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A Continuum of Blended and Online Learning

Sawsen Lakhal and Marilou Bélisle

In the last three decades, information and communications technology (ICT) have evolved very rapidly. Among other things, it resulted in new opportunities in course delivery modes: Online and blended courses (Siemens et al., 2015). A course delivery mode refers to the decisions about the way teaching, learning, and assessment activities are conveyed to students. Thanks to ICT, these delivery modes offer advantages both to students and to postsecondary institutions. On the one hand, depending on their design, blended and online courses have the potential to meet the demands of students who desire flexible course schedules, such as adult students, because of family and/or work responsibilities (Lakhal, 2019). They also give students better access to higher education, especially in large countries such as Canada where distances can be quite significant between students' homes and their colleges or universities (Lakhal et al., 2020), and they allow both synchronous and asynchronous contacts between students and with the instructor, even if students would not need to travel as much to attend face-to-face sessions (Cidral et al., 2018). On the other hand, online and blended courses provide colleges and universities with some financial benefits (Gosmire et al., 2013), as they can free up space on campuses, since students and instructors no longer have to meet face-to-face in a classroom for each class session. Moreover, as some meta-analyses (Bernard et al., 2004, 2014; Means et al., 2013) have revealed, blended and online courses appear to be at least as effective for student learning as face-to-face courses delivered on campus.

A number of models have been proposed to categorize the modes by which courses can be delivered. Most of them oppose the proportion of courses taught face-to-face to those mediated by online technologies (Graham, 2013). As reported by Graham (2013), other authors have used different criteria as the basis of their model. For example, from formal to informal learning, or as a continuum from face-to-face instructor-led learning to real-time workplace learning supported by online technologies. These models, however, are better suited for corporate training.

In higher education, HySup, an often cited European study, classified course delivery modes based on their educational, organizational, and material characteristics, resulting in six types of courses (Burton et al., 2011). Margulieux et al. (2016) classified eight course delivery modes using two criteria for their matrix: The proportion of instruction delivered face-to-face or by online technologies and the instructional approach used in the course, instructor-focused or student-focused. Many colleges and universities also developed their own institutional model of course delivery modes. For example, Mount Saint Vincent University proposes the following categories of courses¹: Face-to-face, blended, multi-access, synchronous online, asynchronous online, and multimode online. Université Laval has recently renewed its categories of courses² as follows: Face-to-face, blended classroom, blended distance, distance asynchronous, distance synchronous, and blended synchronous courses.

Continuums have been suggested to classify different course delivery modes. The first one, proposed by Allen and Seaman (2007) and lately by Allen et al. (2016), placed

¹ <https://www.msvu.ca/academics/teaching-and-learning-centre-and-online-learning/take-online-courses/course-delivery-modes>

² <https://www.ulaval.ca/les-etudes/formules-denseignement>

course delivery modes on a continuum using proportions of teaching, learning, and assessment activities occurring online. Bates (2019) presented a similar continuum of online learning³ on which he placed face-to-face, classroom aids, flipped, hybrid, and fully online courses. We have chosen to present Allen et al. (2016)'s continuum because it is one of the most cited in the literature. This continuum is explained here and used to help understand which course delivery mode is concerned by the studies in this special issue: A web-facilitated course, a blended course, or an online course. Figure 1 depicts this continuum and the various course delivery modes along.

Figure 1

Allen et al.'s (2016) Course Delivery Continuum (Voir L'annexe pour la version française)

At the left-end of the continuum, **web-facilitated courses** are those in which the proportion of teaching, learning, and assessment activities delivered online vary from 1% to 29% (Allen et al., 2016). For example, instructors could use a learning management system or web sites to make the course material available to students. This course material could be used in the classroom, or at home in order to complete some asynchronous learning activities.

At the right-end of the continuum, **online courses** are those in which most or all of teaching, learning, and assessment activities are delivered online (80% and more). Typically, for some colleges and universities, written exams are held face-to-face, even if all the course is delivered online (e.g., Université Laval, see <https://www.distance.ulaval.ca/>). This delivery mode is the most flexible and accessible for students who cannot attend face-to-face courses. For example, the study by Egan et al (2020) reports on the development and the implementation of a full online, 4-year Bachelor of Health Science degree program.

As suggested by Allen et al. (2016), **blended courses** are in the middle of the continuum. So far, blended courses have been reported to be the most preferred by students, as compared to face-to-face or online courses (Owston et al., 2013), and even as a best of both worlds (Allen et al., 2016). In these courses, 30% to 79% of teaching, learning, and assessment activities are carried out online (Allen et al., 2016). It is worth noting here that some authors emphasize the necessity of reducing face-to-face time of instruction in favour

³ <https://pressbooks.bccampus.ca/teachinginadigitalagev2/chapter/10-2-the-continuum-of-technology-based-learning/>

of online activities, in order to compensate for the additional coursework time needed for students outside the classroom due to the increased use of online technologies (Margilieux et al., 2016). Otherwise, blended courses would be perceived as “a course and a half” (Garrison & Vaughan, 2008; p.202). Other authors did not take into account this time reduction and only mentioned the strength of variation between online and face-to-face mode in order to improve students’ learning (Staker & Horn, 2012).

