuntz, J. (2022). TPACK tried and tested: Experiences of post-secondary educators during COVID-19 pandemic. *International Journal for the Scholarship of Teaching and Learning*, *16*(2), Article 14. https://doi.org/10.20429/ijsotl.2022.160214

McGreal, R., & Anderson T. (2007). E-Learning in Canada. *Journal of Distance Education Technologies, 5*(1), 1–6. https://auspace.athabascau.ca/bitstream/handle/2149/744/e-learning_in_canada.pdf?sequence=1

Morgan, T. (2019). Instructional designers and open education practices: Negotiating the gap between intentional and operational agency. *Open Praxis, 11*(4), 369–380. https://doi.org/10.5944/openpraxis.11.4.1011

Pinnguaq. (2023). Computers for success Nunavut (CFSN). https://pinnguaq.com/partner-with-us/cfsn/

Siergiejczyk, G. (2020). Virtual international exchange as a high-impact learning tool for more inclusive, equitable and diverse classrooms. *European Journal of Open, Distance and E-Learning, 23*(1),1–17. https://doi.org/10.2478/eurodl-2020-0001

Simon, J., Burton, K., Lockhart, E., & O'Donnell, S. (2014). Post-secondary distance education in a contemporary colonial context: Experiences of students in a rural First Nation in Canada. *The International Review of Research in Open and Distributed Learning, 15*(1), 1–19. https://doi.org/10.19173/irrodl.v15i1.1357

Vanleeuwen, C., Veletsianos, G., Belikov, O., & Johnson, N. (2020). Institutional perspectives on faculty development for digital education in Canada. *Canadian Journal of Learning and Technology*, *46*(2), 1–19. https://doi.org/10.21432/cjlt27944

Veletsianos, G., & Houlden, S. (2020). Radical flexibility and relationality as responses to education in times of crisis. *Post Digital Science and Education, 2*, 849–862. https://doi.org/10.1007/s42438-020-00196-3

Veletsianos, G., Kimmons, R., Larsen, R., & Rogers, J. (2021). Temporal flexibility, gender, and online learning completion. *Distance Education, 42*(1), 22–36. http://doi.org/10.1080/01587919.2020.1869523

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