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Face to Face, Online or Something in Between: Student Perceptions of Student Engagement in Different Learning Environments

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Abstract

When COVID-19 began, educational institutions quickly shifted traditional face-to-face (F2F) courses to an online model, termed Emergency Remote Education (ERE) (Bozkurt et al., 2020). Previous studies have developed extensive theories on F2F and online education, demonstrating a positive link between student engagement (SE) and student success. Using Critical Incident Technique, this paper examined the changes in SE from F2F to ERE and identified the factors influencing these changes. The results confirmed that SE differs between F2F and ERE, with primary factors including course design and organization, learning with peers, student-faculty interaction, and social interaction. Notably, a supportive institutional environment, integral to the SE model in F2F settings but not explicit in the Community of Inquiry framework, emerged as a key factor in ERE. Based on these findings, this study proposes a new SE model for flexible delivery methods. Post-pandemic reports highlight the ongoing impact of the pandemic on students and teachers. The 2023 Pan-Canadian Report on Digital Learning Trends indicates that faculty and students now favor more flexible teaching and learning methods. Current research on ERE remains limited, with fewer studies on models for engagement in ERE. This paper contributes insight which aims to provide a foundation for further investigation into online and flexible learning.

Keywords: student engagement, distance education, graduate students, online education, emergency remote education, COVID-19

Introduction

The advent of the COVID-19 pandemic in December 2019 ushered in an unprecedented era of change, significantly impacting the realm of education in most countries, including Canada. As a result of this public health crisis, most universities had to pivot to online classes in a rapid shift termed Emergency Remote Education (ERE) (Bozkurt et al., 2020). The scope of this rapid global transition was unprecedented and has no equivalent in the history of education (Hodges et al., 2020). According to UNESCO 2023 report, 1.6 billion learners were impacted by school closures from 2020 to 2022 (West, 2023).

This research was conducted at a Canadian higher educational institution during the pandemic. The participants were forced to take on-campus courses online because of the university closure. The purpose of the study was to review how and what has changed concerning SE from students' perspective. Recent studies have shown that students were challenged during COVID-19 by technology, accessibility, physical and mental health, interaction, and privatization (Shevchenko et al., 2022; Shin & Hickey, 2020; West, 2023; Zagkos et al., 2022). Examining the UNESCO 2023 report reveals a specific section addressing reduced learner engagement, which directly correlates with decreased educational achievement (West). Furthermore, student engagement (SE) emerges as a pivotal factor and construct within academic activities. It not only holds immense importance but also significantly contributes to students' comprehension of knowledge, as emphasized by Kuh (2009) and Shulman (2002). Many pieces of literature suggest that SE contributes to improving student learning outcomes (Trowler, 2010). Not only that, but SE also contributes to improvements in persistence and retention, egalitarianism, satisfaction, academic success, curricular relevance, and institutional reputation (Filak & Sheldon, 2008; Hughes et al., 2008; Kuh et al., 2008; Skinner et al., 1990; Trowler, 2010). It is evident that the impact of SE is far-reaching and crucial for students in various aspects of their educational journeys. 2022 and 2023 reports from the Canadian Digital Learning Research Association show that faculty and students expect to see more flexible learning options, and 70% of the participants in the 2022 survey favored a hybrid learning model, which is a mix of online and face-to-face (F2F) (Irhouma & Johnson, 2022; Johnson, 2023). Sharma and Alvi (2021) also found that students were more positive toward blended learning after the pandemic. As faculty and students' expectations for flexibility in instructional models change, research on SE during the pandemic can still provide valuable direction for online education in the post-COVID-19 era.

Literature Review

Distance Education and Emergency Remote Education

The definition of distance education in the National Survey of Online and Digital Learning 2019 is "courses where no classes are held on campus — all instruction is conducted at a distance" (Johnson, 2019, p. 4). Distance education is not a rare educational activity; the concept and prototype of distance education emerged as early as the late seventeenth century (Bower & Hardy, 2004; Bozkurt, 2019; Dunlap & Lowenthal, 2018). There has been a transformation in the format, focus, and research of distance education over time. For example, educational delivery modes have become diverse, and synchronous and asynchronous courses were introduced at the end of the 1980s and early 1990s (Bozkurt, 2019; Pregowska et al., 2021). With the invention of the Internet, online courses became the new favorite method of distance

learning. However, with the development of online education, educational models continue to change and evolve, and there is a lack of uniformity in the definitions of different educational modalities across different research literatures (Bozkurt, 2022; Lakhal et al., 2017). During the pandemic, the Canadian research institution pivoted all on-campus courses to online formats. Synchronous courses were mostly delivered via BigBlueButton or Zoom, while asynchronous courses were delivered on Moodle. Clarifying and emphasizing the difference between distance education and ERE is necessary. Distance education is a planned activity with a solid theoretical and practical knowledge base (Bozkurt et al., 2020). ERE applies all available resources to continue education (Bozkurt et al., 2020). Considering how courses were delivered in the research institution where participants were studying, this paper uses the definition of ERE and will be discussed in later sections.

Student Engagement

Student engagement (SE) is one of the most critical factors and constructs in academic activities (Kuh, 2009; Shulman, 2002); it contributes to students' understanding of knowledge (Shulman, 2002). The learning process starts when students engage themselves in learning, and by learning, they produce knowledge. SE is positively related to their achievement and learning abilities (Kuh, 2003; Vibert & Shields, 2003). Understanding SE is of great significance to students and schools; furthermore, it is also a necessary foundation for modern educational theoretical research.

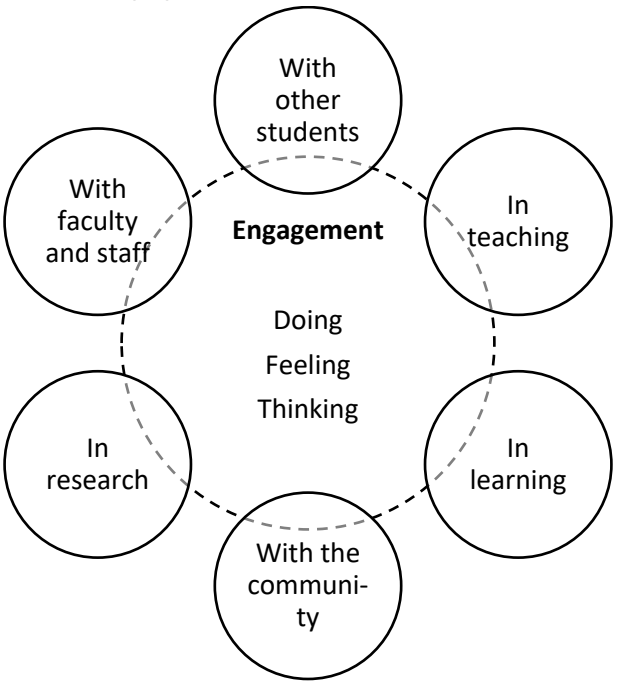
Student Engagement in Face-to-Face Environment

