

Blended Learning With an Integrated Model in Learning and Teaching

Phan, The Hung^{1*}

¹Faculty of Foreign Languages, Van lang University, Vietnam

*Corresponding author's email: hung.pt@vlu.edu.vn

ABSTRACT

In digital education, there are several challenges for schools and teachers to apply the concept of Education 4.0: (1) curriculum and teaching methodology, (2) no flipped classes, individualized learning, mostly synchronous, not asynchronous activities based on their syllabus or learning programs, (3) the application of artificial intelligence, the search for information in database, especially virtual reality (VR), (4) the tendency of self-learning, self-improvement, cooperation and communication, solutions to problems, creativity, and (5) long-life learning are the skills for the learners of today. To overcome these challenges, digital literacy is very important to both teachers and learners so that schools are set up as a digital environment including teachers and learners, knowledge, technology, and all the activities.

The recent tendency in education in Vietnam is to promote an updated process in delivering methods in education together with technology-enabled learning and teaching in many countries in the world. That is the reason why blended learning has become more and more popular with the development of the computer and the Internet, creating opportunities for many learners in multiple locations to get access to user-friendly resources for their web-based learning. In addition, teachers are still the key performers in teaching and learning. Online education is still an updated argument and application in the digital transformation in the world. The article just introduces some major theories related to technology associated with learning. One critical question concerned whether an integrated or unified theory of online education could be developed to overcome its challenges.

Keywords: digital transformation, blended learning, integrated model, technology-enabled learning and teaching.

1. BACKGROUND

The Vietnam Tech and IT Services Association, the Ministry of Information and Communication as well as the Hanoi Promotion Agency co-hosted the forum, which discussed their problems in sharing their digital ideas on transformation with Vietnamese and other speakers. It was believed that information and communication technologies (ICT) now contribute to 14.3 percent of Vietnam's gross domestic product (GDP), a very significant factor in Vietnam's economy (*vietnamnews, 2020*) [1]. Therefore, several experts emphasized the important role of the digitalized database, developing digital infrastructure, building high-tech parks, and especially building a contingent of qualified human resources in many fields, which is related to the education of all levels.

Based on these suggestions, in June 2020, Prime Minister Nguyễn Xuân Phúc, Vietnam, approved the national digital transformation program to 2025, and 2020 was selected to be the year for national digital transformation in Vietnam (*vietnamnews.vn, 2020*) [1]. In addition, more attention should be paid to digital technology services, especially reasonable cost, availability, and convenience for most people in Vietnam. Vietnamese digital technology firms should be key players in developing digital infrastructure, platforms, services, solutions, and mastering core and global technologies to achieve this policy.

In Vietnamese education, there are also several challenges for schools and teachers to apply

the concept of *Education 4.0*. First, it is the curriculum and teaching methodology in which isolated or separated subjects have been popular, not integrated models for many subjects or courses. Secondly, there have been no flipped classes. Even though there have been some virtual or online teaching changes at some universities during the COVID-19 pandemic, many schools and universities have still found it difficult for these updated changes. Most teachers tend to encourage learners to prepare their lessons via their textbooks and supplementary materials. Thirdly, individualized learning is mostly synchronous, not asynchronous activities based on their syllabus or learning programs. Fourthly, it is applying artificial intelligence, the search for information in a database, especially virtual reality (VR), which has been applied in many schools. Fifthly, the tendency of self-learning, self-improvement, cooperation, and communication, solutions to problems, creativity, and long-life learning are the skills for the learners of today, which makes teachers change their traditional learning and teaching concepts. To overcome these challenges, digital literacy is very important to both teachers and learners so that schools are set up as a digital environment, including teachers and learners, knowledge, technology, and all the activities (Anh, 2020) [2].

In a national conference in December 2020, the Ministry of Education and Training (MOET), Vietnam, also confirmed the digital transformation as the most important role of all the higher education systems in Vietnam in the period 2021-2025 with the hope that all the universities and colleges in Vietnam

can mainly contribute to the development of the economy in Vietnam in the digital era.

