

Collaboration and Ethics in Distance Learning Design

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Volume 24, Number 4, November 2023

URI: <https://id.erudit.org/iderudit/1108555ar>
DOI: <https://doi.org/10.19173/irrodl.v24i4.7267>

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Publisher(s)

Athabasca University Press (AU Press)

ISSN

1492-3831 (digital)

[Explore this journal](#)

Cite this article

Biem, R. & Morrison, D. (2023). Collaboration and Ethics in Distance Learning Design. *International Review of Research in Open and Distributed Learning*, 24(4), 194–213. <https://doi.org/10.19173/irrodl.v24i4.7267>

Article abstract

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Collaboration and Ethics in Distance Learning Design

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Abstract

Ethical education practices require that all students have access to quality learning resources, necessary learning supports, diverse learning strategies, and deep learning opportunities. When it comes to learning strategies and opportunities, collaborative learning practices foster deep learning through socio-cultural interactions, asserting that individual learning is limited compared to what can be learned as a community. Education systems have an ethical obligation to ensure that what is advocated for in curricula can be achieved and will be supported. Although K–12 curricula are typically rooted in collaborative approaches, many asynchronous secondary online learning courses continue to be associated with individual learning approaches. This research used insights gleaned from 35 survey responses and 18 semi-structured interviews with secondary asynchronous distance learning teachers to analyze how collaborative learning is actualized and examine barriers to its implementation. Collaborative online learning opportunities were increasingly prevalent when communities outside of the school were leveraged for experiential learning and when students were paced as a cohort. The data indicated that an increase in collaborative learning was not likely to occur unless the learning ecosystem valued online learning as equitably as face-to-face learning in terms of investment in research-based pedagogy, student support, teacher support, and teaching and learning resources. Until such time, distance learning students will be disadvantaged concerning building collaborative competence that can lead to deeper learning opportunities.

Keywords: collaborative learning, asynchronous distance learning, online learning, learning ecosystem, social-constructivism

Collaboration and Ethics in Distance Learning Design

The authors argue that education systems have an ethical obligation to design and support opportunities for all students to experience deep learning. Collaborative distance learning (DL) approaches have been shown to improve deep learning, learning enjoyment, and opportunities to learn from diverse perspectives (Shearer et al., 2020; Yates et al., 2021). However, secondary school asynchronous DL has been slow to shift to collaborative approaches. This slow shift may stem from, a) a lack of understanding of possible asynchronous distance learning pedagogies, b) an assumption that asynchronous distance learning is synonymous with self-paced independent learning, or c) the small footprint distance learning had in the education system, before the COVID-19 pandemic.

This study showed that collaborative DL approaches were possible when the learning ecosystem had alignment among the learning supports, the pedagogy used, and the student's learning needs. However, when a self-paced individual pedagogy is used for all students, many students' abilities to meet the depth intended in the learning outcomes are negatively affected. The authors argue that educational institutions have an ethical obligation to meet the needs of each student and ensure a learning environment supportive of those needs.

Statement of the Problem

Collaborative approaches to learning are embedded in many K–12 curricula (e.g., collective achievement, willingness to collaborate, and communitarian thinking and dialogue) as they are understood to improve learning outcomes in comparison to what one can learn alone (Barkley et al., 2014; Vygotsky, 1978). Furthermore, Beck and Kosnik (2006) claimed that this social dimension to learning “is not just a frill added to make learning more enjoyable; it is fundamental to deep understanding” (p. 22). However, little is understood about how to support this approach in asynchronous distance learning (A-DL) where there is limited, if any, real-time communication, and where collaboration with peers may reduce a student's need to self-pace. This research is an integral first step in connecting theory to practice by exploring how collaborative learning has been actualized in secondary A-DL, what barriers exist, and how the current system might be strengthened to support collaborative learning.

Literature Review

The purpose of this literature review is to a) introduce research about collaborative pedagogies and their connection to deep learning, b) distinguish the significant differences between synchronous and asynchronous distance learning, and c) explain how viewing distance learning as a learning ecology enriches the understanding of DL pedagogy and design.

Collaborative Pedagogies and Distance Learning

Collaborative learning is an intentionally designed learning strategy to actively engage students in learning with and from others (Barkley et al., 2014; e.g., through critical discussions and debates). Collaborative learning has been directly linked to what Vygotsky (1978) coined as the zone of proximal development (ZPD). The ZPD represents the increased cognitive development the learner is capable of with the help of a

more knowledgeable other (MKO), in contrast to what they would be capable of learning unaided. The MKO could be a teacher, peer(s), or an online community (e.g., online discussion board, chat room). An expanded version of the ZPD (Billings & Walqui, 2018) has suggested that increased learning can also occur through interaction with equal peers where shared ideas can advance learning, or less capable peers, as students often learn through teaching. Additionally, working in the ZPD *can* occur when working alone, where students have learned to independently monitor their learning through using “inner speech, resources in their environment, and experimentation” (Walqui & van Lier, 2010, p. 31).

Within DL, collaborative practices have been shown to strengthen deep learning (Mehall, 2020; Wu et al., 2022). For example, a comparative qualitative study by Barbour and Rich (2007) found that distance-learning student performance on an advanced placement history exam was noticeably better when students learned through collaborative learning tasks compared to traditional teacher-led drill and practice. A further qualitative study by Offir et al. (2008) compared interactions in asynchronous versus synchronous distance learning approaches and found that student achievement improved as social interactions increased. In both studies, students showed deeper learning (e.g., transferability of information and connection to existing experiences) through collaborative learning.