Teaching has existed in higher education for approximately one thousand years; however, SE in higher education has attracted interest in the research field mainly in the last 25 years (Christenson et al., 2012). It starts with the definition of student involvement from Astin, which refers to “the amount of physical and psychological energy that the student devotes to the academic experience” (Astin, 1985, p. 36; Trowler, 2010). Astin's interpretation of ‘physical and psychological energy’ explains how students spend most of their time at school, interact with instructors and peers more often, and are actively involved in different kinds of activities. Skinner and Belmont (1993) suggest a further engagement indicator, connecting engagement with inspiration, arguing that the more strongly motivated students are, the more positive the emotions expressed in learning will be, and the higher the engagement of the learner becomes. Hu and Kuh (2001) define engagement specifically as “the quality of effort students themselves devote to educationally purposeful activities that contribute directly to desired outcomes” (p. 3). The theories about SE have developed from one dimension to multiple dimensions, and we often expect to see overlaps that include behavioral, cognitive, and emotional dimensions (Kahu, 2013). Groccia’s model, shown in Figure 1, provides a six-dimensional definition of SE, which covers the most dimensions: “learners can be engaged during their academic experience: in teaching, learning, research; with community, students, and faculty” (Groccia, 2018, p. 14). The behavioral dimension refers to academic and non-academic thinking and behavioral processes (Fredricks et al., 2004; Kahu, 2013). It includes following the rules of schools and online learning, learning and developing academic skills, and participating in tasks in and out of class (Fredricks et al., 2004; Redmond et al., 2018). The behavioral dimension indicates learning and social activities, which have direct or indirect influences on SE. The emotional dimension draws on positive and negative feelings or attitudes towards peers, instructors, and institutional staff; moreover, it also refers to students’ willingness to learn (Fredricks et al., 2004; Redmond et al., 2018). In Askham’s 2008 article, issues of emotion and learning are identified as important to the overall learning environment: “there is an emotional intensity attached to the

experience of learning that is often overlooked" (p. 94). Emotions are an important feature of learning and relationships, which influence students' learning and cognitive development. The Collins dictionary (n.d.) explains cognition as "the mental process involved in knowing, learning, and understanding things." Cognitive engagement refers to the intellectual efforts students make to master knowledge and skills, such as memorizing, self-regulating, critical thinking, combining and synthesizing knowledge, and learning strategies. All of these influence cognition and learning (Fredricks et al., 2004; Redmond et al., 2018; Reeve & Tseng, 2011). Cognitive engagement is crucial as it aids students in developing a deeper understanding and handling more complex learning content.

Figure 1

Groccia's Model of Student Engagement



Note. Adapted from "What Is Student Engagement?," by J. E. Groccia, 2018, *New Directions for Teaching and Learning, 2018*(154), p. 15 (https://doi.org/10.1002/tl.20287). 2018 Wiley Periodicals, Inc.

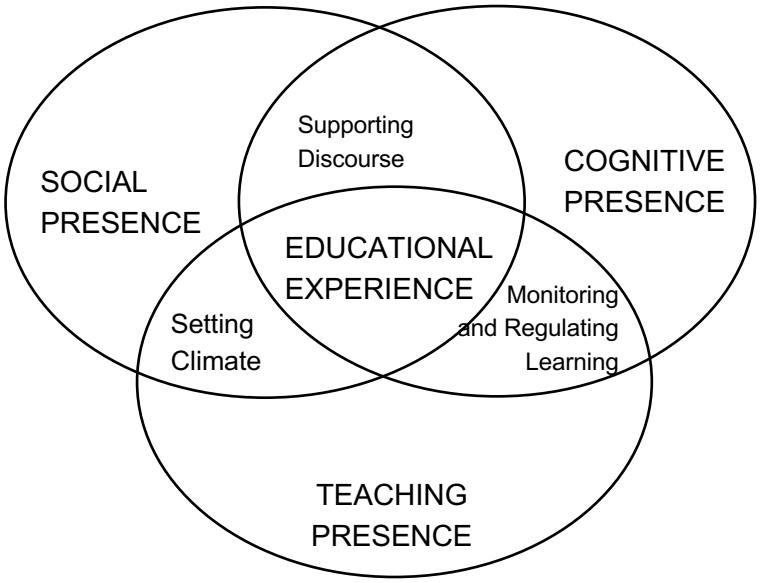
Student Engagement in Online Environment

With the advancement of technology and the affordances brought by the internet, distance education is becoming increasingly more common, while it is also constantly evolving (Mather & Sarkans, 2018). As more universities offer more online programs and courses, and as students' enrollment in online programs grows, research on student engagement in online learning is becoming increasingly important (Dixson, 2015; Redmond et al., 2018). There are many concepts of online engagement. Constructivism and connectivism provide a theoretical basis for understanding online learning (Garrison et al., 2001). Garrison et al. more explicitly defined the key factors influencing blended learning from the perspective of constructivism. The Community of Inquiry (CoI) framework includes three elements: cognitive presence (CP), social presence (SP), and teaching presence (TP), as shown in Figure 2. All three elements—CP, SP, and TP—connect and influence each other, ultimately improving engagement. Multiple studies have suggested that the CoI framework makes positive contributions to SE in online learning in various aspects, SP in particular (Lawrence-Benedict et al., 2019). TP is a key element because the design and organization of the course determine CP and SP.

The CoI framework is one of the most widely used frameworks in online and blended teaching and learning (Anderson, 2008; Castellanos-Reyes, 2020); moreover, many scholars have verified the effectiveness of the three factors and the interaction among them (Kanuka et al., 2007; Richardson & Swan, 2003). It is ideal, something all educators are striving to achieve. Therefore, this study will use the CoI framework to explain SE in an online environment.

Figure 2

Community of Inquiry Framework



Note. Adapted from "Community of Inquiry," by D. R. Garrison, *E-learning in the 21st century: a framework for research and practice* (2nd ed.) (p. 23), 2011, Routledge. Copyright 2011 by Taylor & Francis.

Critical reflection is an integral part of the learning process for students. "Cognitive presence is a vital element in critical thinking, a process and outcome that is frequently presented as the ostensible goal of all higher education" (Garrison et al., 1999, p. 89). CP refers to the extent to which learners can construct understanding through continuous reflection and discourse (Garrison et al., 1999, 2001; Swan & Ice, 2010). Critical thinking in CP "includes creativity, problem-solving, intuition, and insight" (Garrison et al., 2001, p. 8). CP is a process that helps students combine their experiences with new knowledge and eventually achieve a deep understanding of the course content or concepts.

SP refers to the ability of learners to identify with the community of learning. The establishment and encouragement of SP helps build a trusting environment where learners communicate meaningfully and develop interpersonal relationships through the full display of their personality characteristics (Garrison et al., 1999). SP is also beneficial for creating a collaborative learning

environment (Castellanos-Reyes, 2020). SP can also build a sense of belonging, helping to create a collaborative and critical environment (Garrison, 2011; Garrison et al., 1999). During ERE SP was especially significant as many studies highlighted that students and teachers faced extreme mental and psychological issues and encountered social isolation (Gao, 2020; Green et al.,2020). Another study showed that students were less motivated because of the lack of a sense of connection with instructors and other students (Shin & Hickey, 2020). As institutions move toward more online and flexible offerings, where learners and teachers may be communicating through technologies, social presence will be an important factor in establishing meaningful and connected learning environments (Lyons, 2024).

TP plays a critical role in the CoI framework, as "TP brings all the elements of a community of inquiry together in a balanced and functional relationship congruent with the intended outcomes and the needs and capabilities of the learners" (Garrison, 2011, p. 25). TP has two functions. The first function relates to the course design, which includes the course content, the ways instructors present material to be studied, and how they assess learning outcomes (Garrison et al., 1999). The second function is the interactions between teachers and students (Garrison et al., 1999). Teaching presence can be expressed through explicit instruction of course content and learning outcomes, participation, and facilitation of different learning activities, encouraging discussion, and affirming or correcting students' understanding. TP includes three teaching roles: instructional design and organization, facilitating discourse, and direct instruction (Garrison, 2003). Instructional design and organization refer to the general course design and delivery, such as curriculum design, instructions, and evaluations. The purpose of facilitating discourse is to lead students to critically think and reflect on the materials through appropriate guidance and ultimately reach a deeper understanding of the content. Direct instruction is more specific than facilitation. When all three presences are combined, the intent of the CoI model is to create a community of inquiry where learning and engagement are optimized (Garrison, 2011; Garrison et al., 1999).