The recent tendency in education in Vietnam is to promote an updated process in delivering education methods and technology-enabled learning and teaching in many countries in the world. That is the reason why blended learning has become more and more popular with the development of the computer and the Internet, creating opportunities for many learners in multiple locations to get access to user-friendly resources for their web-based learning. In other words, blended learning is the integration between traditional classroom teaching methods and the application of online learning for the same course in the curriculum. In addition, teachers are still the key performers in teaching and learning.

2. SOME FACTS ABOUT ONLINE LEARNING DURING THE COVID-19 PANDEMIC AT VAN LANG UNIVERSITY

To understand more about the real situations in online learning and teaching during the COVID-19 pandemic, the three main questions from the following surveys from the Faculty of Foreign Languages, Van Lang University, Vietnam, can provide some information about the changes and the challenges in applying online or e-learning education.

Question 1: Thought of your school or a school, what statement describes teachers' online teaching experience best?

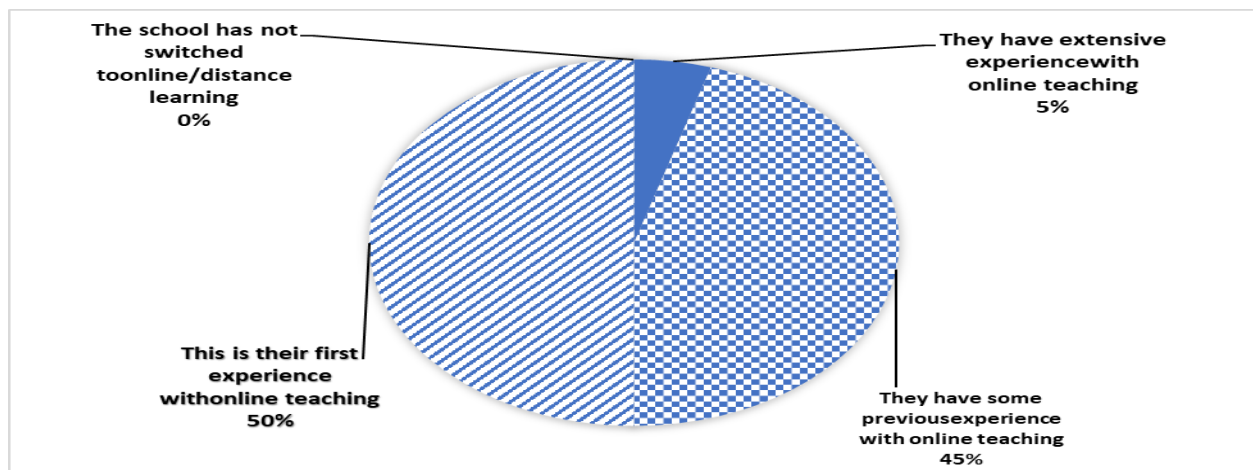


Fig. 1 The teachers' online experiences

Not surprisingly, this was the first experience of many teachers with online teaching. The answer is that at VLU, Vietnam, all the respondents have not switched to online/distance learning before except for the COVID-19 pandemic period.

Question 2: What shocked you about online / distance learning, as an instructor or on behalf of a teacher you know?