Variations in blended courses led to the identification of three possible formats for defining blended courses (Lakhal et al., 2020; McGee & Reis, 2012): Blended, Blended Online and Blended Synchronous. In the *Blended* format, which is the most commonly used by colleges and universities, students attend face-to-face sessions supplemented with online asynchronous activities. Several structures of these courses exist in order to respond to the course content specificities (e.g., readings, videos), instructor preferences (i.e., instructor-centered strategies vs student-centered strategies), and students’ needs (i.e., flexibility, accessibility, supplemental or remedial activities). Examples of these structures can be found in colleges and universities, such as the University of Ottawa (<https://tlss.uottawa.ca/site/what-is-a-blended-course>). Several papers in this special issue report on studies that fall into this blended course format (Edwards et al., 2020; Groen et al., 2020; Kim et al., 2020; Pacheco-Pereira et al., 2020; Troop et al., 2020; Watson et al., 2020).

The second blended course format, *Blended Online*, combines online synchronous and asynchronous activities (Power, 2008), affording the students with more flexibility than the first format of blended courses in terms of location. Indeed, students can attend the course from the location of their choice (home, working office, etc.). Some examples of the use of this format could be found in Canadian colleges and universities, such as the Microprogramme en pédagogie de l’enseignement supérieur (MPES) at Université de Sherbrooke (Petit & Bélisle, 2019).

The *Blended Synchronous course format*, also called Synchronous Hybrid or Hybrid Virtual (Raes et al., 2019, 2020), Synchronous Blended, or Synchronous Learning in Distributed Environments (Wang et al., 2018), welcomes remote and on-campus students in the same courses, the synchronous activities being simultaneously offered in face-to-face (physical classroom) and online (virtual classroom). The study by Snow (2020) presents a course at Cape Breton University in which mainstream and indigenous teacher candidates are paired together in the same course, using the Blended Synchronous format. Other examples could be found in Canada, such as the Master Teacher Program at the Université de Sherbrooke (Lakhal et al., 2017, 2020).

Challenges Associated with the Implementation of Blended and Online Courses

The promises of blended and online courses can only be realized if those in charge of their implementation can overcome important challenges (Lakhal et al., 2017). First, the lack of institutional recognition for the amount of effort needed to be put into the design of blended and online courses may leave instructors feeling unsupported in their efforts to innovate. Second, students’ level of technological skills could be a challenge in these kind of courses. If some students lack technological skills, they may not appreciate their learning experience at its fair value. Third, students may feel overwhelmed by the amount of activities and resources to manage (whether compulsory or optional) as instructors might

not have well estimated the time students need to spend on reading, meeting, studying and creating artefacts of all sorts, and the actual time students have to devote to one of many courses they might be tackling at once. Fourth, access to the course material could also be an important challenge for some students as they may experience connectivity and technological issues. Such challenges may compromise their learning. Finally, lack of support and training for instructors by some colleges and universities may represent an important issue. Even if the implementation of blended and online courses can generate a significant reduction of costs, they still require an important investment in technologies and training so that instructors' skills are developed to their fullest and benefit the quality of teaching and learning. An example of these investments by the University of Ottawa are reported in the paper by Groen et al. (2020).

Recommendations for Blended and Online Courses

In order to ensure successful learning within blended and online courses, some general recommendations identified within the literature should be considered (Lakhali et al., 2017). Some of these recommendations are in line with those suggested by the UXDL Honeycomb framework (<https://cms.cel.uwaterloo.ca/honeycomb/index.aspx>) designed by the Centre for Extended Learning of the University of Waterloo and described in Troop's et al. (2020) article. Table 1 incorporates these recommendations.

Table 1

Recommendations for Blended and Online Courses

Recommendation 1	Gradually integrate blended and online courses, especially in colleges and universities dominated by face-to-face instruction for several years.
Recommendation 2	Ensure the availability of sufficient support from the college or the university and ask for that support.
Recommendation 3	Make sound decisions about the technologies and activities to be selected, based on the instructor's teaching preferences, the technologies available and students' characteristics (such as age, learning preferences and Internet access).
Recommendation 4	Rethink the way students' and instructors' roles are conceived. In blended and online courses, activities should be more student centered.
Recommendation 5	Integrate a variety of activities and estimate the time required by students to complete each of them. A blended or an online course is not a simple transposition of a face-to-face course, but requires a total redesign.

Recommendation 6	Test and practice various technologies before the beginning of the course. Prepare yourself in advance in order to some ease with technologies, especially in blended courses with a synchronous online component.
Recommendation 7	Ask students to train on technology before the beginning of the course ⁴ .

Conclusion

Due to the pandemic, blended and online courses are now widely used in higher education and they are likely to represent a greater proportion of the teaching and learning arena in the future than before the Covid-19 crisis. The good news is that this tragic event has prompted many instructors to either familiarize themselves with technological tools or overcome resistance towards using technology for educational purposes. The next challenge is making sure technology is used in a way that actually benefits student learning. To do so, we need to ask ourselves: How can technology be used to support student learning? How do we know students have learned? How do we know technology contributed to their learning? Although educational contexts differ, the articles in this special issue address such questions and have a common intent at heart, that of helping or improving student learning.

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⁴ Some universities have mandatory orientation sessions for students before they enroll in blended and online courses. In these orientation sessions, students could familiarize themselves with the technical requirements, skills, and behaviors necessary to successfully complete a blended or an online course (Cho, 2012; Hanson et al., 2018).

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Annexe

Figure 1

Continuum de modalités de cours proposé par Allen et al. (2016)