McMullen and Rohrbach (2003) cited the negative effects of not using a collaborative approach, particularly for Indigenous students across Canada, who have not been well served by distance learning, historically. They noted that “by imposing or expecting too much independence on a group of people who believe in relationships and social learning, the curriculum developer and instructor will restrict the positive influence of the culture, and ultimately the success of the course” (pp. 69–70).

Distinctions Between Synchronous and Asynchronous Distance Learning

The most notable difference between asynchronous and synchronous distance learning is in how and when students communicate. In synchronous DL the instructor and class meet online together at the same time, typically through a video chat (e.g., Zoom). Strengths of synchronous DL include the ability for learners to gain immediate feedback and interact with their peers in real-time, which can increase their motivation and reduce feelings of isolation (Gunes, 2019). Limitations of synchronous DL include Internet bandwidth issues and reduced scheduling flexibility.

In contrast, communication in asynchronous DL primarily takes place through text-based communication (e.g., discussion boards) at a time and place of the student’s choosing. The benefits of asynchronous DL include increased scheduling flexibility, the opportunity for continuous lesson review (Ghilay, 2022), and increased student processing and response time, eliciting deeper responses compared to synchronous chats (Brierton et al., 2016). However, Murphy and Rodríguez-Manzanares (2008) suggested that asynchronous DL may be problematic for many high school students who are not ready for the independence required in this learning environment.

Research in collaborative asynchronous DL has often focused on text-based communication (e.g., discussion boards; Garrison et al., 1999). However, we interpret that collaborative learning is larger than discussion boards alone and education systems must look for ways to support collaborative learning beyond discussion boards.

Viewing Distance Learning as a Learning Ecosystem

In this research, collaborative learning was situated within a learning ecosystem (Biem, 2022) conceptual framework. Educators have adopted the term learning ecosystem as a working model to understand the interactive and complex processes that support distance learning (Hecht & Crowley, 2020; Jackson, 2013; Lemke, 2000; Nardi & O'Day, 1999). A distance learning ecosystem depends on, and is supported by, a network of relationships between people (e.g., policymakers, peers, parents, teachers, Internet connectivity) which are affected by environmental factors such as policy, cultural norms, and resources. However, Hecht and Crowley (2020) argued, and we agree, that “an exclusive focus on individuals, or even groups of individuals, fail to recognize and account for larger cultural practices that co-evolve with and co-create learning and development” (p. 10). Without this understanding, distance learning policymakers, administrators, and teachers may struggle to identify where and how to focus resources to support deep learning in asynchronous contexts.

Education systems (e.g., policies, procedures, pedagogy) have an ethical obligation to adapt to the needs of students in a constantly evolving local or regional learning ecosystem. This requires intentionally building and supporting a network of relationships including, but not limited to, the teacher. Consider for example, teacher-centered learning ecosystems with a strong reliance on the teacher to deliver content and facilitate learning. COVID-19 disrupted teacher-directed learning leaving many students unable to lead their learning in the absence of a teacher telling them what to do (Yates et al., 2021). The learning ecosystem concept aids in understanding a connected and interactive distance learning system to analyze how and why collaborative asynchronous distance learning approaches succeed or fail.

Methodology

This study used a mixed methods sequential design in two distinct phases: quantitative, followed by qualitative (Creswell & Plano Clark, 2018; Schoonenboom & Johnson, 2017). In the first phase, a quantitative online survey was used to gain a contextual descriptive analysis of the general target population and recruit participants for the qualitative phase. During the second phase, in-depth semi-structured interviews were completed with participants who self-selected from the online survey in phase one. The survey preceded and then complemented the semi-structured interviews, providing a descriptive analysis of teachers' experiences, and providing information in response to what questions (e.g., What strategies? What barriers?). The semi-structured interviews allowed for an in-depth investigation to move beyond what teachers do, to show how and why teachers implement specific DL approaches and make the design choices they do. Although both quantitative and qualitative methods were used, the core theoretical drive was qualitative. The quantitative and qualitative data were analyzed separately, then the quantitative findings were merged into the discussion stage of the qualitative research.

Participants

Participants were limited to secondary school asynchronous distance learning teachers within the Western Canadian province of Saskatchewan. Eight out of fifteen school divisions with a DL program consented to participate. There were 35 survey participants from these divisions across the province. Survey respondents

included 19 males, 15 females, and 1 other participant. Participants' years of experience teaching distance learning ranged from less than 2 years to 16-plus years. All core subject areas (i.e., English, mathematics, science, social science), as well as practical and applied arts, visual arts, physical education, and English as an additional language, were represented within the participants' teaching experiences. A total of 20 survey participants indicated a willingness to follow up with an interview. Of those, 18 followed through with the interview.

Setting

The location of Saskatchewan was chosen as it was the researchers' home province and the K–12 curriculum there was rooted in collaborative teaching and learning practices (Saskatchewan Ministry of Education, 2010). The province's provincially funded education system included 27 school divisions (18 public school divisions, 8 separate Roman Catholic school divisions, 1 separate Protestant school division, and 1 francophone school division). At the time of the study, the province had 186,036 K–12 students enrolled in the provincially funded school system (State of the Nation, 2022). There were 780 K-12 schools, including 59 small schools of necessity (schools that are at least 40 km away from the nearest similar school and have an average of 14 students per grade) and 20 urban centres (centres with populations greater than 5,000) with approximately 43% of the schools (335) within the urban centres (Saskatchewan Ministry of Education, 2021). Sixteen percent of the population self-identified as Indigenous (Statistics Canada, 2017), and, as of 2016, there was an 18.6% Indigenous student population in K–12 provincial schools and 22.6% in all Saskatchewan schools, private or on reserve (Saskatchewan Ministry of Education, 2018).

