Blended Learning Models: Perspectives' in Higher Education

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ABSTRACT

The utilization of blended learning models in the 21st century at university is essential, like watering the garden in the desert area. The application of teaching, especially in higher education, improves learning outcomes. Blended learning models include rotation models (station, lab, individual, flipped models); Self blend mode Flex brings innovation, flexible teaching, achievement in learning outcomes, and lead to motivation among instructors and students. This study blends proof of the concepts of blended learning models, its implementation, and benefits and challenges from a higher education perspective, as well as the recommendations learned from the different reviews. The review is based on twelve selected articles published from January 2016 up to March 2021. The articles about blended learning models in higher education are taken into consideration. This current review suggests more consideration to be paid in an online classroom and not attendance for login and log out for students. Cheating in online exams should be taken into consideration. However, a lot of literature has examined the usefulness in developed countries. Another research to be done on challenges face blended learning models in higher education, especially in 21st in developing countries and developed countries.

Keywords: Blended Models, Technology, Higher education, Learning.

1. INTRODUCTION

Technology is critical in the teaching process at university [1]. Technology enhances online learning by using a phone where the students and teachers share knowledge [2] .Technology is useful in education, whereby students need to interact with computers and phones [3].Provision of new skills, methods, and processes to simplify work from different perspectives [4].Society benefits from technology by making activities easy with the accompaniment of telephone, radio, television, and computer. Technology brings changes in communication, learning, and thinking [5] People communicate by using emails, social networking, where they connect the dots in learning. Teachers use online learning to conduct exams, quizzes [5]. Blended learning allows students and teachers to use online learning and traditional learning. The students can join online learning as well as visit the physical classes. Students are free to access Lab rotation time and location. The approach combines online learning with traditional learning, but it is student-centered. Learning demands the availability of a teacher and learners [6]. In the 21st-century, learning models rapidly increased in higher education [7].

Higher education learning shifted from traditional to blended learning classrooms. Students and teachers in higher education use mobile phones and computers to learn and teach [8] Teachers conduct the class far from campus. Students can access classes far from campus with flexibility. Blended learning makes students get in touch with the teacher during face-to-face classroom [9]. Students interact with learners, teachers, and content with flexibility. A learning model systematically based on the theory of learning. Additionally, it describes an object, system, or concept that is often simplified or idealized [10]. Blended learning models integrate with formal learning, non-formal learning, class work, independent work, students to student interaction [11]. The blended model combines online teaching and classroom teaching [10]. On the same idea, blended courses are taught in the classroom [12]. Models are associated with online technology-based [13]. According to Horn &Staker (2011) cited in [10], four blended learning models are; rotation, station, rotation, Lab rotation, and Virtual. Primary modes of

blended learning, Online before Campus (OBC), Online during Campus (ODC), and Online after Campus (OAD), [9]. The application of blended learning models brings better learning outcomes to students[10] .The models help students and lecturers in the learning processes [15]. Blended learning models, it is more practical in higher education [11]. The learning needs an instructor to guide students in online and face-to-face models [16]. Blended learning constitutes online teachings and traditional teaching with rotations in time and space [17].The use of models improves understanding in higher education [10]. Therefore, the review examines the benefits of blended models in higher education. The study will also encourage policymakers, school administrators, and instructors in order to pay attention to integrating models . Review highlight concept, types of blended learning models, benefits as well as challenges faced.

2. LITERATURE REVIEW

Blended models have been researched by different researchers in higher education from 2016 up to 2021. The models deal with many research studies with benefits [11], [9].[8], [18], [16], [12],[14], [10],[19],[7] , [20], [21], [20], [21], research on the concept of blended learning models, implementations, challenges and effectiveness in higher education. For instance [11] explain that Flex blended model makes the students flexible in the classroom and outside the classroom. Students control time, place, and path for learning. Students can work in small groups with others through the online and traditional classroom. Flex blended model provides students with the choice of time, place, and path for learning [12]. Students rotate into various activities example; rotate in a flipped classroom, station, lab, and individual rotation [16]. Flipped classroom model increases attention to students in the learning process [19]. Students study at their own time at home as well as practical works and assignments in the school environment under the teacher or instructor's care. Station rotation model students rotate from one station to another during the learning process [20]. The teacher or instructor needs to guide the students during rotation. This station includes traditional and online learning. The lab rotation model allows students to shift from classroom learning to e-learning laboratories [12]. Students can shift from classroom learning to physics, language, and experimental laboratory. This process is done under the teacher's instructions to students. The lab rotation model allows students to take the traditional classroom in addition to the online classroom on campus [16]. Individual rotation model Student has the option to decide or choose which option is better for the learning process[10]. Students decide which option to choose between the online, station, and flipped classroom. Students choose what type of material to read and access and at what time. Self blended learning

