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Online learning during COVID-19: Key challenges and suggestions to enhance effectiveness

Kimkong Heng
The University of Queensland
Brisbane, Australia

Koemhong Sol
International Christian University
Tokyo, Japan

Abstract

The COVID-19 pandemic has wreaked havoc on every aspect of society. It has caused profound disruption to the education system as governments around the world have temporarily closed educational institutions to contain the spread of the coronavirus. Face-to-face classes have been canceled and moved online, bringing about the rise of online learning that has allowed learners to continue their education. The sudden transition from face-to-face to online learning has, however, posed numerous challenges for students, teachers, administrators, and education leaders. Drawing on previously published sources, this article first attempts to explain different terms used to describe online learning. It then discusses key challenges posed by the widespread adoption of online learning during the pandemic, followed by a discussion of suggestions made by different researchers to enhance the effectiveness of online learning. The article concludes with a summary of key challenges and suggestions and brief recommendations for the broader adoption of online and blended learning in the post-COVID-19 world.

Keywords: Online learning; COVID-19; challenges; suggestions; Cambodia

Introduction

The COVID-19 pandemic has caused global disruption, affecting every aspect of human life in many ways. A telling example of the disruption caused by COVID-19 is the temporary closure of educational institutions worldwide. To ensure the continuity of education for students, face-to-face classes have been moved online, ushering a new version of online learning in which lectures, lessons, and all learning activities are conducted remotely. In developed societies, online learning is not new. It is part of the curriculum and students are generally familiar with different aspects of online learning through the use of Moodle, Blackboard, and other learning management systems. However, in developing societies such as Cambodia, online learning is not common, and there are many issues when it comes to implementing this learning mode.

Prior to the COVID-19 pandemic, the concept of blended learning – a combination of face-to-face learning and online learning – was introduced at some Cambodian universities such as the Institute of Technology of Cambodia, but it was not really a common learning method (see Kaing, 2020). The advent and impact of COVID-19 have changed everything. As schools and universities were ordered to close to contain the spread of the coronavirus, traditional physical classes were transitioned to an online mode of learning. The transition was abrupt, posing a lot of challenges for students, teachers, school administrations, and even parents. The challenges may vary across countries, systems, institutions, and groups of students. However, in the context of Cambodia characterized by limited resources, including technological and human resources, the challenges presented by the adoption of online learning have been considerable, particularly in the remote part of the country. In this article, we attempt to examine different variations or names for online learning, discuss key challenges facing Cambodia as it embraces online learning, and offer suggestions to improve the conduct of online learning.

Variations of online learning

As online learning and relevant technological tools continue to evolve, several terminologies associated with online learning are used. They include e-learning, online learning, distance learning, blended learning, and hybrid learning. Each of these terminologies alludes to the act of using technology in

learning, but how students engage in that process is marginally different. In an attempt to distinguish these terminologies, we reviewed some relevant literature to determine their definitions, characteristics, and distinction.

Online learning (often used interchangeably with e-learning) is a form of distance education that involves using technology as the mediator of the learning process, and that teaching is entirely delivered through the internet (Siemens et al., 2015). Depending on individual educational institutions/instructors, students might have to attend regularly scheduled online lectures/presentations and/or discussions. Moreover, students usually access learning materials online, such as recorded lectures/presentations, reading lists, activities, assignments, and so on through the provided platform. With online learning, students submit their works and receive feedback online. Students can also connect and interact with their peers online, and sometimes they can be together in an online class with an instructor while working through their digital lessons, materials, or assessments (Stauffer, 2020).

With a comparable characteristic, distance learning/education has the same structure as online learning. It can be synchronous (happening at the same time) or asynchronous (self-paced) (Offir et al., 2008). Siemens et al. (2015, p. 99) define distance learning as "teaching and planned learning where the teaching occurs in a different place from learning, requiring communication through technologies and special institutional organization." Distance learning is simply an effort to provide access to learning for those who are geographically distant (Moore et al., 2011).