Significance of Research

The outbreak of COVID-19 in December 2019 affected most countries in the world, including Canada. In March 2020, the World Health Organization stated that COVID-19 was a global pandemic (Bozkurt et al., 2020). Keeping people distanced in a recommended or mandatory manner became the major way to prevent COVID-19 infection and transmission in humans. In the absence of trustworthy long-range projections of the duration and the depth of impact of the COVID-19 pandemic, distance education became the preferred option to ensure educational continuity. The world changed and education also underwent a huge shift (Bozkurt et al.). Previous studies have accumulated rich theories in both F2F and distance education. Though there is a rich history of research into online and distance education, there is a limited amount of literature discussing SE in online learning, specifically in nonvoluntary online learning (which includes ERE) (Bozan et al., 2024; Paulsen & McCormick, 2020; Salas-Pilco et al., 2022). The pandemic may be over, but its impact on higher education, not only F2F but also online, remains. Understanding SE during ERE, which highlighted learners' inequitable access to the necessary technologies and spaces for online learning, and increased social isolation can provide insight into learner needs, as educators contemplate more flexible models of delivery.

Methodology

Using a qualitative research method, Critical Incident Technique (CIT), this research focused on SE in ERE to fill a research gap. Two questions were asked to elicit student perspectives in relation to two issues:

1. Are there differences in SE when the same courses are switched from primarily F2F teaching to ERE modalities?
2. What are the main reasons causing these differences?

CIT is a reliable, valid, and widely employed qualitative research method in different research areas, including education (Andersson & Nilsson, 1964; Butterfield et al., 2005; Woolsey, 1986). It is a systematic and open-ended technique that encourages participants to share their experiences freely, including incidents or events that are important to them (Gnusowski & Schoefer, 2022). CIT interviews are an appropriate way to gather descriptive data to understand what hampers or aids critical incidents (Finnestrand et al., 2023). Flanagan (1954) emphasizes that CIT does not have strict rules. It is important to adapt the methodology to meet the needs of a particular research area. Given the purpose of this study, CIT appeared to be a good fit because it gives students the opportunity to express their perspectives and experiences in relation to F2F and ERE and what drives their satisfaction and dissatisfaction in the context of their engagement.

Using a snowball method (Waters, 2015), this study invited graduate students in a Master of Education program to be participants. Flanagan (1954) mentioned sample size related to the nature, variety, and quality of the critical incidents, but did not identify the number of required participants for a study. Thomson (2011) noted that saturation in qualitative research may occur with as few as ten subjects. Ultimately, ten participants were recruited in this study; nine of the recruits were international students, and one was a domestic student. This percentage reflected program-on-campus realities.

Data was collected through online interviews. All the interviews were recorded in audio. Interviews were anonymized and quotations adjusted for ease of understanding and grammatical accuracy. Participants were asked to describe their specific contexts, and if/how their learning interests and learning methods changed during ERE. The data analysis process followed Creswell (2015) and Saldana (2016). The transcripts of each interview were read to find the segments of the content used for coding and used “lean coding” to avoid over-coding (Creswell, 2015). In the first cycle of coding, value coding was employed and subcoding was then used explore participants’ attitudes and improve the detail of the categories of data (Saldana, 2016). Using “lean coding,” codes were extracted from each interview’s transcript content, then consolidated, reorganized, and divided into positive or negative categories with detailed keywords. The second cycle of coding was “to develop a sense of categorical, thematic, conceptual, and/or theoretical organization from your array of first cycle codes” (Saldana, 2016, p. 234). Friesen and Young (1985) found that they needed a theoretical framework to classify and interpret their data understandably (as cited in Woolsey, 1986). Further, Flanagan (1954) also recommended having a general frame of reference. This study used the CoI framework and the Engagement Indicators (EIs) of the National Survey of Student Engagement (NSSE) as the reference to categorize the main themes and sub-themes and to determine the specific incidents during the second cycle of coding. By doing this, the study

ensures the specificity and objectivity of the data from the interviews. The ten EIs listed under four themes are seen below in Table One.

Table 1

Engagement Indicators as Identified in the National Survey of Student Engagement

Theme	Engagement Indicators
Academic challenge	*Higher-order learning* *Reflective & integrative learning* *Learning strategies* *Qualitative reasoning*
Leaning with peers	*Collaborative learning* *Discussions with diverse others*
Experiences with faculty	*Student-faculty interaction* *Effective teaching practices*
Campus environment	*Quality of interactions* *Supportive environment*

Reliability and Validity

Member checking is one way to improve the validity of qualitative research (Merriam, 1995), as the participants “can confirm the credibility of the information” (Creswell & Miller, 2000, p. 127). The interviewees and two supervisors were asked to review the recordings and transcripts for accuracy, completeness, or clarification. The supervisors also reviewed coding and interview details and confirmed the accuracy of the same and that the themes were congruent with the original data and the definitions of EIs and the CoI framework.

Results

In accordance with the definition of SE, the CoI model, and the Engagement Indicators from NSSE explained in this study, incidents are summarized into three main themes and ten sub-themes. Table two below presents the data from a holistic perspective. The students shared incidents, explained if they felt their engagement changed in ERE and the reason from their perspectives. The number of critical events shared by all participants was used to analyze which factors were the main factors influencing changes in SE. At the beginning of the interview, students were provided with a definition of ERE; however, it should be noted that they used "online" to describe their ERE experience. In order to respect the participant voice and ensure the originality of the data, "online" will be used instead of "ERE" in the results section.

Table 2

Categorization of Data

Themes – Sub-theme	Frequency of mentions
Theme: Teaching Practice	
Technology	7
Course design and organization	19
Student-faculty interaction	14
Theme: Learning Behaviour	
Learning with peers	15
Cognitive engagement	5
Learning intensity	5
Learning strategies	5
Social interaction	12
Theme: Institutional Environment	
Campus support	2
Program support	3

Teaching Practice

'Teaching practice' includes pedagogical and social elements related to teaching activities, including designing and delivering courses. Participants experienced both synchronous and asynchronous courses and shared their opinions and experiences regarding these types of teaching modalities.

Technology

Technology encompasses the technological elements of the hardware and software needed to implement online teaching and learning, as well as the impact of these elements in the teaching context. Participants faced dilemmas when encountering technologies. Participants 1 and 3 learned new technology that enabled them to become more tech-savvy and stay current with future learning modes. Participant 5 improved her speaking skills by using the camera appropriately "I can turn off the camera, and share my voice with students, which increases my courage to express myself." Participants who were learning in international settings faced

increased barriers to accessing their course materials, which directly or indirectly influenced their engagement, especially when the barriers were out of their control. One example was:

> I need to use VPN. Sometimes, I lost the connection because my network was unstable. Once, I got disconnected from my network when I asked a question...When I logged in again, they already entered the next part. I missed that part. (Participant 5)

On the one hand, technology provided instructors with various tools and opportunities to diversify online teaching, generated students' interest, and ultimately improved their engagement. On the other hand, technological constraints have limited some elements of instructors' delivery of courses and course materials; and have confused participants, which has influenced their engagement.

Course Design and Organization

'Course design and organization' refers to how instructors design and organize courses. The critical incidents under this sub-theme are related to participants' experiences and perspectives on the course outline, synchronous and asynchronous courses, length of lectures, type of teaching, and teaching content. Most participants shared that they prefer synchronous lectures but emphasized that the design and organization of the courses were critical because they directly affected their engagement.

When courses aroused participants' curiosity, provided clear schedules and well-organized materials, offered flexibility, increased resource accessibility, or provided opportunities for cognitive reflection, participants showed more interest and benefited from the novel class organization (Participants 3, 7, 8, 9, 10). "When I logged into Moodle, for today, I was going to read maybe four articles and wrote a summary. All the materials I thought the teacher prepared really well" (Participant 7). Another example, Participant 10, an international student who was not confident with academic English, exploited course recordings to improve his understanding. He said "…my instructor was doing the synchronous and asynchronous combination...This was the amazing part of the asynchronous course. I could stop the presentation anywhere I wanted."

When instructors organized synchronous courses through various activities and teaching tools or offered an "interactive environment" for students to share their opinions, participants were more willing to engage (Participants 1 & 3).