According to State of the Nation (2022), in 2020, exclusively online schools in the province included “16 provincial schools in 13 school divisions, one independent school, and one First Nation educational authority. During the 2019–20 school year, there were 13,666 course enrolments involving 8,138 unique students in Grades 10 to 12” (para. 4).

Data Collection

Data was collected from an online survey ($N = 35$) that took approximately 15 minutes to complete, and semi-structured interviews ($N = 18$) lasting approximately one hour. The survey was divided into two parts, the first part included closed-ended questions clarifying the participant's context (e.g., years of teaching, subjects taught, course pacing). Part two asked questions related to participants' beliefs and understandings about collaborative approaches, barriers, and supports necessary for collaborative practices to be successful. The survey consisted mainly of closed-form questions (e.g., Likert scale and checklist items) from which a description of the sample population's contexts, beliefs, and practices was created.

Analysis of Survey Descriptive Data

The survey analysis used descriptive statistics to describe the participants' ($N = 35$) context, practices, and philosophies. It also identified contributors and barriers to successful high school asynchronous DL. Descriptive statistics included frequency distribution, percentages, and basic graphic analysis (e.g., bar graphs, pie charts). The descriptive analysis from the survey was used to enhance the exploration of secondary school asynchronous DL teachers' experiences and, where appropriate, to investigate responses further during the semi-structured interview. The open-ended responses from the survey were included later in the thematic analysis with the interview data.

Thematic Data Analysis for Interviews and Open-Ended Survey Responses

Reflexive thematic data analysis was used as “a method for identifying, analyzing, and reporting patterns (themes) within data” (Braun & Clarke, 2006, p. 79). Reflexive thematic analysis “emphasizes the importance of the researcher’s subjectivity as an analytic resource, and their reflexive engagement with theory, data and interpretation” (Braun & Clarke, 2020, p. 330). Deductive analysis was used to explore patterns through the lens of collaborative learning and learning ecosystems. Throughout the analysis, both theoretical coding (e.g., exploring patterns within collaborative approaches) and emergent coding (e.g., codes drawn from the data; Braun & Clarke, 2020) were used.

Braun and Clarke’s (2020) six-phase analysis of the data was followed, including “1) data familiarization and writing familiarization notes; 2) systematic data coding; 3) generating initial themes from coded and collated data; 4) developing and reviewing themes; 5) refining, defining and naming themes; and 6) writing the report” (p. 331).

Trustworthiness

Trustworthiness was addressed through two separate member checks with participants from the semi-structured interviews to ensure the results reflected the participants’ voices. One member check occurred after the interviews were transcribed, and another after the themes and findings were completed. To further strengthen the participants’ voices and minimize the effects of the researcher’s preconceived ideas, extensive participant quotes across data sets were used to support the findings. Additionally, a clear audit trail (Merriam, 2009) was maintained whereby interview transcription and data coding were transparent. The researcher’s experiences and standpoint were shared with the participants and within the research design (e.g., creating memos, immersion in data). The methods that guided the study are expanded in the Findings and Discussion section of this article.

Limitations

Limitations to the sampling method included limited transferability as all research participants were recruited from the same province. Additionally, since participants volunteered to take part in the study, it is possible that not all perspectives were represented in the data (e.g., only one teacher spoke about Indigenous perspectives). No data was collected regarding the geographical location of the participants (i.e., urban versus rural, northern versus southern communities, teachers working full time online versus teachers who also teach face-to-face) or cultural context (e.g., Indigenous and non-Indigenous communities). As such, comparisons could not be made regarding varied approaches depending on context. A further limitation included a lack of responses to the second member check, where only one participant responded. It was indeterminable whether the lack of response was due to teachers’ busy schedules, participation fatigue, or other barriers.

Findings and Discussion

The survey and interview findings are presented and discussed below.

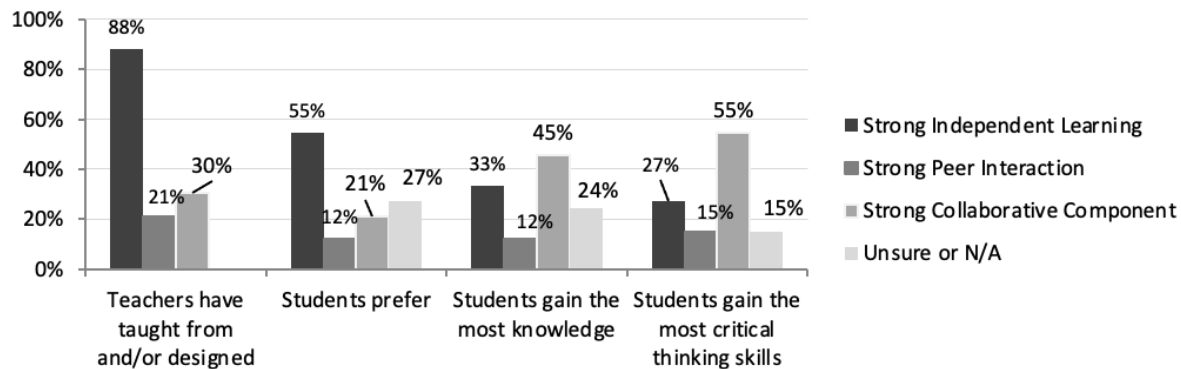
Survey Findings

Within the survey, teachers were asked to respond to questions regarding their experiences and beliefs about student interaction (Figures 1 and 2). Strong individual learning referred to contexts where the student primarily interacts independently with the concepts but gains feedback from the teacher when assignments are submitted and can ask for help as needed. A course/unit with strong peer interaction referred to interaction with course peers (e.g., discussion boards). A course/unit with a strong collaborative component (e.g., learning with and from others) referred to collaboration with peers, teachers, parents, community, and so on.