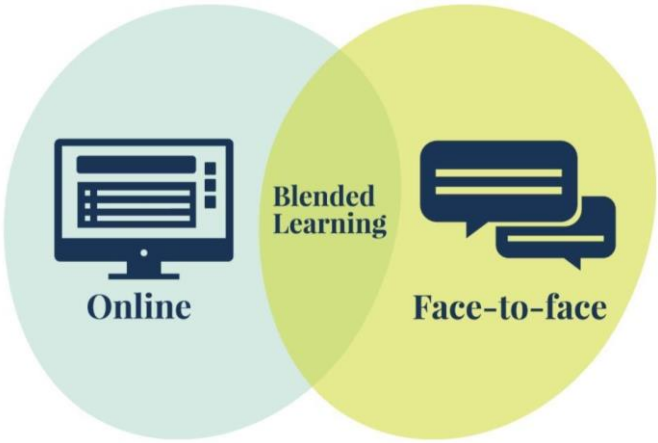
Blended learning (also known as hybrid learning) refers to the practices that combine (or blend) traditional face-to-face classroom instruction with online learning (Siemens et al., 2015). Compared with other forms of online learning, blended learning provides students with more fruitful channels of getting connected with their peers and instructors (Park & Shea, 2020). Academic research also suggests that blended learning gives students a better understanding of course content due to the support of social interactions (Garrison & Kanuka, 2004).

As the above definitions suggest, online learning and blended learning are different, but not entirely distinct. According to Pearson (2020), online learning involves a learning environment that exists online, while blended

learning is a mixture of both face-to-face learning and online learning. The University of the West Indies' Center for Excellence in Teaching and Learning ([CETL], n.d.) differentiates online learning from blended learning by stating that in an online learning environment, the responsibility for learning shifts primarily to the students while teachers mainly play a role as a guide to facilitate the learning process. In a blended learning environment, however, students can both learn at their own pace through the convenience of online learning and have the opportunity to interact with peers and their teacher in face-to-face sessions. The difference between the two models of learning is illustrated in Figure 1.

Figure 1

The Difference between Online Learning and Blended Learning (Pearson, 2020)



Challenges associated with online learning

The COVID-19 pandemic has forced the shutdown of many physical activities worldwide, including educational activities. This situation leaves educational institutions no choice but to migrate to online learning. Even though online learning is not a novel phenomenon, this sudden transformation into online learning has posed substantial challenges for educational activities globally, and particularly in resource-scarce environments such as Cambodia, where educational institutions, teachers, and students are generally not ready for this unexpected disruption to traditional teaching and learning methods. A recent study by Adedoyin and Soykan (2020) points out several concrete challenges caused by the abrupt digital transformation of instructional operations during

the period of the COVID-19 pandemic. Key challenges are related to technological infrastructure and digital competence, socio-economic factors (educational inequality), assessment and supervision, heavy workload, and compatibility (some subjects such as sports sciences require physical interactions).

By its nature, online learning depends entirely on technological devices and the internet, so it is undeniable that technology is the most pressing challenge to online learning if those involved in the process of teaching and learning are not digitally competent due to inexperience or insufficient training. Some typical technological issues include lack of knowledge of how to use applications, unstable/slow internet connection, outdated communication devices, and incompatible browsers. Jalli (2020) argues that the lack of internet access poses great challenges for students in Southeast Asia to study online. In Cambodia, for example, teachers and students, particularly in rural areas, do not have reliable internet access and are not capable of using emerging technology, making online learning a difficult, if not frustrating, experience for many (see Flynn & Himel, 2020). Despite the efforts by the Ministry of Education, Youth and Sport (MoEYS) to provide online learning opportunities by disseminating video lessons through television and other online platforms such as MoEYS Facebook page, YouTube channel, and e-learning website, the number of students who have had access to online learning is still low (UNESCO, 2020).

With online learning as the replacement of physical classrooms amid the COVID-19 crisis, many students, including Cambodian students, are vulnerable to falling behind in their studies or experience additional challenges due to their socio-economic status (see Sun, 2020). Students from low socio-economic families are not able to afford broadband connection and pertinent devices such as computers/laptops or tablets to support their online learning. Instead, they are using smartphones to access lessons and learning materials, complete assignments, and take exams (Chea et al., 2020).

Assessment is, no doubt, vital to any learning, either face-to-face or online learning. However, online learning during this global pandemic makes the assessment more complicated (Adedoyin & Soykan, 2020) as it needs to be conducted online. New approaches to assessment, therefore, are imperative. With online assessment, teachers have limited control over students' work, so

it is difficult for teachers to regulate cheating and ensure that students complete the assessment tasks by themselves.

For many educational institutions, the sudden shift to online learning has created an unexpected workload, particularly on building e-platforms and integrating external applications into their systems in a timely manner (Adedoyin & Soykan, 2020). Along with that, another critical issue is to immediately train teachers and support staff to use the new platforms and systems. Teachers who play an inseparable role also face the pressure of sharing extra workload because they are in charge of transforming course/subject contents, learning resources, and assessments to online platforms. With the immediate demand, this workload has more or less caused stress and anxiety (MacIntyre et al., 2020; Winthrop, 2020).