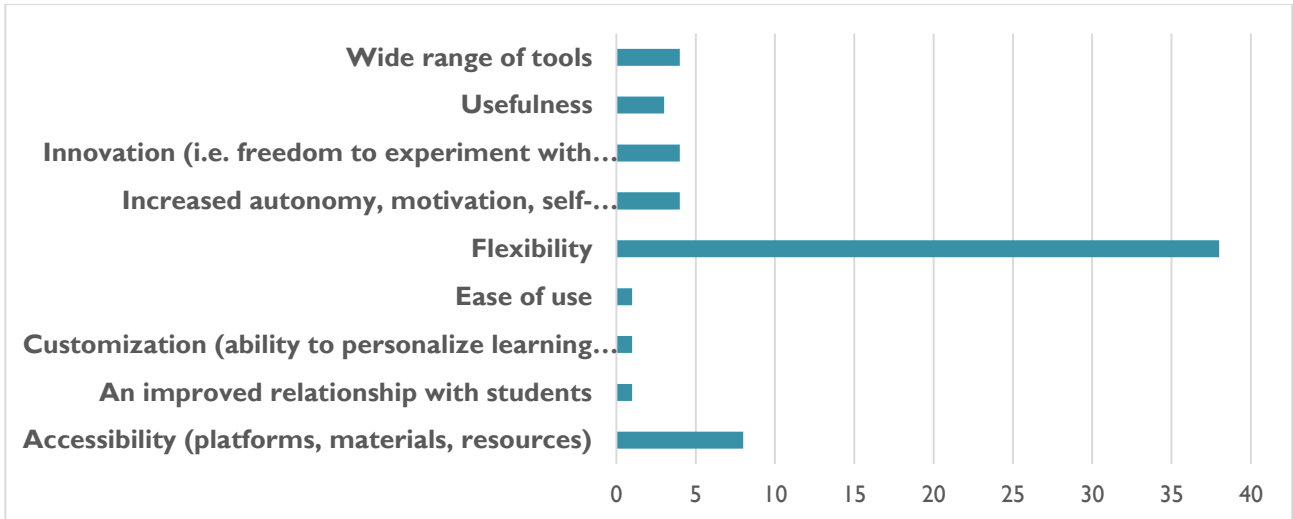


Fig. 2 Teachers' challenges of online teaching/learning

The most pleasant surprise was flexibility. This is followed by the accessibility of platforms, materials, and resources. In Vietnam, there are a lot of limitations in other factors, as shown in the chart.

Question 3: What were the biggest obstacles for teachers to turn to online/distance learning, in your opinion? Choose up to five options.

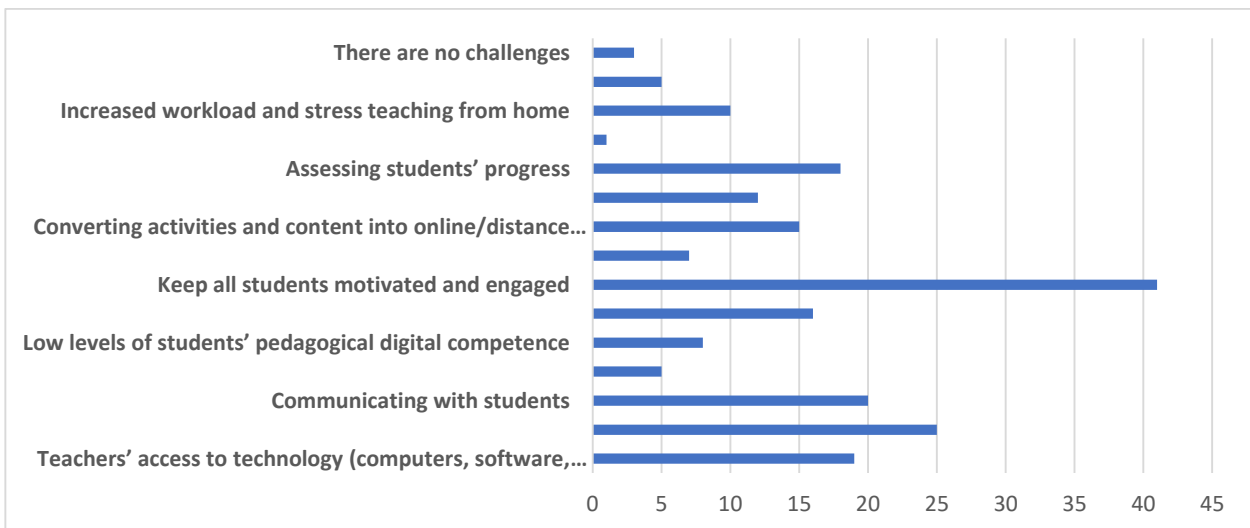


Fig. 3 Teachers' obstacles of online teaching/learning

Access to technology (computers, software, stable Internet connections, etc.) from students or teachers was the most frequently discussed challenge. The main challenge was that students from socially disadvantaged homes and disadvantaged children should be motivated and committed. The challenge for both students and teachers was also digital expertise. The learning contents and assessment issue most often mentioned was the transformation of activities and contents into online/distance learning.