Figure 1 presents teacher responses about their experiences and beliefs about the types of interaction in online learning.

Figure 1

Types of Interaction

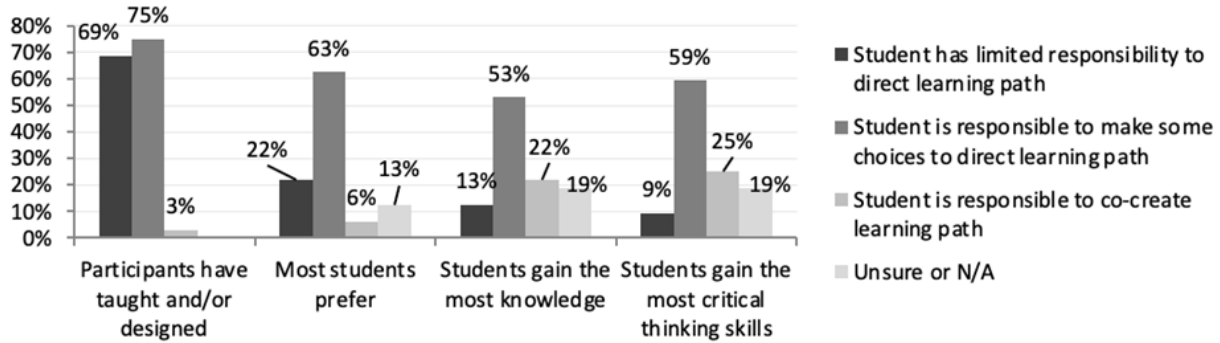


The survey indicated that most teachers (88%) have taught and/or designed courses with strong independent learning and that most students prefer this approach (55%). However, many teachers indicated that a strong collaborative component allowed the students to gain the most knowledge (45%) and critical thinking skills (55%). The survey data suggested a disconnect between value and practice, as many teachers found value in collaborative learning while still choosing independent learning approaches for distance learning.

Figure 2 represents teacher responses about their experiences and beliefs about distance learning approaches.

Figure 2

Learning Approach Assessment



Most teachers (75%) have taught and/or designed courses where the student is responsible to make some choices to direct their learning path. This approach aligned with teachers’ beliefs about the best approach for student preference (55%), increased knowledge (53%), and gaining critical thinking skills (59%). Sixty-eight percent of teachers have designed and taught courses where students have a limited ability to direct their learning path, which was identified as a low preference for students (29%), and rated as the lowest for gaining knowledge (13%) and critical thinking skills (9%). Overall, the responses indicated that teacher beliefs are better aligned with their approach (providing some choice), while courses may still exist where students have minimal responsibility to make choices in directing their learning path, even though participants recognized that other approaches were better for attaining knowledge and critical thinking skills.

Table 1 summarizes teachers’ beliefs about collaborative learning in DL contexts.

Table 1

Beliefs About Collaborative Learning

Belief	Agree	Somewhat agree	Neutral	Somewhat disagree	Disagree
Online high school students need to collaborate with others to gain a deep understanding	15%	39%	30%	3%	12%
Collaborative online instructional strategies increase deep understanding compared to independent online learning	21%	36%	27%	9%	6%

High school students have the necessary skills to successfully collaborate with others online	6%	24%	21%	36%	12%
Heavy reliance on collaborative learning in asynchronous online courses is a realistic goal	0%	12%	15%	30%	42%
Most students are capable of being successful in distance learning when primarily working from home	15%	45%	21%	12%	6%

Fifty-four percent of teachers agreed or somewhat agreed that high school students need to collaborate with others to gain deep understanding compared to only 15% who disagreed or somewhat disagreed with this statement. The high percentage of teachers who were neutral (30%) suggests a possible lack of experience with both approaches to make an informed decision.

Fifty-seven percent of teachers indicated that collaborative online instructional strategies increase deep understanding compared to independent online learning. However, 49% of teachers indicated that high school students do not have the necessary skills to successfully collaborate with others online, suggesting that without appropriate skills, collaborative learning is limited. Additionally, 73% of teachers disagreed or somewhat disagreed that heavily relying on collaborative learning in asynchronous online courses is a realistic goal, suggesting there is more than just a lack of student skill that inhibits collaborative learning.

Key findings from the survey results indicated that 55% of teachers believed collaborative learning is needed for deep understanding. Yet 73% of teachers indicated it is not a realistic goal in distance learning. This finding suggested that students' ability to gain the benefits from collaborative learning (e.g., deep learning and the opportunity to learn from diverse perspectives) may be limited in asynchronous distance learning. The semi-structured interviews explored why there might be a disconnect between teachers' beliefs about best practices for student learning and strategies used for asynchronous distance learning.