As Adedoyin and Soykan (2020) note, the compatibility issue is another considerable challenge linked to online learning. While online learning appears to be applicable to particular academic disciplines, for example, social and linguistic studies, it might be inappropriate for practical disciplines such as sports, engineering, and medical studies because these disciplines require hands-on experiences as part of instructional activities (Adedoyin & Soykan, 2020). In Cambodia, where digital infrastructure and resources are deficient (Chea et al., 2020), teaching such practical disciplines online is undoubtedly a demanding challenge.

There are many other challenges which have been discussed in recent research studies on online learning during the COVID-19 pandemic. For instance, online or distance learning amid the pandemic has created more stress, frustration, and isolation for students who have lost the opportunity for peer interactions (Daniel, 2020; Gillett-Swan, 2017). The unprecedented shift to online learning has also increased concerns regarding cybersecurity, cyberbullying, online violence and exploitation, and other psychological issues caused by difficulties and uncertainties associated with online learning during the COVID-19 pandemic (Daniel, 2020; Yan, 2020).

Suggestions to ensure the effectiveness of online learning

Despite the many challenges discussed above, COVID-19 has been considered as a silver lining in the crisis for Cambodia's education system (Heng, 2020). It

has paved the way for the digital transformation of education and enhanced the adoption of ICT in the classroom. Zhao (2020) has argued that COVID-19 is a catalyst for educational change. Due to COVID-19, many educational activities, including school inspections and testing, have been paused. The pauses "give governments and education leaders the very rare opportunity to rethink education." (Zhao, 2020, p. 30).

A number of researchers have put forward suggestions on how to enhance the effectiveness of online learning during the COVID-19 pandemic. Naffi and colleagues (Naffi et al., 2020) suggest eight ways universities can improve equity and access to online learning. They include (1) create accessible materials; (2) choose adequate digital technologies; (3) record lectures and caption videos and audio content; (4) adopt inclusive culturally responsive teaching; (5) adopt a flexible approach to student participation; (6) ensure financial support and equipment; (7) understand student needs; and (8) address systemic racism.

Leif et al. (2020) argue that online learning can be made more accessible and inclusive through five simple steps, such as (1) consider how students will navigate through your online classroom; (2) provide a video tour of your online classroom at the start of the semester; (3) ensure all Word documents, PowerPoint presentations, and PDF files are accessible and searchable; (4) add alternative text (alt text) to images and graphics so that they can be read aloud when students use a screen reader; and (5) add captions and transcriptions to video lessons. Some of these suggestions may not be applicable to the Cambodian contexts, yet they are worth considering where appropriate.

Martin (2020) offers a five-point guide for educators to optimize online learning in the time of COVID-19. The five key considerations include *instruction* (explicit, orderly, and well-organized); *content* (high-quality and appropriate to students' level); *motivation* (self-regulation, parents' involvement, and tasks that separate students from online environment); *relationships* (interpersonal relationships through various communication channels and sufficient face-to-face online instructions); and *mental health* (reaching out to students who may need help and informing them about who to contact when they need mental health support).

Meanwhile, Dhawan (2020) discusses several solutions to problems associated with online education. The solutions may include pre-recording video lessons or lectures; humanizing the learning process by making it more interesting, dynamic, and interactive; creating forums for communication using social media and other digital platforms; continuously improving the quality of the online courses; allowing students to ask questions and provide feedback; and promoting collaborative learning, project-based learning, and group-based learning.

As students tend to be unwilling to participate actively in online classes, which is understandable given their remote presence, some researchers suggest tips on how to create an engaging online learning environment. Fung et al. (2020), for example, recommend strengthening student-teacher interaction and utilizing it to enhance online learning. They suggest that teachers should start class early and use the chart function to conduct regular checkpoints to check up on students. Asking students to turn on their videos can also increase their attention to the lectures or class activities. Another tip to keep them engaged is to regularly seek their real-time responses during online classes. To do this, teachers can use interactive platforms such as Poll Everywhere, Mentimer, Kahoot!, Padlet, and Pigeonhole Live.

Specific to the Cambodian context, Sun (2020) suggests that MoEYS and local education departments should cooperate with school principals and community chiefs to provide personalized support, such as home visits by classroom teachers, to students who cannot access online video lessons disseminated by MoEYS through television channels, Facebook, YouTube, and Telegram. Heng (2020) calls for "innovative policy interventions and increased investment" to support the integration of ICT in the classroom, especially in remote areas where technological infrastructure is scant.