3. BLENDED LEARNING MODELS

With the digital age and digital transformation tendency, educators have to integrate computer technology into learning and teaching. As computers, the Internet, and the social network have

shown possibilities for people in different places and for more contact, images, and greater access to information.

Now the majority of the world's population is able to make technical learning more diverse and affordable, using computers, tablets, and smartphones. Continuing to integrate web-based learning into their delivery systems, institutions and teachers access a range of applications to allow learning. However, this trend is also daunting as learning skills are not standardized, student skills are very different from the skills required to engage in social media and access to the broadband Internet.

Teachers who need basic know-how and technologies and new technology-based instruction,

such as constructionism and teamwork, are also believed to be a critical part of blending learning. The term "mixed learning" refers to the use of traditional instructional methods in the classroom and the use of online learning for the same students, who study the

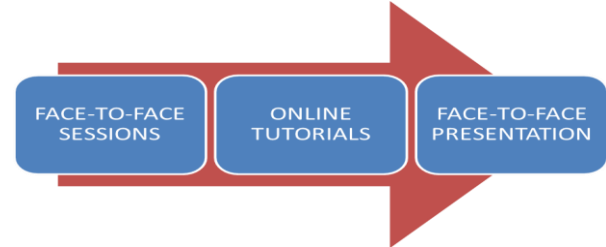
same subject on the same course, termed "mixed programs." (Garrison & Vaughan, 2008) [3].

It would be a good review to have a look at three common models of blended learning applied in education:

Model 1: (Figure 4)



Model 2: (Figure 5)



Model 3: (Figure 6)

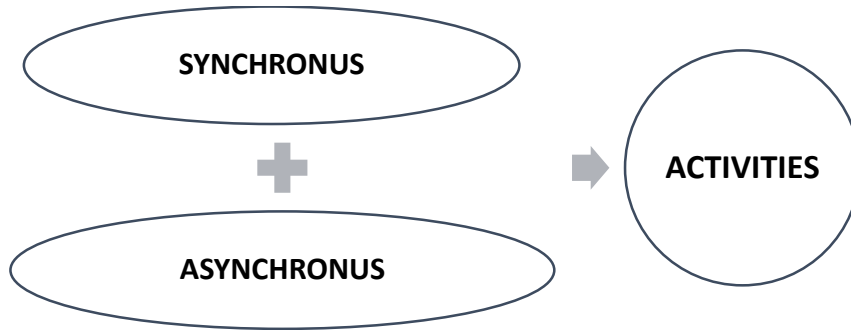


Table 1.
Three models of blended learning.

MODEL 1	MODEL 2	MODEL 3
<p><i>Blended presentation and Interaction</i></p> <p>Activity-focused face-to-face sessions blended with online resources.</p> <p>For example, the flipped curriculum model combines:</p> <ul style="list-style-type: none"> • short lecture podcasts, online resources with • face-to-face tutorial/seminars for interaction and presentation of group work. 	<p><i>Blended block</i></p> <p>Combination of:</p> <ul style="list-style-type: none"> • intensive face-to-face sessions as one day or half days • weekly online tutorial/seminars for activities and interaction • online content and resources 	<p><i>Fully online</i></p> <p>Combination of:</p> <ul style="list-style-type: none"> • short lecture podcasts with online resources and learning activities • online tutorials (synchronous) • interaction via online collaboration, discussion forums and/or group work