Semi-Structured Interview and Open-Ended Survey Response Findings

The data showed that teachers often had differing perspectives on the best instructional approaches to distance learning. Some teachers advocated for self-paced independent approaches, indicating it was a privilege to work in such environments to meet student needs. The same confidence was expressed by other teachers who spoke of the privilege they had in being able to support some synchronous communication with students. However, when a homogeneous approach was used for all students, there was often a disconnect for students who could not conform to that approach. For example, independent learning approaches worked well for some students but were problematic for students who needed more support and personal connections. The theme of alignment of student, pedagogy, and support was constructed from the data to elucidate why there was a disconnect between teachers' beliefs about the value of collaborative learning and their practices.

Alignment Among Purpose, Pedagogy, and Person

Diversity in the purposes of online schools, the pedagogies used, and individual student needs are described below. Then, distance learning systems which demonstrated an alignment or a disconnect among the school purpose, pedagogy, and student needs are examined. Finally, implications and contributing factors to disconnected systems are analyzed.

Purpose

Teachers' descriptions of the purpose of their online schools varied. Purposes included meeting the needs of:

- rural students who have limited course offerings in their face-to-face schools
- students who need student-led pacing (e.g., students who have additional family responsibilities or unpredictable schedules)
- students who need a credit recovery option
- homeschool students
- most recently, to meet the physical distancing requirements from the COVID-19 pandemic

The school's purpose often dictated the pedagogy used for all students enrolled. For example, in some divisions distance learning was never designed to be a viable option for every student. As one teacher explained, "this is for that kid—that hockey kid that comes home after hockey practice . . . he was supplementing his education with whatever subjects he's missing out on face-to-face." For others, online programming was designed to provide equitable learning options for students in remote rural schools. These students completed their online courses within the face-to-face school during the regular school day where they had some access to in-person support if needed.

Pedagogy

Pedagogy was largely dictated by the school's purpose. Pedagogies used included the following:

- Individual and independent approaches. "We built it with the idea that it was a standalone. . . . This is not for everybody. So, we just want to make [the student] aware, you're doing this on your own." (Crystal).
- Collaborative approaches. "We want to have kids talk to each other . . . in our division we value that personal connection" (Levi).
- Flexible and shifting approaches to meet the needs of the student, where the units shift between synchronous and asynchronous depending on the needs and abilities of the students. For example, one school aimed to "maximize the synchronous interaction and make the asynchronous part as relevant as possible. . . . if there's no synchronous group, you try to make sure you have those routine check-ins where each student can do a virtual side-by-side [with the teacher]" (Brian).

Interestingly, this study revealed that teachers from newer online programs (existing for five years or less) largely resisted self-paced independent online practices and advocated for collaboration and social learning opportunities. Below is a teacher's response highlighting the importance of collaboration, suggesting that asynchronous learning is associated with a lack of discussion and interaction.

If [online learning] remains past COVID, we don't want to just be a purely asynchronous model. . . . We need to really look at this and make a new way, where I can do group discussions with my students, I can get them to interact with each other and work live with each other in a shared digital space. . . . I need to assess [those skills] . . . it's part of the social connection they need. (Emily)

Participants noted that using legacy practices stemming from paper correspondence courses was not sufficient to meet the collaborative approaches outlined in the curriculum. "If [the province] would like [DL] to be in alignment with . . . the goals of the curriculum, then we can't be going to the model of almost the old correspondence school model [self-paced and independent]" (John).

Furthermore, in every case when a self-paced asynchronous approach was needed to meet some students' needs it was used for all students, even if diverse approaches would better serve other students. A participant, Amy, described one such situation. "I got told there was two, maybe three students, that wanted to go back to their home school" and the students needed to complete the course before the end of the semester. As a result, she switched to a self-paced independent course for every student. The self-paced independent approach was problematic for her as many students were not able to self-regulate their learning: "I still have kids that haven't started" (Amy). Again, an ethical dilemma was created here by designing a course that was not intended to meet the needs of all learners. The practice of catering to students who needed self-pacing, rather than considering diverse student needs, in particular those who needed more structure, was pervasive throughout the data. However, understandably, teaching the same course with two different pedagogies may also be problematic and time consuming, in turn contributing to the use of a self-paced individual pedagogy for all (Toshalis & Nakkula, 2012).

Person (The Student)

There were diverse reasons students were enrolled in distance learning over face-to-face learning. Some students chose distance learning over face-to-face, whereas others *were required* to take distance learning. The reasons why students enrolled in distance learning included:

- anxiety from face-to-face programming
- limited course offerings in face-to-face school
- limited academic success in face-to-face schools
- unforeseen circumstances such as hospitalization
- physical restrictions due to the COVID-19 pandemic
- family choice to learn from home

Given that students' reasons for taking distance learning courses were diverse, it follows that diverse approaches are also needed.

Alignment or Disconnect

So far, online school purposes, pedagogies, and students have been discussed. Next, teachers' experiences when these three categories align or are misaligned are examined. Teachers spoke positively about distance learning education and teaching experiences when the pedagogy matched the needs of the student; they expressed teacher and student frustration when they were disconnected.

Aligned Scenarios

Teachers' descriptions of positive teaching and learning experiences were interpreted as those where the purpose and pedagogy aligned with the student's needs. The following scenarios (Figures 3 to 5) describe such situations.

Figure 3

Aligned Environment 1

School Purpose		Pedagogy Used		Student Need
Meet the needs of students who need control over course pacing and are independent	⇒	Independent self-paced	⇒	Seamless transition back to face-to-face learning when there are extended absences

Crystal illustrated this alignment when she described that “asynchronous . . . continuous intake is a huge advantage” for situations where students are absent for extended periods of time. Crystal provided an example below.