Leng et al. (2020) offer six-point recommendations to ensure the successful switch to online learning and teaching. First, it is the role of leadership. Institutional leaders need to have a genuine commitment to support the adoption of blended learning by investing in facilities and resources needed to support the digital transformation of education. Second, it is the development of digital infrastructure and literacy. They argue that higher education institutions should build and improve digital learning platforms, provide

stable internet connection, support students from low socio-economic backgrounds who may not have access to digital devices, and improve digital literacy among students and lecturers.

Third, it is the role of pedagogy. Lecturers should be provided with capacity-building training opportunities that allow them to develop knowledge, skills, and innovative teaching and assessment methods that can increase student engagement and attention to online classes. Fourth, support for students and staff, both teaching and non-teaching staff, should be offered. The authors suggest developing an e-community where students, faculty members, and staff can communicate socially and academically.

Fifth, it is the role of attitudes to learning and teaching. Leng et al. (2020) argue that educational institutions should instill in students "a culture of reading, discussion and debate" (para. 42). For teachers or lecturers, they should keep themselves abreast of new developments in their fields, especially regarding new teaching techniques that can keep students engaged in an online learning environment. Finally, they call for government support to assist educational institutions in developing and improving ICT infrastructure, providing training programs for staff, and improving cross-institutional communication and collaboration.

Thus, while there are numerous challenges associated with online learning during COVID-19, various suggestions have been put forward by different researchers to enhance online learning. Martin's (2020) five-point considerations seem to be viable as they cover different aspects of the teaching-learning process, including instruction, content, motivation, relationships, and mental health.

Conclusion and recommendations

In conclusion, the COVID-19 pandemic has made online learning a new normal in most, if not all, educational contexts across the globe. It is no longer an unfamiliar phenomenon in many developing countries where online education was not well-established before the pandemic. In a sense, COVID-19 is a silver lining in the crisis. It provides a strong impetus for the digital transformation of education across different levels. In developing countries

like Cambodia, COVID-19 provides concerned education stakeholders with the opportunity to explore the pros and cons of online learning, potentially paving the way for greater adoption of ICT and blended learning in the post-COVID-19 time.

Online learning during COVID-19 has obviously brought about many challenges for educators, students, school administrators, and parents, among other stakeholders. As discussed above, the challenges have been associated with limited technological infrastructure and capacity, socio-economic factors, lack of experience to conduct assessment and supervision in an online mode, extra workload for teachers and education staff, and incompatibility with some specific subject matters or cultures (see Adedoyin & Soykan, 2020). There are also other challenges linked to learner isolation, frustration, pressure, extra expenses, health issues, and increased exposure to cyberbullying and online violence (see Daniel, 2020; Gillett-Swan, 2017; Yan, 2020).

Meanwhile, there are various suggestions advanced by researchers to address the problems associated with online learning. Some of the above-mentioned solutions centre around five key factors, including instruction, content, motivation, relationships, and mental health (see Martin, 2020). Other key solutions are to do with preparation, lesson delivery, course quality, communication, student-teacher interaction, and student engagement (Dhawan, 2020; Fung et al., 2020). The role of leadership, investment, government support, and attitudes towards learning and teaching are also vital for the success of online learning and teaching during the pandemic (Leng et al., 2020).

Overall, online learning and its variations, such as e-learning and distance learning or education, are a panacea for education in the time of the COVID-19 pandemic. It has enabled the continuity of education for students around the world and allowed different societies including Cambodia to keep educating their younger generation to transform them into future knowledgeable and skilled workforce needed to drive economic growth and solve key national, regional, and global issues.

To ensure online learning and blended learning are widely adopted in the post-pandemic time in developing societies such as Cambodia, more government support and investment are needed. Educational institutions also need to invest in developing and improving existing online learning platforms as well as expanding the provision of internet access and online library resources. Training and orientation programs about online learning, including lessons on online teaching and learning tools and strategies, need to be offered on a regular basis so that students, teachers, and staff could have the opportunity to advance their knowledge and understanding of the different aspects and nuances of online and blended learning.

The Authors

Kimkong Heng is currently an Australia Awards scholar pursuing a PhD in Education at the University of Queensland, Australia. He is a co-founder and lead editor of the Cambodian Education Forum and a visiting senior research fellow at the Cambodia Development Center. He has published several journal articles and over 100 short articles in local and international outlets. Email: kimkongheng@gmail.com.

Koemhong Sol is currently a Japanese Government (MEXT) scholar pursuing a PhD in Education at International Christian University in Tokyo, Japan. He is an Editor of the Cambodian Education Forum. His research focuses on teacher education and policy, continuous professional development for EFL teachers, school leadership, special education, higher education, and learning and teaching assessment. Email: koemhongsol.edu@gmail.com.

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