Source: Hannon & Macken (2014)

In real situations, especially in developing countries such as Vietnam, blended learning

environments have shown several limitations and challenges due to the lower concept of technology

integration in learning and teaching. Athabasca and the Commonwealth of Learning have carried out new studies on teacher viewpoints. The following challenges and recommendations were identified (Cleveland-Innes, Ostashewski, Mishra, Gauvreau, & Richardson, 2017) [4]:

- (1) Technology access: Knowing which resources are available to students.
- (2) Design: Establish acceptable in-person and online training activities
- (3) Safety and security: Sensitization of cyber malice and protection behavior against fair learning standards.
- (4) Skill development and training: Technological literacy and competence with technology applications for both learners and teachers.
- (5) Motivation: To involve students in a number of frequently changing learning strategies, some of which will need to acquire significant skills.

3. COMMON INTEGRATED MODEL OF ONLINE EDUCATION

The theories of learning and teaching include traditional and digital techniques and strategies. Two main concepts that can create an integrated online education model's useful application are cognitivism and social constructivism.

3.1. Cognitivism

In light of behaviors, cognitive theorists gave a concept that the mind has an important role in learning, making it very important for education to

occur between external stimuli and student response, contributing to cognitive processes in mind, such as motivation and creativity. The application will help concentrate on advanced online software that turns into adaptive and tailored learning applications.

3.2. Social Constructivism

The theory of contemporary programming and cognitive growth have been used by educational theories such as Lev Vygotsky, John Dewey, and Jean Piaget for the purpose of constructive social design to describe the diverse social mechanisms of teaching and learning. The practice of reflection on the part of learners and teachers leads to collective discussions that replace straightforward lectures, both face to face and online. Gardner (1983) [5] states that computational technology is quickly incorporated into problem-solving in a variety of fields such as verbal-language intelligence, logical-mathematical intelligence, behavioral intelligence, and intrapersonal intelligence.

3.3. Community of Inquiry (CoI)

The 'group of inquiries' model for online learning environments, with three important 'persons': cognitive, social, and teaching, was produced by Garrison, Anderson & Archer in 2000 [6] and then by Anderson, Rourke & Garrison and Archer in 2001 [7]. (see Figure 4). The CoI model illustrates online, and integrated courses approach in which teachers and learners can share concepts, information, and viewpoints through engagement to build successful learning experiences or groups. CoI has grown into one of the most popular models for the use of message forums, journals, wikis, and video conferences to promote students' and faculty's connections with each other.

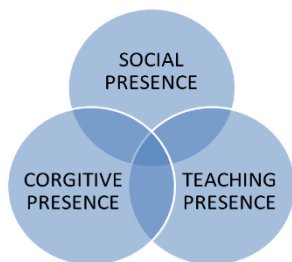


Fig. 7 Learning experience

4. A POSSIBLE COMMON INTEGRATED THEORY OF ONLINE EDUCATION

Anderson (2011) [8] says that Canada supports blended learning in combination with CoI in the form of a theory of online education at Athabasca University. Although several scholars and practitioners regard online learning as a subset of general education (Anderson, 2011) [8], online learning is expected to still have an emphasis on

offering, at least more flexible time- and space-based access to educational experience as part of the distance learning program (Anderson, 2011 [8]). Indeed, mixed learning models are regarded as a prevailing part of traditional personal and online learning environments. The combination of four overlapping factors - culture, awareness, learning emphasis, and assessment - indicates that efficient learning environments can be produced (Bransford, Brown, and Cocking,1999) [9].