There's a large immigration population in our city. And so, when a kid goes back to their home country for say about six weeks, it's a nightmare for their homeroom teacher. [We can] help supplement. . . . Their home school says, “Johnny's going to be missing module three with us.” So, what they do is, they parachute him in [to complete the third module with us].

Figure 4

Aligned Environment 2

School Purpose	Pedagogy Used	Student Need
Student learning from home because of pandemic restrictions	Collaborative cohort paced	Connection with peers and sense of belonging in the environment Supportive environment to learn DL skills

A participant, Amy, illustrated this alignment when she described using some synchronous meetings to support students who may struggle with self-regulating their learning.

[The class will] meet as a whole group on Mondays and Fridays, and that’s just for me to see who’s showing up . . . who seems to be engaged. . . . Then Tuesday-Wednesday-Thursday, I’m usually reaching out to kids I know are not doing anything, or if they’ve asked a question and we try to do these small group meetings for whoever needs it.

Note that Amy used a cohort-paced model, supportive of students’ needs, and created flexibility to incorporate some synchronous sessions, while still allowing much asynchronous learning freedom within the week.

Figure 5

Aligned Environment 3

School Purpose	Pedagogy Used	Student Need
Meet the needs of homeschooled students	Experiential learning	Connection to community and family context

Another example of a connected environment was described when the primary purpose of the course was to meet the needs of homeschooled students (pre-COVID-19). Teachers used an experiential learning approach that focused efforts on field trips, volunteerism, or work placement. In this context, teachers actively looked to create opportunities for peer interactions to give students as normal a high school experience as possible. A participant, Ruth, shared her experiences in such an environment. “[We organize] events for our students and then incorporate that into the curriculum. . . . I organized an outdoor . . . winter camping trip and it was fantastic. . . . Those opportunities . . . are similar to our community of students feeling connected with other people in their [face-to-face] school.”

In the case described by Ruth, cohort pacing was not needed for collaborative learning, but students had to prioritize attendance at the field trips (noting they were optional).

In each case above, the purpose, pedagogy, and person aligned, and teachers spoke positively about how distance learning met students’ needs.

Disconnected Scenarios

Teachers who discussed situations that did not lead to student success (e.g., lack of course completion or meeting curricula outcomes) cited notable disconnect with the purpose, pedagogy, or person. The following scenarios (Figures 6 to 8) describe such situations.

Figure 6

Disconnected Environment 1

School Purpose	Pedagogy Used	Student Need
Meet the needs of students who need additional course credits without learning challenges	⇒ Independent self-paced	⇏ Students enrolled need significant academic and or readiness support

Many teachers described an increase in enrollment of students experiencing significant learning challenges and/or attendance concerns, without the equitable support students would receive in face-to-face classrooms. One teacher, Jane, suggested that face-to-face schools that enrolled students in DL “thought that this was just a dumping ground” for students who had issues with face-to-face attendance or in-class behavior. She went on to say that tracking those students was stressful, especially when students inaccurately communicated to their parents that they were working.

Figure 7

Disconnected Environment 2

School Purpose	Pedagogy Used	Student Need
Meet the needs of diverse students (e.g., students who need independent learning and other students who need personal connection)	⇒ Independent self-paced	⇒* Student needs a social connection for motivation and interest. Student needs DL self-regulation support

*Note. There was a need for two separate approaches, yet only one pedagogical approach is used, leading to a disconnect for some students.

Another example of a disconnect in the environment was cited when an independent self-paced pedagogy was used for all students when a collaborative approach would be better suited for *some* students. In the example below, one participant, Tom, highlighted the school norm where students would engage in so-called binge work at the end of a term, impacting the teaching and learning cycle needed for deeper learning. “Students [have] the option of procrastinating and then hammering out a course in 3 weeks. . . . You just don’t have the option then to even give the kids feedback for meaningful learning” (Tom).

A teacher in a different situation (e.g., where the student was independent) might view self-paced independent learning as an advantage (e.g., they can finish a course quicker and at their own pace). However, here, where a student cannot, or does not, self-regulate, procrastination can affect the teaching and learning cycle creating a mismatch between the pedagogy, or support associated with the pedagogy (e.g., time management support; Anderson & Dron, 2012), and the student’s learning needs. Simply put, a homogeneous pedagogy is problematic in providing support for students’ unique needs.

Figure 8

Disconnected Environment 3

School Purpose		Pedagogy Used		Student Need
Meet the needs of rural students needing additional credits	⇒	Cohort paced collaborative	⇏	Flexible learning schedule due to unpredictable family responsibilities

Figure 8 illustrates a learning environment where a student needs self-paced learning due to extenuating circumstances (e.g., family responsibilities, mental health, addictions) but the course is paced as a collaborative cohort. For example, course expectations will be unattainable for students who cannot commit to collaborative work where their peers are relying on them to complete a collaborative project.

Note, this situation does not describe environments where students advocate for an individual approach to avoid collaborative work. In that case, student resistance should be viewed as an opportunity to “coach” the student and challenge them to grow intellectually through collaborative learning, even though, at first, it might seem hard (Driscoll, 2005).

Additional Factors Contributing to Disconnect

Without a plan in place for students who need significant support for distance learning readiness (e.g., technology skills, self-regulation), collaborative learning was not realistic for teachers given the additional time needed to support students. Teachers often noted that senior administration staff did not sufficiently understand distance learning. The implication here was that distance learning environments needed to be intentionally designed and supported for all students enrolled. For example, John’s statement below implied that collaborative approaches are largely influenced by the environment (e.g., teacher workload).