model allows students to access classes outside of what is being taught at school [12]. Students can access online with the supplement of traditional classes. The Enriched virtual model focuses on online learning with less on traditional learning [12]. The teacher is the facilitator in this process. In addition, enriched virtual model access learning mainly online but in a nutshell through face-to-face learning [16]. The model combines instruction in the learning process [18]. To support the idea Woodfield & Harrison 2013) cited in [25]. blended learning models are essential in higher education learning due to (1) facilitating effective communication among instructors and students. (2) improving good collaboration among learners; (3) putting students at the center in the process of learning; (4) providing flexibility; and (5) providing improvement in the use of technologies and learning.
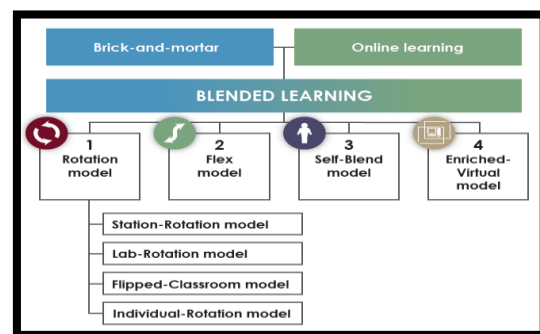

Figure 1 Blended Learning Models (Source: [22]

3. METHODS

Search engines as Google Scholar were used to conduct a literature review and models. This selection is based on those articles that from 2016 to 2021. In addition, conference papers and dissertations were included in this review. Twelve studies were selected for review and analysis. The review is based on developing countries and developed countries. Indonesia, Bangladesh, Russia, Canada, Thailand, Us, India, and Turkey were included. The studies ranged from 2016 to 2021.

Table 1. Review of the findings in Blended Learning Models

Author and Year	Place	Findings
[23] [9] [24]	Thailand -US -India	-Blended learning models bring awareness to students and increase learning outcomes hence better performance to students.

Author and Year	Place	Findings
[15], [13] ,[14] ,[12] ,[16]	- Indonesia - Indonesia -Indonesia - Bangladesh -Russia	-Flex blended model brings innovation in the process (improve use online learning like MBL which can accommodate large number of students in the classroom).
[11],[18]	-Russia -Canada	-Blended learning models bring flexibility in the teaching and learning process. - Positive attitude towards learning blended learning models (face to face |& online models).
[19]	Turkey	- Blended learning models bring motivation towards the effective application of BL

4. RESULTS AND DISCUSSION

The table below shows the findings related to models from 12 review ranges from 2016 up to 2021. The findings of the review come from different parts of the world. The findings reported in positive results concern higher education. The figure shows the year and the author, as well as the place where the study was done, plus the findings obtained. The findings were obtained through the use of qualitative and quantitative approaches as well as questionnaires and interviews.

The review examines the literature about blended learning models in higher education. It was found that these models can bring innovation in the process of teaching and learning process. This can be due to the improvement of online learning like MBL(Mobile blended learning), which can accommodate a large number of students in the classroom at low cost [15] [13] [14], [12], [16]. This is a positive attitude towards Online models [11]. Blended learning models bring awareness to students and increase learning outcomes hence better performance to students[23], [9], [24]. The below are the findings of discussions from the different reviews

4.1. Blended Learning Models and Innovation in Learning

The studies of (Suartama, Setyosari, &Ulfa, Development of an Instructional Design Model for Mobile Blended Learning in Higher Education, 2019), [13], [14], [12] [16] indicated that blended learning models improve innovation. Online learning facilitates the use of the mobile model in the process of teaching and learning. The uses of mobile blended learning have become more popular in online learning hence increasing innovation in higher education (Suartama, Setyosari, &Ulfa, Development of an Instructional Design Model for mobile Blended Learning in Higher Education, 2019).