Higher-order thinking was what participants expected. Some participants were unsatisfied with instructors because they asked lower-order questions or spent a significant amount of time socializing or greeting students during limited synchronous courses (Participants 1, 3, 4, & 10). Participant 10 used "a huge waste of time" and "what's the point" to describe the experiences. Participants 5 and 10 were upset because instructors delivered only asynchronous courses. They did not enjoy courses that were only delivered asynchronously and felt difficulty with these courses because there was no class for them to ask questions.

Facing a new teaching environment, participants could understand the instructors' efforts and difficulties. At the same time, they also expected instructors to adjust their organizational approach to the online teaching environment. For participants experiencing online classes for the first time, many were more comfortable with a course organization similar to that of F2F courses.

Student-Faculty Interaction

'Student-faculty interaction' involves the academic interactions between students and instructors. In the online environment, participants recognized that their interaction with instructors changed compared to F2F. Participants 6 and 7 felt they had more opportunities to interact with instructors. As participant 7 shared "...So that was quite interesting because I think this would not have happened if it would have been in the F2F class."

Participants communicated with instructors mostly in written form, such as emails; even in synchronous courses, they mainly used chat boxes. Some participants felt that communicating by email reduced the efficiency of communication with their instructors and increased the learning difficulty (Participants 2, 5, & 6). As participant 5 stated "I didn't get a reply until finishing my paper...it increased the difficulty of the assignment." Sometimes, participants were misunderstood by instructors through emails or messages (Participants 1 & 4). An example provided by participant 1:

> …I sent an email to my instructor looking for some help. Because I had some English writing problem, I thought my instructor understood what I said. But my instructor replied… you needed to do it by yourself, not let me help you to finish this project. But I didn't mean that.

The differences in written skills and expression, along with the time lag in written communication, made participants feel they were not receiving enough attention from instructors.

Restricted time was another factor that affected student-faculty interaction. Some participants stated they would only ask crucial questions to avoid occupying too much of their classmates' time because synchronous lectures were shorter than F2F lectures. During synchronous courses, some instructors only read and explained their presentations without offering any opportunities for students to ask questions or interact with them, resulting in a lack of engagement (Participants 3, 5, & 8).

Participants subjectively perceived less interaction with instructors due to time constraints, participants' English competence, the type of teaching by instructors, instructors' accessibility, and instructors' timely response rates. These factors influenced student-faculty interaction in online learning. Although in online educational settings, participants still expected interaction similar to that in F2F settings. In all these interactions, participants were sensitive to the timeliness of communication but overlooked the differences between synchronous and asynchronous communication and their applicable scenarios, which in turn affected their engagement.

Learning Behavior

This theme relates to participants' academic and non-academic learning-related behavior and activities, including positive incidents that increased their interest in learning and barriers to learning in the online environment.

Learning with Peers

'Learning with peers' included group work, group discussion, and factors that both help and hinder these learning activities. Participants preferred learning with peers, but they also felt a difference in group work compared to F2F. Participants 7 and 8 found that, in the online environment, students were more considerate of each other.

> … we have some students from China and also a student from India…We assigned each student some tasks, and then we set up appointments to rehearse together, and we did many times before the presentation. I do not think we would ever do that if in the F2F... It took a lot of extra time, but, in the end, it is not only about the presentation, rather we know each other more... We try to understand each other, and because of the time zone, we try to consider each other more. (Participant 7)

In the online environment, participants felt difficulties inherent in group work had some similarities in both remote and F2F learning environments issues of responsibility and language were omnipresent. Other issues related only to online learning included time zones and technology. A few participants mentioned that in some of their courses, they did not have any interaction with their classmates. A few participants mentioned that because of the time zone issues, they could hardly find time to gather and discuss their group work. Therefore, they only communicated via email, WhatsApp, or other communication applications, which they felt made communication inefficient. Most participants felt that classmates were less engaged in their group discussions or group work. As participant 2 shared:

> Our professor asked us to peer review an assignment and gave the rubric ahead of time. But most of us did not follow the rubric, just saying “you did a nice job” or “there was a spelling or font mistake” which didn’t cut for graduate level.

In the mixed delivery environment, although synchronous sessions can provide non-verbal cues such as facial expressions and body language to a certain extent, delivering this information is often limited due to technical conditions and usage habits. In particular, in the synchronous classes involved in this study, the use of the camera is not mandatory, resulting in a lack of nonverbal cues such as facial expressions and body language from others for the participants in most cases. In this context, participants must rely mainly on verbal and written expressions for communication and collaboration. This type of communication reduces their motivation to participate in group discussions and increases the likelihood of misunderstandings, especially for learners who lack sensitivity to written language or understanding of linguistic nuance.

In online learning, another primary means of interaction among participants was in breakout rooms during or after synchronous lectures. However, a few participants stated unequivocally that discussions in breakout rooms often ended with everyone on mute, waiting for the set time to be up and then returning to the main room (Participants 3, 4, 5, & 6). Relationships or a feeling of familiarity were also factors that influenced peer interaction. Participant 8 stated: “If we knew each other in the group, we could have very good conversations, and I would like to listen to their points. But if we didn’t know each other, everyone muted themselves most of the time.”

Participants interacted less with their peers in online learning due to limited time, the type of communication, or a lack of relationship or feeling of familiarity. A few participants shared positive experiences and enjoyed the novel way of learning with peers. Most participants preferred F2F communication to verbal communication, and verbal communication to written communication, as they felt that they could understand each other better.

Cognitive Engagement

‘Cognitive engagement’ includes participants’ learning states in and out of classes, as well as the influence of the environment on these learning states. In the online learning environment, participants felt more relaxed and comfortable because they could learn in their “comfort zone”

or “comfortable corner.” Several participants agreed, describing their learning and engagement status as “less pressured,” “self-brainstorming,” “quite beneficial,” and “stimulating.”

For participants who were independent learners, online learning was successful as they could proactively adapt their learning approach to achieve the required outcomes for their courses. For participants with less self-control, creating an immersive online learning environment was more conducive to focusing on courses, reducing distractions, increasing their interest in learning, and engaging cognitively (Participant 5 & 8). Participant 8 shared, “I didn’t even want to write my assignments… I needed an immersive environment for me to study, like in a library...At home…I had too many other things to do, like shopping, cooking, and playing video games.” More importantly, SE also relied on participants’ attitudes toward the courses and assignments.

Learning Intensity

‘Learning intensity’ refers to the workload and participants’ perspectives on it. Since online learning is a text-based environment (Garrison, 2011), participants also benefited from this modality—for instance, they improved their written English, as did Participant 4. However, a few participants felt stressed due to a “high reading load and workload” or too many activities during synchronous courses and assignments (Participants 3, 4, & 5).

Taking full advantage of online teaching and assigning diverse tasks could indeed be beneficial for students. However, as with F2F learning, a moderate workload and focused or explicit instruction of materials and assignments would increase engagement, as some participants mentioned that they read more in online courses compared to F2F.

Learning Strategies

Referring to NSSE, the sub-theme ‘learning strategies’ included participants’ learning styles and their learning times. Participants clearly stated that their learning had become more organized and efficient. Additionally, some participants mentioned that their learning time had increased compared to F2F learning because, in online learning, they relied heavily on themselves (Participants 2, 3, & 6). However, this did not mean that their interest in learning diminished.

Participants had more reading materials and assignments because they had fewer course hours in online learning. Additionally, they had less interaction with peers and were on their own most of the time. Therefore, their learning time increased, and their learning strategies changed as well.

Social Interaction

Based on the definition of SP in the CoI framework, the sub-theme ‘social interaction’ referred to non-academic interactions, communication, and relationships among students, and the impact of such communication and relationships on SE.