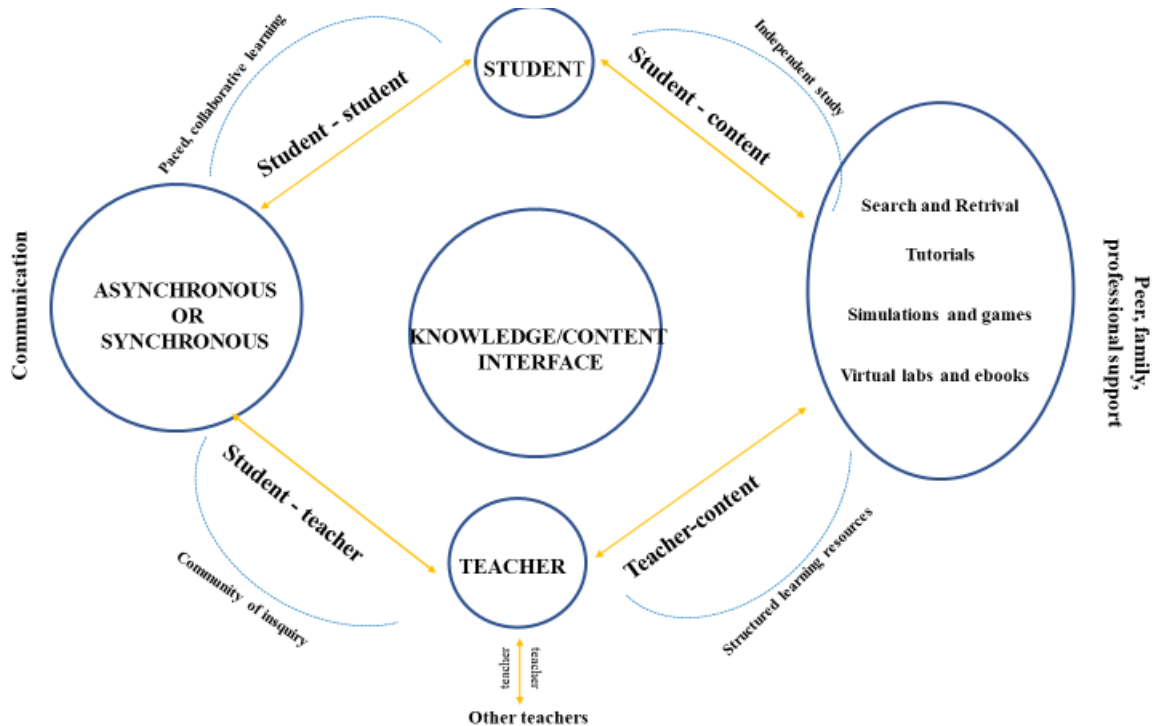


Figure 8. Anderson's Online Learning Model by Anderson, T. (2011).

The role of teachers in the learning strategies and evaluation of learners and the teacher can be demonstrated in Figure five, with their interactions among themselves and with content, in multiple formats, and in particular in the web. This class interaction can be done through CoI with various net synchronous and asynchronous activities, creating environments for social skills learning, collaborative content learning, and developing personal relationships between participants. The second model shows the organized self-learning tools (right). Tutorials, boxes, and machine aid simulations are widely found in this mode (Anderson, 2011, p. 61-62) [8]. Anderson concluded that his model "will help us gain a deeper understanding of the complex education context" (Anderson, 2011, p. 68) [8]. More fully calculating each input variable's position and scale of the corresponding outcome variables.

An Integrated Model

Bosch (2016) [10] has identified and compared four combined study models using 21 different design components in an overview of educational technology with the integration of pedagogy and technology into course design. Among the models was a proposed blending with a Pedagogical Proposal Model (figure 6), with pedagogical goals and activities, including online technology to be used for teachers. The model also suggests the best way for a variety of students to combine objectives, activities, and approaches in a number of ways. The model contains six basic educational objectives and approaches for achieving them.



Figure 9. Blending with Pedagogical Purpose Model (Bosch (2016))

5. CONCLUSION

In online education remains an up-to-date argument and application. The article only presents a few key theories related to learning technology in the digital transformation world. One critical question was whether online education theory could be integrated or unified. The article proposes a blended learning integrated model describing the phenomenon of online educational learning. This paradigm's core feature is that online learning has emerged as a learning subset rather than a distance learning sub-set. Combined learning, integrating face-to-face and online

instruction, is the cornerstone of the integrated model, and it becomes the dominant method of learning at all stages. All living conditions, particularly in developed countries, are challenged and even problematic. However, all courses and services with separate interconnected frameworks have other online learning elements in the near future.