The desire of every teacher at heart would love to be doing problem-based learning and collaboration and deep learning. All of us would love that . . . but the current workload that at least I am experiencing. . . . It would not be possible. It's just too much.

Summary

A lack of clarity regarding the diverse approaches to distance learning has been problematic. Distance learning is not a one-size-fits-all approach. Although self-pacing is not synonymous with asynchronous learning, unrestricted self-pacing with little collaboration seems to be an unchallenged norm in many secondary asynchronous courses. Some students need an unrestricted self-paced option to graduate from high school (e.g., family responsibilities, extra-curricular obligations, medical reasons), but many students do not.

Pacing considerations for an asynchronous cohort model were an overlooked, yet more supportive, model for collaborative practices. Pedagogy was largely determined at the administrative level. However, where teachers paced students as a cohort, they cited an increase in opportunity for social constructivist practices with peers, more time supporting critical discussions, and fewer inactive students. The results suggest that the so-called free-for-all of student-led pacing is insufficient for peer-to-peer collaborative engagement and, at times, is a barrier to deep learning (e.g., procrastination disrupting the feedback-learning cycle). Further research is needed to examine the differences between self-paced and cohort-paced asynchronous courses.

As previously stated, not all online programs were designed to meet all students' needs. Designing a school to meet a niche student's needs is not problematic in itself. It is problematic, and, we argue, is an ethical dilemma, when all students are allowed to enroll in a program knowing the necessary support cannot or will not be included to set students up for success. Enrolling a student in a course without incorporating the known essential learning supports creates an ethical dilemma by inadequately supporting students' academic success and well-being. This lack of support and alignment of the pedagogy to students' needs suggests one reason that DL might be interpreted as a dumping ground.

For most schools, the findings suggested the online student has shifted from a niche student (e.g., independent students who needed control of place or pace of learning), to a more diverse population (e.g., students supplementing face-to-face courses, homeschooled students, students who are not comfortable in a face-to-face classroom). The shift in student populations for online schools has not always equated to a shift in the pedagogical approach or student services support. Student-led learning with little to no collaborative learning appeared to be the default pedagogy.

Conclusion

The findings show that collaborative approaches in asynchronous DL are possible through leveraging communities for experiential learning and, where possible, using a cohort-paced course design. Using the

same approach for all students does not meet the education system's ethical obligation to meet the unique needs of all students.

Although not all teachers expressed the sentiment that distance learning was sometimes used as a so-called dumping ground, a lack of student support systems was often cited. Furthermore, the use of this term should be cause for alarm, elevating the necessity of education systems to re-evaluate their ethical obligation to provide learning support for all DL students, including those with attendance or behavior challenges and those who need to build online learning skills (e.g., time management).

This research indicates that in many cases, prior to COVID-19, online learning was a niche learning ecosystem designed for students in unique circumstances. The findings suggest that the current disconnect between the value online teachers place on collaborative learning with their practice lies largely within the design of the learning environment that was never intended to support this type of learning. A lack of student support, a default to self-paced individual learning, and a lack of modelling of this learning approach often created a learning environment that defaulted to independent self-paced learning. Since the design of the learning environment dictates what type of learning can occur, it follows that without an alignment among the student's needs, the pedagogy used, and the supports provided, collaborative online learning ecosystems are not likely to be prevalent in asynchronous distance learning environments.

References

- Anderson, T., & Dron, J. (2012). Learning technology through three generations of technology enhanced distance education pedagogy. *European Journal of Open, Distance and E-Learning*, (2).
<https://doi.org/10.19173/irrodl.v12i3.890>
- Barbour, M., & Rich, P. (2007). Social constructivist e-learning: A case study. *International Electronic Journal for Leadership in Learning*, 11(5).
https://digitalcommons.sacredheart.edu/cgi/viewcontent.cgi?article=1161&context=ced_fac
- Biem, R. (2022). *Learning ecosystems: Connecting social constructivism and distance learning* [Doctoral dissertation, University of Saskatchewan]. Harvest.
<https://harvest.usask.ca/bitstream/handle/10388/13905/BIEM-DISSERTATION-2022.pdf?sequence=1&isAllowed=y>
- Barkley, E., Major, C., & Cross, P. (2014). *Collaborative learning techniques: A handbook for college faculty* (2nd ed.). Jossey-Bass.
- Beck, C., & Kosnik, C. (2006). Innovations in teacher education: A social constructivist approach. In P. Leithwood, N. McAdie, N. Bascia, & A. Rodrigue (Eds.), *Teaching for deep understanding: What every educator should know* (pp. 17–25). Corwin Press.
- Billings, E., & Walqui, A. (2018). *The zone of proximal development: An affirmative perspective in teaching ELLs/MLLs*. New York State Education Department.
http://www.nysed.gov/common/nysed/files/programs/bilingual-ed/zone_proximal_development.pdf
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Braun, V., & Clarke, V. (2020). One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qualitative Research in Psychology*, 18(3), 328–352.
<https://doi.org/10.1080/14780887.2020.1769238>
- Brierton, S., Wilson, E., Kistler, M., Flowers, J., & Jones, D. (2016). A comparison of higher order thinking skills demonstrated in synchronous and asynchronous online college discussion posts. *NACTA Journal*, 60(1), 14–21. <https://www.jstor.org/stable/10.2307/nactajournal.60.1.14>
- Creswell, J., & Plano Clark, V. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE.
- Driscoll, M. (2005). *Psychology of learning for instruction* (3rd ed.). Pearson.