Most of the participants mentioned that ‘social skills’ or ‘networking’ were crucial to them. However, most participants felt that it was difficult to know their classmates, have personal interactions during and after classes, and become friends with their classmates in the online learning environment. In synchronous classes, there was a time limit for group discussions. Four to five students were in a group, and instructors usually gave 15-20 minutes for discussion, meaning each student had less than five minutes, so there was no spare time to get to know each other (Participant 5). In the online group discussions, students only discussed the

questions or topics set by instructors, and there was no personal interaction (Participants 2, 5, & 9). The group discussions after class were like the example given by Participant 10, where students only discussed the assignments and divided the work, making it difficult to make friends (Participants 4, 8, & 10).

The main challenge participants faced in the online learning environment was social interaction. Participants did not have enough interaction to get to know their classmates, leading to a sense of distance. This sense of distance, in turn, affected their engagement and interaction, resulting in lower participation in group discussions and class activities.

Institutional Environment

Two sub-themes have been extracted from the data: 'campus support' and 'program support' as participants highlighted these aspects as being important for engagement. Multiple participants emphasized how academic and non-academic support outside of classrooms from faculty and campus was conducive to their engagement. Participants confirmed that the service they received from the library, campus, and the program was critical for understanding their course materials and assignments, expanding their knowledge, and increasing their motivation.

Campus Support

'Campus support' indicated the support for participants besides their program, such as the library or other departments on campus. Participant 6 mentioned the support she received from a librarian that helped her understand her assignment. Participant 2 stated, "These workshops, which were ongoing on the campus, were one of the biggest factors which motivated me."

Despite only two incidents being mentioned by participants regarding campus support, all of them were positive. The campus support offered them a sense of belonging. Through the support, participants had opportunities to access other resources, explore the course content from different angles, and critically reflect on their knowledge.

Program Support

The 'program support' included the academic support participants received from their program that was closely related to their major. Several participants shared their positive experiences with teaching assistants in the graduate program. They stated that the support was efficient and eased their learning in an understandable way. They used words like "powerful," "great," "helpful," "nice and helpful," and "supportive."

A supportive environment has significant implications for SE. Participants specified that the assistance they received contributed to their engagement in learning. They identified being both academically and emotionally supported by the Graduate Success Center. This support helped participants feel they were being considered as individuals by the faculty and the program.

Summary

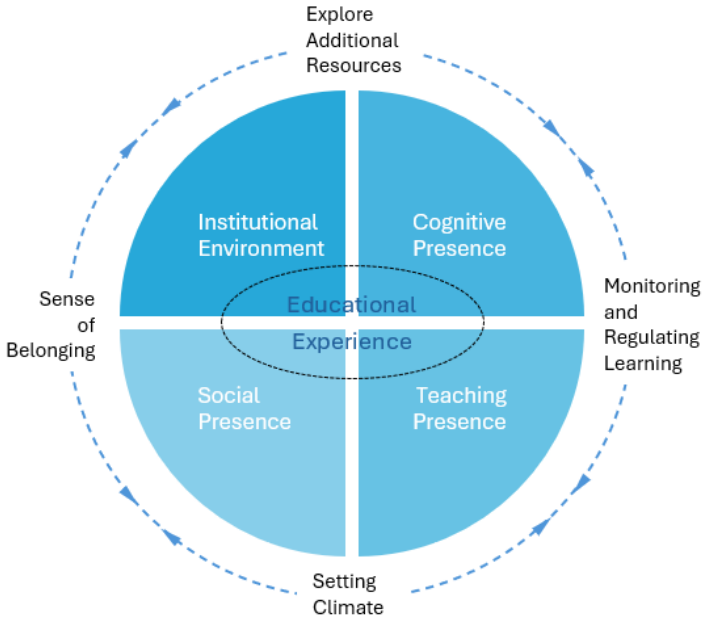
Participants preferred synchronous, flexible, and varied lectures because instructors' explanations and the interaction with instructors and peers during classes contributed to their understanding of knowledge. The design and organization of courses were fundamental and largely determined student-student interaction, student-teacher interaction, students' critical thinking, and their cognitive engagement. The participants' concerns included 'technology,' 'social interaction,' and 'learning intensity.' ERE relied on technology and the internet, so

participants were limited by technology and the internet while learning new technologies and enjoying the convenience of technology. Compared to F2F, participants experienced a heavier workload and less socialization with their peers. Campus and program support had a positive impact on SE. However, because the learning environment changed, participants had to adjust their learning time and methods.

While Groccia's Model of Student Engagement and the NSSE Student Engagement Indicators incorporate the importance of campus environment, the CoI framework emphasizes the supportive discourse in student-student and student-faculty interactions, which, combined with other elements, is designed to create a supportive environment. In this study, students shared five critical incidents about institutional support, and all positively contributed to their engagement. Blends this factor with further factors included in COI that have been shown to be positively related to engagement; this study proposes the following model for SE (see Figure 3) to draw wider attention and further studies of how institutional support affects engagement in distance and online learning. Though this study took place during ERE, many of those factors may be relevant for distance and online environments and could be considered when planning for SE in any flexible learning environment.

Figure 3

Student Engagement Model for Flexible Learning



Discussion

Participants in this study perceived that the support provided by the institution played a positive role in facilitating their learning and sense of belonging, contributing to their academic achievement and providing the necessary emotional and psychological support. In the context of ERE, the support provided by the campus positively impacted students' engagement in learning despite the shift to online learning. Whether this effect is similar in standard online and

distance education compared to traditional face-to-face learning, as well as what specific factors in the institutional support influence SE and to what extent these factors play a role, remains to be further empirically investigated and explored in depth.

Interpersonal interaction and relationships affect students in various ways, including improving their learning and engagement in both F2F and online educational settings (Astin, 1993; Bowman, 2013; Carrillo & Flores, 2020; Gowing, 2019; Heilporn & Lakhal, 2021; Hisham et al., 2005; Murdock & Williams, 2011). In the online environment, student-faculty interactions changed both in form and time. More options for interaction increased the opportunities for and enriched the content of these interactions (Carrillo & Flores, 2020). The use of email and communication tools such as Jamboard, Zoom, Moodle Message, and others made it possible to initiate synchronous and asynchronous interactions. Some participants felt positive about this freedom of choice and flexibility in communication, which facilitated their academic success and eventually increased their engagement. However, as noted in other studies (Berg, 2020; Carrillo & Flores, 2020), not all synchronous interactions were positively evaluated by participants, who preferred interactions with instructors that had depth rather than simple greetings. Consistent with other research findings, participants also perceived communication as having a time lag compared to F2F interactions (Esmail et al., 2010; Huang, 2020). The time lag, or the infrequency of interaction with instructors, affected participants' feelings and, in turn, their engagement.

In this study, according to participants, student-student interaction in online settings resulted in less effective learning and socializing with peers. Participants preferred and benefited from learning with peers, a finding consistent with the results from Kuh (2003), Lai et al. (2019), and Tenenbaum et al. (2020). A few participants indicated they became more considerate of each other due to time zone and geographic differences, which allowed them to interact more smoothly and effectively. Most participants noted that online communication was limited because it was difficult for them to get information using cueing systems such as body language and facial expressions of their peers. Participants generally expressed a preference for F2F communication over online communication, and voice-based communication over text-based communication; further, the efficiency of communication heavily influenced the understanding of both parties involved in the interaction. Most participants stated that 'socializing' and 'networking' were critical for them, but distance and the virtual online environment prevented them from developing friendships. Participants did not have the opportunity to engage in social interactions with their peers in both synchronous and asynchronous classes. All discussions assigned by instructors were time-limited and focused solely on the subject matter. Additionally, participants reported that some classmates did not turn their cameras on, further increasing the sense of distance during discussions. Consequently, no additional time was provided or facilitated for students to interact with their classmates, either within or outside the classroom. Students in Kurt and Yıldırım's (2018) study clearly demonstrated the value of socialization for them. Ensmann et al. (2021) and Natarajan and Joseph (2022) also stated that social presence played a critical role in ERE. Participants in this study indicated overall that the sense of distance caused by online communication further reduced their willingness to share ideas. An earlier study by Garrison (2011) also supported this point, stating that due to the lack of "immediacy" in written communication, relationships in learning communities need to be compensated for and strengthened by establishing a social presence. The ERE participants in Robson and Mill's (2022) study also found it hard to create interpersonal relationships through a screen. Considering the significance of interaction for teaching and learning, this study argues

that effective and positive interaction is significant in the ERE learning environment, as interaction can alleviate students' sense of distance to a certain extent.