REFERENCES

[1] Vietnamnews.vn, "Digital transformation: a must for enterprises," Vietnamnews.vn, 15 Dec 2020. [Online]. Available: <https://vietnamnet.vn/en/sci-tech-environment/vietnam-digital-transformation-day-2020-opens-697558.html>. [Accessed 30 Dec 2020].

[2] H. Anh, "Education 4.0: Challenges for Schools and Teachers (Giáo dục 4.0: Thách thức nhà trường và giáo viên)," 16 Dec 2020. [Online]. Available: <https://giaoducthoidai.vn/giao-duc/giao-duc-40-thach-thuc-nha-truong-va-giao-vien-w6Hdyb1Gg.html>.

[3] D. R. Garrison and N. Vaughan, *Blended learning in higher education*, San Francisco, CA: Jossey-Bass, 2008.

[4] M. Cleveland-Innes, N. Ostashewski, S. Mishra, S. Gauvreau and G. Richardson, "TEL MOOC participant response to the community of inquiry theoretical framework.," in *Teaching in a Digital Age – Re-thinking Teaching & Learning conference, International Council for Open and Distance Education*, Toronto, 2017.

[5] H. Gardner, *Frames of mind: The theory of multiple intelligences*, New York: Basic Books, 1983.

- [6] D. R. Garrison, T. Anderson and W. Archer, "Critical inquiry in a text-based environment: Computer conferencing in higher education model," *The Internet and Higher Education*, vol. 2, no. 3, pp. 87-105, 2000.
- [7] T. Anderson, L. Rourke, D. Garrison and W. Archer, "Assessing social presence in asynchronous text-based computer conferencing," *Journal of Asynchronous Learning Networks*, vol. 5, no. 2, pp. 1-17, 2001.
- [8] T. Anderson, *The theory and practice of online learning* (2nd Edition), Edmonton, AB: AU Press, 2011.
- [9] J. Bransford, A. Brown and R. Cocking, "How people learn: Brain, mind experience and school," Washington, D.C.: National Academy Press/National Research Council, 1999. [Online]. Available: <http://www.colorado.edu/MCDB/LearningBiology/readings/Howpeople-learn.pdf>.
- [10] C. Bosch, *Promoting Self-Directed Learning through the Implementation of Cooperative Learning in a Higher Education Blended Learning Environment*, Johannesburg, SA: Doctoral dissertation at North-West University, 2016.
- [11] J. Hannon and C. Macken, "Blended and online curriculum design toolkit," La Trobe University, Sept 2014. [Online]. Available: https://www.latrobe.edu.au/__data/assets/pdf_file/0006/602178/Blended-learning-Toolkit-v4.pdf. [Accessed 1 Dec 2020].
- [12] C. Pappas, "Synchronous vs asynchronous learning: Can you tell the difference?," eLearning Industry, 9 Oct 2015. [Online]. Available: <https://elearningindustry.com/synchronous-vs-asynchronous-learning-can-you-tell-the-difference>. [Accessed 2 Dec 2020].
- [13] SchoolEducationGateway, "Survey on online and distance learning – Results," SchoolEducationGateway, 8 June 2020. [Online]. Available: <https://www.schooleducationgateway.eu/en/pub/vi ewpoints/surveys/survey-on-online-teaching.htm>. [Accessed 3 Dec 2020].
- [14] MOET, "Higher education in 2021 and in the period 2021-2025: Five Main Issues. Retrieved from," Ministry of Education and Training, Vietnam, 13 Dec 2020. [Online]. Available: <https://moet.gov.vn/tintuc/Pages/tin-tong-hop.aspx?ItemID=7131>. [Accessed 30 Dec 2020].