Mobile Blended Learning is one of the current educational issues in globalization and technology [10]. On the same idea, blended learning models lead to advanced technology [21]. The model needs instructors to higher to integrate mobile technology education. On the same idea [12], Blended learning models must lead to innovation in the education sector so that they can accept by the teachers and learners. Therefore, there is a need for a blended learning model to innovate issues in and learning process ([7].

4.2. Blended Learning Models and Flexible Teaching in Learning Process

Online learning makes students flexible in choosing the place and time to study [18]. The study explains that blended learning models make learning flexible in evaluation. Therefore, the use of evaluation in a blended learning model is necessary. Students do online assignments and are graded by the instructor. Students allowed to complete online work then can prepare for the lab in practice. The student has demonstrations and interactive activities in the face-to-face classroom.

To support the idea [11], Flex blended model based on student-centered and interaction way. Students control time, place, and path for learning. Large numbers of students in the classroom with low cost. Students can choose to work in a small group through the online and traditional classroom. It makes teaching and learning more flexible for students and teachers, and management.

4.3. Blended Learning Models and Learning Outcomes

Blended learning models are more effective [23]. The Blended learning models increase learning outcomes through three models, online before campus (OBC), Online during campus (ODC), and online after campus (OAC) [9]. These models help students to have skills and knowledge. Students are comfortable in the classroom in prescription and writing, time to learn on the improvement outcome by using different models [24].

4.4. Blended Learning Models and Motivation

Effective blended learning models need to support the instructors. Insist on motivation model for instructors. The blended learning model needs to support instructors' higher education for practice. This will lead to positive outcomes in higher education [19].

4.5. Challenges of Blended Learning

Blended learning Models still face some challenges whereby no models exist that describe the motivation that can affect the instructor in the process of teaching and learning, whether online or traditional classroom [10]. Internet connectivity, low number of internet in laboratories, poor use of the online platform as the challenges [13].

5. CONCLUSION

The application of blended learning in 21st century higher education is essential, like watering the garden in the desert area. The application of teaching, especially in higher education, improves learning outcomes. Blended learning models include rotation models (station, lab, individual, flipped models); Self blend model, Flex bring innovation, flexible teaching, achievement in learning outcomes, and lead to motivation among instructors and students. This study blends the proof of the concepts of blended learning models, its implementation, and benefits and challenges from a higher education perspective, as well as the recommendations learned from the different reviews. The review is based on eleven selected articles published from January 2016 up to March 2021. The articles about blended learning models in higher education are taken into consideration. This current review suggests more consideration to be paid in the online classroom and not attendance for login and log out for students. Cheating in online exams should be taken into consideration. However, a lot of literature has examined the usefulness in developed countries. Another research to be done on challenges face blended learning models in higher education, especially in 21st in developing countries and developed countries. The recommendation: Blended learning has been considered as an important alternative process in higher education, but some consideration must be paid to the following. Student attendance to go hand to hand with a camera on and audio; otherwise, students will continue to log in for attendance rather than learning itself. For example, students only care for attendance and not the learning that takes place online. Therefore, students proceed with other activities instead of attending the lecture. At this time, the camera is muted then the students can log out while not attending the lecture properly.

Cheating concerning examination issues is another area to be given more consideration. This happens when a student does an online exam by using a laptop or a computer without the physical presence of the teacher, a student can use a phone to goggle in the process of doing an exam. Even if the teacher is there, students can still use phones to Google during exams session, and this kills our education. Most of our students tend to enjoy doing MSQs because it is simple to cheat on. So

there is the need to look again and modify the system of doing an exam.

In order to discover this kind of cheating, the research needs to be done as follows. Take the online exams on MSQs and give them to students to do. After this, call all the students to do the exam physically, but the questions to be in essay form, which aimed to measure understanding. This will give the feedback in two ways, learners who read well and do not use Google will have higher percentages, but learners who cheat will have poor percentages. As the researcher, I suggest a study to be conducted regarding the use of online examinations in higher education.

AUTHORS CONTRIBUTION

All authors conceived and designed this study. All authors contributed to the process of revising the manuscript, and at the end all authors have approved the final version of this manuscript.

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