Qualitative interaction and a supportive institutional environment are positively related to students' satisfaction and sense of belonging in this study and are supported by previous studies (Astin, 1968, 1993; Pascarella & Terenzini, 2005). Both campus-based and program-based support that have been established and accumulated in the F2F setting are well-established approaches to instructional support and can be transferred to the online modality. Participants in this study mentioned two incidents of on-campus support that were positively received. The supportive environment provided students with a sense of belonging. Through this support, students had the opportunity to access additional resources, explore course content from different perspectives, and critically reflect on their knowledge. Program-based support is equally important, and the assistance that participants received facilitated their engagement in learning. They felt they were supported academically and emotionally, and this support helped them feel a sense of caring. The findings showed that a supportive campus environment had a positive impact on SE.

It is essential to note the limitations of this study. This study interviewed ten Master of Education students, which was able to reveal the research phenomenon that was covered by the subject of the study. However, the small sample size could not be generalized to the ERE experiences of all populations within the subject of study. Nine of ten participants in this study were international students from countries outside of Canada. The cultural lens may have indicated different factors that affect SE in ERE if the participants were domestic. Furthermore, the participants in this study were in an online learning environment that was different from an ideal online or distance education. ERE was neither an ideal research context nor a purposeful distance education research environment. However, this study may serve as a pilot study for future research that delves into SE in online education.

Conclusion

The findings of this study outlined multiple factors that impacted SE when courses shifted from F2F to ERE. The results of this study are also consistent with other studies that show students face various difficulties in the ERE (Bork-Hüffer et al., 2021; Bozan et al., 2024; Serhan, 2020; Shevchenko et al., 2022). The UNESCO 2022 report (Fraillon et al., 2022) mentioned that teachers and students in eleven countries who responded to the survey had difficulties transitioning back to schools. In the *2023 Pan-Canadian Report on Digital Learning Trends in Canadian Post-Secondary Education*, faculty and students prefer more flexible teaching and learning (Johnson, 2023). Although ERE is an emergency measure, data demonstrate changes in teacher and student perceptions regarding online and F2F education. Because these changes begin with ERE, reviewing and summarizing the teaching and learning experiences during ERE can provide meaningful references for the post-ERE era. Furthermore, COVID-19 may be in the past, but there is still the possibility of a similar global epidemic in the future. Governments and educational institutions should reflect on past experiences and rethink how ERE, F2F, and distance education models can be improved to address possible future scenarios where large-scale F2F education needs to be converted to distance learning or flexible teaching models due to health safety concerns. The current research on ERE is still limited (Stewart et al., 2023), and this paper presents a new element for the first time, hoping to provide a reference for online or flexible learning that can be further investigated in depth and on a large scale.

Author Contributions

Hongran Cui conducted the literature review, designed the study, analyzed the results, and prepared the findings. Michelle Harrison and Victoria Handford provided guidance, review, and feedback throughout all aspects of the study. All authors read and approved the final manuscript.

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Ethics Statement

Ethics approval was obtained through Thompson Rivers University Research Ethics Board.

Conflict of Interest

The authors do not declare any conflict of interest.

Data Availability Statement

Data Availability Statement: The data used in this study will reside with the authors as per the confidentiality statements agreed to in the participant consent forms. Authors may grant access to the data upon reasonable request.

References

Anderson, T. (2008). *The theory and practice of online learning.* (2nd ed.). AU Press. https://www.aupress.ca/app/uploads/120146_99Z_Anderson_2008-Theory_and_Practice_of_Online_Learning.pdf

Andersson, B.-E., & Nilsson, S.-G. (1964). Studies in the reliability and validity of the critical incident technique. *Journal of Applied Psychology*, *48*(6), 398–403. https://doi.org/10.1037/h0042025

Askham, P. (2008). Context and identity: Exploring adult learners' experiences of higher education. *Journal of Further and Higher Education*, *32*(1), 85–97. https://doi.org/10.1080/03098770701781481

Astin, A. W. (1968). *The college environment*. American Council on Education.

Astin, A. W. (1985). Involvement the cornerstone of excellence. *Change: The Magazine of Higher Learning*, *17*(4), 35–39. https://doi.org/10.1080/00091383.1985.9940532

Astin, A. W. (1993). *What matters in college?: Four critical years revisited*. Jossey-Bass.

Berg, G. V. D. (2020). Context matters: Student experiences of interaction in open distance learning. *The Turkish Online Journal of Distance Education TOJDE*, *21*(4), 223–236. https://doi.org/10.17718/tojde.803411

Bork-Hüffer, T., Kulcar, V., Brielmair, F., Markl, A., Immer, D. M., Juen, B., Walter, M. H., & Kaufmann, K. (2021). University students' perception, evaluation, and spaces of distance learning during the COVID-19 pandemic in Austria: What can we learn for post-pandemic educational futures? *Sustainability (Basel, Switzerland)*, *13*(14), 7595. https://doi.org/10.3390/su13147595

Bower, B. L., & Hardy, K. P. (2004). From correspondence to cyberspace: Changes and challenges in distance education. *New Directions for Community Colleges*, *2004*(128), 5–12. http://doi.org/10.0.3.234/cc.169

Bowman, N. A. (2013). How much diversity is enough? The curvilinear relationship between college diversity interactions and first-year student outcomes. *Research in Higher Education*, *54*(8), 874–894. https://doi.org/10.1007/s11162-013-9300-0

Bozan, K., Gaskin, J., & Stoner, C. (2024). Student engagement in the HyFlex and online classrooms: Lessons from the COVID-19 pandemic. *Technology, Knowledge and Learning*, *29*(1), 509–536. https://doi.org/10.1007/s10758-023-09661-x

Bozkurt, A. (2019). From distance education to open and distance learning: A holistic evaluation of history, definitions, and theories. In S. Sisman-Ugur & G. Kurubacak (Eds.), *Handbook of Research on Learning in the Age of Transhumanism* (pp. 252–273). IGI Global. https://doi.org/10.4018/978-1-5225-8431-5.ch016

Bozkurt, A. (2022). A retro perspective on blended/hybrid learning: Systematic review, mapping and visualization of the scholarly landscape. *Journal of Interactive Media in Education*, *2022*(1), 2. https://doi.org/10.5334/jime.751

Bozkurt, A., Jung, I., Xiao, J., Vladimirschi, V., Schuwer, R., Egorov, G., Lambert, S. R., Al-Freih, M., Pete, J., Olcott, D. J., Rodes, V., Aranciaga, I., Bali, M., Alvarez, A. V. J., Roberts, J., Pazurek, A., Raffaghelli, J. E., Panagiotou, N., de Coëtlogon, P., … Paskevicius, M. (2020). A global outlook to the interruption of education due to COVID-19 pandemic: Navigating in a time of uncertainty and crisis. *Asian Journal of Distance Education. 15*(1), 1–126. https://www.asianjde.com/ojs/index.php/AsianJDE/article/view/462

Butterfield, L. D., Borgen, W. A., Amundson, N. E., & Maglio, A.-S. T. (2005). Fifty years of the critical incident technique: 1954-2004 and beyond. *Qualitative Research : QR*, *5*(4), 475–497. https://doi.org/10.1177/1468794105056924

Carrillo, C., & Flores, M. A. (2020). COVID-19 and teacher education: A literature review of online teaching and learning practices. *European Journal of Teacher Education*, *43*(4), 466–487. https://doi.org/10.1080/02619768.2020.1821184

Castellanos-Reyes, D. (2020). 20 years of the community of inquiry framework. *TechTrends*, *64*(4), 557–560. https://doi.org/10.1007/s11528-020-00491-7

Christenson, S. L., Wylie, C., & Reschly, A. L. (2012). *Handbook of research on student engagement*. Springer Science+Business Media. https://doi.org/10.1007/978-1-4614-2018-7

Collins Dictionary. (n.d.). Cognition. *In collinsdictionary.com dictionary.* Retrieved January 4, 2020, from https://www.collinsdictionary.com/english-language-learning/cognition

Creswell, J. W. (2015). *Educational research planning, conducting, and evaluating quantitative and qualitative research* (5th ed.). Pearson Education.