- Garrison, D. R., Anderson, T., & Archer, W. (1999). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2(2–3), 87–105. [https://doi.org/10.1016/S1096-7516\(00\)00016-6](https://doi.org/10.1016/S1096-7516(00)00016-6)
- Ghilay, Y. (2022). Quantitative courses in higher education: A comparison between asynchronous and synchronous distance learning. *Journal of Education and Learning*, 11(5), 93–106. <https://doi.org/10.5539/jel.v11n5p93>
- Gunes, S. (2019). What are the perceptions of the students about asynchronous distance learning and blended learning? *World Journal on Educational Technology: Current Issues*, 11(4), 230–237. <https://www.cceol.com/search/article-detail?id=961001>
- Hecht, M., & Crowley, K. (2020). Unpacking the learning ecosystems framework: Lessons from the adaptive management of biological ecosystems. *Journal of the Learning Sciences*, 29(2), 264–284. <https://doi.org/10.1080/10508406.2019.1693381>
- Jackson, N. (2013). The concept of learning ecologies. In *Lifewide learning, education, and personal development e-book*. http://www.normanjackson.co.uk/uploads/1/0/8/4/10842717/chapter_a5.pdf
- Lemke, J. (2000). Across the scales of time: Artifacts, activities, and meanings in ecosocial systems. *Mind, Culture and Activity*, 7(4), 273–290. https://doi.org/10.1207/S15327884MCA0704_03
- McMullen, B., & Rohrbach, A. (2003). *Distance education in remote aboriginal communities: Barriers, learning styles and best practices*. College of New Caledonia Press.
- Mehall, S. (2020). Purposeful interpersonal interaction in online learning: What is it and how is it measured? *Online Learning*, 24(1), 182–204. <https://doi.org/10.24059/olj.v24i1.2002>
- Merriam, S. (2009). *Qualitative research: A guide to design and implementation*. Jossey-Bass.
- Murphy, E., & Rodríguez-Manzanares, M. (2008). Revisiting transactional distance theory in a context of Web-based high-school distance education. *International Journal of E-Learning and Distance Education*, 22(2), 1–14. <https://www.ijede.ca/index.php/jde/article/view/38>
- Nardi, B. A., & O’Day, V. L. (1999). *Information ecologies. Using technology with heart*. MIT Press.
- Offir, B., Lev, Y., & Bezalel, R. (2008). Surface and deep learning processes in distance education: Synchronous versus asynchronous systems. *Computers & Education*, 51(3), 1172–1183. <https://doi.org/10.1016/j.compedu.2007.10.009>
- Saskatchewan Ministry of Education. (2010). *Renewed curricula: Understanding outcomes*. https://www.edonline.sk.ca/bbcswebdav/library/curricula/English/Renewed_Curricula.pdf

- Saskatchewan Ministry of Education. (2018). *Inspiring success: First Nations and Métis preK12 education policy framework*. Government of Saskatchewan.
<https://www.saskatchewan.ca/residents/education-and-learning/first-nations-and-metiseducation>
- Saskatchewan Ministry of Education. (2021). *K-12 school divisions in Saskatchewan*.
<https://www.saskatchewan.ca/residents/education-and-learning/prek-12-education-early-learning-and-schools/k-12-school-divisions-in-saskatchewan>
- Schoonenboom, J., & Johnson, R. (2017). Wie man ein Mixed Methods-Forschungs-Design konstruiert [How to construct a mixed methods research design]. *Kolner Zeitschrift fur Soziologie und Sozialpsychologie*, 69(S2), 107–131. <https://doi.org/10.1007/s11577-017-0454-1>
- Shearer, R. L., Aldemir, T., Hitchcock, J., Resig, J., Driver, J., & Kohler, M. (2020). What students want: A vision of a future online learning experience grounded in distance education theory. *American Journal of Distance Education*, 34(1), 36–52. <https://doi.org/10.1080/08923647.2019.1706019>
- State of the Nation. (2022). *Data and information*. <https://k12sotn.ca/data/>
- Statistics Canada. (2017). Focus on geography series, 2016 Census. Statistics Canada Catalogue no. 98-404-X2016001. <https://www12.statcan.gc.ca/census-recensement/2016/as-sa/fogs-spg/Index-eng.cfm>
- Toshalis, E., & Nakkula, M. J. (2012). *Motivation, engagement, and student voice*. Jobs for the Future. <https://studentsatthecenterhub.org/wp-content/uploads/Motivation-Engagement-Student-Voice-Students-at-the-Center-1.pdf>
- Walqui, A., & Van Lier, L. (2010). *Scaffolding the academic success of adolescent English language learners: A pedagogy of promise*. WestEd.
- Wu, X., He, Z., Li, M., Han, Z., & Huang, C. (2022). Identifying learners' interaction patterns in an online learning community. *International Journal of Environmental Research and Public Health*, 19(4), 2245. <https://doi.org/10.3390/ijerph19042245>
- Yates, A., Starkey, L., Egerton, B., & Flueggen, F. (2021). High school students' experience of online learning during COVID-19: The influence of technology and pedagogy. *Technology, Pedagogy and Education*, 30(1), 59–73. <https://doi.org/10.1080/1475939X.2020.1854337>
- Vygotsky, L. (1978). *Mind in society*. Harvard University Press.