Creswell, J. W., & Miller, D. L. (2000). Determining Validity in Qualitative Inquiry. *Theory Into Practice*, *39*(3), 124–130. https://doi.org/10.1207/s15430421tip3903_2

Dixson, M. D. (2015). Measuring student engagement in the online course: The online student engagement scale (OSE). *Online Learning Journal*, *19*(4). https://doi.org/10.24059/olj.v19i4.561

Dunlap, J. C., & Lowenthal, P. R. (2018). Online educators' recommendations for teaching online: Crowdsourcing in action. *Open Praxis*, *10*(1), 79–79. https://doi.org/10.5944/openpraxis.10.1.721

Ensmann, S., Whiteside, A., Gomez-Vasquez, L., & Sturgill, R. (2021). Connections Before Curriculum: The role of social presence during COVID-19 emergency remote learning for students. *Online Learning (Newburyport, Mass.)*, *25*(3), 36. https://doi.org/10.24059/olj.v25i3.2868

Esmail, B., Whittaker, T., & Yang, Y. (2010). Mixing it up: More experiments in hybrid learning. *Journal of Computing Sciences in Colleges*, *25*, 97–103. https://cs.franklin.edu/~whittakt/CCSCSC0410.pdf

Filak, V. F., & Sheldon, K. M. (2008). Teacher support, student motivation, student need satisfaction, and college teacher course evaluations: Testing a sequential path model. *Educational Psychology*, *28*(6), 711–724. https://doi.org/10.1080/01443410802337794

Finnestrand, H., Vie, O. E., & Boak, G. (2023). Critical incident technique and action learning to enable organizational learning. *Action Learning: Research and Practice, 20*(3), 221–238. https://doi.org/10.1080/14767333.2023.2255839

Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin*, *51*(4), 327–358. https://doi.org/10.1037/h0061470

Fraillon, J., Strietholt, R., & Meinck, S. (2022). *The impact of the COVID-19 pandemic on education: International evidence from the Responses to Educational Disruption Survey (REDS)*. United Nations Educational, Scientific and Cultural Organization (UNESCO). https://unesdoc.unesco.org/ark:/48223/pf0000380398.locale=en

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, *74*(1), 59–109. https://doi.org/10.3102/00346543074001059

Gao, X. (2020). Australian students' perceptions of the challenges and strategies for learning Chinese characters in emergency online teaching. *International Journal of Chinese Language Teaching*, *1*, 83–98. https://doi.org/10.46451/ijclt.2020.06.04

Garrison, D. R. (2003). *E-Learning in the 21st Century: A framework for research and practice*. Routledge. https://doi.org/10.4324/9780203166093

Garrison, D. R. (2011). *E-learning in the 21st century: A framework for research and practice.* (2nd ed.). Routledge. https://doi.org/10.4324/9780203838761

Garrison, D. R., Anderson, T., & Archer, W. (1999). Critical inquiry in a text-based environment: Computer conferencing in higher education. *Internet and Higher Education*, *2*(2–3), 87–105. https://doi.org/10.1016/S1096-7516(00)00016-6

Garrison, D. R., Anderson, T., & Archer, W. (2001). Critical thinking, cognitive presence, and computer conferencing in distance education. *International Journal of Phytoremediation*, *21*(1), 7–23. https://doi.org/10.1080/08923640109527071

Gowing, A. (2019). Peer-peer relationships: A key factor in enhancing school connectedness and belonging. *Educational & Child Psychology*, *36*(2), 64–77. https://doi.org/10.53841/bpsecp.2019.36.2.64

Green, J. K., Burrow, M. S., & Carvalho, L. (2020). Designing for transition: Supporting teachers and students cope with emergency remote education. *Postdigital Science and Education*, *2*(3), 906–922. https://doi.org/10.1007/s42438-020-00185-6

Groccia, J. E. (2018). What is student engagement? *New Directions for Teaching & Learning*, *2018*(154), 11–20. https://doi.org/10.1002/tl.20287

Gnusowski, M., & Schoefer, K. (2022). Student-to-student interactions in marketing education: A Critical Incident Technique-based inquiry into drivers of students' (dis)satisfaction. *Journal of Marketing Education, 44*(1), 25-40. https://doi.org/10.1177/02734753211027617

Heilporn, G., & Lakhal, S. (2021). Converting a graduate-level course into a HyFlex modality: What are effective engagement strategies? *The International Journal of Management Education*, *19*(1), 100454. https://doi.org/10.1016/j.ijme.2021.100454

Hisham, D., Rozhan, M. I., & Hanafi, A. (2005). Interaction in open distance learning: Research issues in Malaysia. *Malaysian Journal of Distance Education*, *7*(2), 63–77. http://mjde.usm.my/vol7_2_2005/mjde7_2_5.pdf

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *EDUCAUSE Review*. https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning

Hu, S., & Kuh, G. D. (2001). *Being (dis)engaged in educationally purposeful activities: The influences of student and institutional characteristics*. American Educational Research Association, Seattle, WA. (ED452776). ERIC. https://files.eric.ed.gov/fulltext/ED452776.pdf

Huang, J. (2020). Successes and challenges: Online teaching and learning of chemistry in higher education in china in the time of COVID-19. *Journal of Chemical Education*, *97*(9), 2810–2814. https://doi.org/10.1021/j.jchemed.0c00671

Hughes, J. N., Luo, W., Kwok, O.-M., & Loyd, L. K. (2008). Teacher-student support, effortful engagement, and achievement: A 3-year longitudinal study. *Journal of Educational Psychology*, *100*(1), 1–14. https://doi.org/10.1037/0022-0663.100.1.1

Irhouma, T., & Johnson, N. (2022). *Digital learning in Canada in 2022: A changing landscape*. Canadian Digital Learning Research Association. https://www.cdlra-acrfl.ca/wp-content/uploads/2023/01/2022_national_report_en.pdf

Johnson, N. (2019). *Tracking online education in Canadian universities and colleges: National survey of online and digital learning 2019 national report* (pp. 1–63). Canadian Digital Learning Research Association. https://www.cdlra-acrfl.ca/wp-content/uploads/2020/07/2019_national_en.pdf

Johnson, N. (2023). *An increasing demand for technology use in teaching and learning: 2023 Pan-Canadian report on digital learning trends in Canadian post-secondary education*. Canadian Digital Learning Research Association. https://www.cdlra-acrfl.ca/wp-content/uploads/2023/12/2023-Pan-Canadian-Report-EN.pdf

Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in Higher Education*, *38*(5), 758–773. https://doi.org/10.1080/03075079.2011.598505

Kanuka, H., Rourke, L., & Laflamme, E. (2007). The influence of instructional methods on the quality of online discussion. *British Journal of Educational Technology*, *38*(2), 260–271. https://doi.org/10.1111/j.1467-8535.2006.00620.x

Kuh, G. D. (2003). What we're learning about student engagement from NSSE. *Change: The Magazine of Higher Learning*, *35*(2), 24–32. https://doi.org/10.1080/00091380309604090

Kuh, G. D. (2009). The national survey of student engagement: Conceptual and empirical foundations. *New Directions for Institutional Research*, *2009*(141), 5–20. https://doi.org/10.1002/ir.283

Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *The Journal of Higher Education*, *79*(5), 540–563. https://doi.org/10.1080/00221546.2008.11772116

Kurt, S. Ç., & Yıldırım, İ. (2018). The students' perceptions on blended learning: A Q method analysis. *Educational Sciences: Theory & Practice*, *18*(2), 427–446. https://doi.org/10.12738/estp.2018.2.0002

Lai, C., Lin, H., Lin, R., & Tho, P. D. (2019). Effect of peer interaction among online learning community on learning engagement and achievement. *International Journal of Distance Education Technologies*, *17*(1), 66–77. https://doi.org/10.4018/IJDET.2019010105

Lakhal, S., Bateman, D., & Bédard, J. (2017). Blended synchronous delivery modes in graduate programs: A literature review and how it is implemented in the master teacher program. *Collected Essays on Learning and Teaching*, *10*, 47–60. https://doi.org/10.22329/celt.v10i0.4747

Lawrence-Benedict, H., Pfahl, M., & Smith, S. J. (2019). Community of Inquiry in online education: Using student evaluative data for assessment and strategic development. *Journal of Hospitality, Leisure, Sport and Tourism Education*, *25*. https://doi.org/10.1016/j.jhlste.2019.100208

Lyons, E. (2024). *Teaching and Social Presence in HyFlex Classrooms: Setting the Climate for Effective Group Cohesion* (Publication No. 9520) [Master thesis, University of Windsor]. Electronic Theses and Dissertations. https://scholar.uwindsor.ca/etd/9520

Mather, M., & Sarkans, A. (2018). Student perceptions of online and face-to-face learning. *International Journal of Curriculum and Instruction*, *10*(2), 61–76.

Merriam, S. B. (1995). What can you tell from an N of 1?: Issues of validity and reliability in qualitative research. *PAACE Journal of Lifelong Learning*, *4*, 51–60.

Murdock, J., & Williams, A. (2011). Creating an online learning community: Is it possible. *Innovative Higher Education*, *36*(5), 305–315. https://doi.org/10.1007/s10755-011-9188-6

Natarajan, J., & Joseph, M. A. (2022). Impact of emergency remote teaching on nursing students' engagement, social presence, and satisfaction during the COVID-19 pandemic. *Nursing Forum*, *57*(1), 42–48. https://doi.org/10.1111/nuf.12649

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students. Volume 2, A third decade of research* (1st ed.). Jossey-Bass.

Paulsen, J., & McCormick, A. C. (2020). Reassessing disparities in online learner student engagement in higher education. *Educational Researcher*, *49*(1), 20–29. https://doi.org/10.3102/0013189X19898690

Pregowska, A., Masztalerz, K., Garlińska, M., & Osial, M. (2021). A worldwide journey through distance education—From the post office to virtual, augmented and mixed realities, and education during the COVID-19 pandemic. *Education Sciences*, *11*(3), 118. https://doi.org/10.3390/educsci11030118

Redmond, P., Abawi, L. A., Brown, A., Henderson, R., & Heffernan, A. (2018). An online engagement framework for higher education. *Online Learning Journal*, *22*(1), 183–204. https://doi.org/10.24059/olj.v22i1.1175

Reeve, J., & Tseng, C. M. (2011). Agency as a fourth aspect of students' engagement during learning activities. *Contemporary Educational Psychology*, *36*(4), 257–267. https://doi.org/10.1016/j.cedpsych.2011.05.002

Richardson, J. C., & Swan, K. (2003). Examining social presence in online courses in relation to students' perceived learning and satisfaction. *Journal of Asynchronous Learning Network*, *7*(1), 68–88. https://doi.org/10.24059/olj.v7i1.1864

Robson, K., & Mills, A. J. (2022). Teaching, fast and slow: Student perceptions of emergency remote education. *Journal of Marketing Education*, *44*(2), 203–216. https://doi.org/10.1177/02734753221084585

Salas-Pilco, S. Z., Yang, Y., & Zhang, Z. (2022). Student engagement in online learning in Latin American higher education during the COVID-19 pandemic: A systematic review. *British Journal of Educational Technology*, *53*(3), 593–619. https://doi.org/10.1111/bjet.13190

Saldana, J. (2016). *The coding manual for qualitative researchers* (J. Seaman, Ed.). SAGE Publications.

Serhan, D. (2020). Transitioning from face-to-face to remote learning: Students' attitudes and perceptions of using Zoom during COVID-19 pandemic. *International Journal of Technology in Education and Science*, *4*(4), 335–342.

Sharma, A., & Alvi, I. (2021). Evaluating pre and post COVID 19 learning: An empirical study of learners' perception in higher education. *Education and Information Technologies*, *26*(6), 7015–7032. https://doi.org/10.1007/s10639-021-10521-3

Shevchenko, O., Tkachenko, V., Tkachenko, K., & Nenko, Y. (2022). Communication barriers in emergency remote education. *Revista Brasileira de Educação Do Campo*,*7,* 1–24. https://doi.org/10.20873/uft.rbec.e14210

Shin, M., & Hickey, K. (2020). Needs a little TLC: Examining college students' emergency remote teaching and learning experiences during COVID-19. *Journal of Further and Higher Education*, 1–14. https://doi.org/10.1080/0309877X.2020.1847261

Shulman, L. S. (2002). Making differences: A table of learning. *Change: The Magazine of Higher Learning*, *34*(6), 36–44. https://doi.org/10.1080/00091380209605567

Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology*, *85*(4), 571–581. https://doi.org/10.1037/0022-0663.85.4.571

Skinner, E. A., Wellborn, J. G., & Connell, J. P. (1990). What it takes to do well in school and whether I've got it: A process model of perceived control and children's engagement and achievement in school. *Journal of Educational Psychology*, *82*(1), 22–32. https://doi.org/10.1037/0022-0663.82.1.22

Stewart, W. H., Lowenthal, P. R., & Richter, D. (2023). A model of remote teaching and learning under emergency and sustained crisis conditions: A description of novel distance education contexts and manifestations. *The Turkish Online Journal of Distance Education TOJDE*, *24*(2), 183–201. https://doi.org/10.17718/tojde.1090810

Swan, K., & Ice, P. (2010). The community of inquiry framework ten years later: Introduction to the special issue. *Internet and Higher Education*, *13*(1–2), 1–4. https://doi.org/10.1016/j.iheduc.2009.11.003

Tenenbaum, H. R., Winstone, N. E., Leman, P. J., & Avery, R. E. (2020). How effective is peer interaction in facilitating learning? A meta-analysis. *Journal of Educational Psychology*, *112*(7), 1303–1319. https://doi.org/10.1037/edu0000436

Thomson, S. (2010). Sample size and grounded theory. *JOAAG*, *5*(1), 45–52. https://ssrn.com/abstract=3037218

Trowler, V. (2010). *Student engagement literature review*. The Higher Education Academy.

Vibert, A. B., & Shields, C. (2003). Approaches to student engagement: Does ideology matter? *McGill Journal of Education*, *38*(002), 221–240. https://mje.mcgill.ca/article/view/8682

Waters, J. (2015). Snowball sampling: A cautionary tale involving a study of older drug users. *International Journal of Social Research Methodology*, *18*(4), 367–380. https://doi.org/10.1080/13645579.2014.953316

West, M. (2023). *An ed-tech tragedy? Educational technologies and school closures in the time of COVID-19*. In K. Davison, Kate & R. Yaghmour, (Ed.). United Nations Educational, Scientific and Cultural. https://doi.org/10.54675/LYGF2153

Woolsey, L. K. (1986). The critical incident technique: An innovative qualitative method of research. *Canadian Journal of Counselling*, *20*(4), 242–254.

Zagkos, C., Kyridis, A., Kamarianos, I., Dragouni, K. E., Katsanou, A., Kouroumichaki, E., Papastergiou, N., & Stergianopoulos, E. (2022). Emergency remote teaching and learning in Greek universities during the COVID-19 pandemic: The attitudes of university students. *European Journal of Interactive Multimedia and Education*, *3*(1), e02207–e02207. https://doi.org/10.30935/ejimed/11494