The Implementation of Blended Learning Strategy to Face 21st Century: Library Research

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Abstract:

The present study aimed at investigating the characteristics of blended learning strategy, its benefits, its challenges, and teachers' role. The study was designed in library study in which all the data were obtained from reviewing related articles. Some steps were conducted, namely identifying topic, formulating research questions, planning research, making use as source of data, setting the criteria, limiting the aspects, and interpreting the obtained data. The results of the study show that 1) the characteristics of blended learning depend on combination of online and offline setting and technology; 2) the benefits cover the flexibility of blended learning strategy, different design of learning to be done, easy access to obtain learning resources, concerning student-centered-learning, and training students' critical thinking; 3) the challenges cover four main problems, namely technical problems, lack of self-regulation, limited social interaction, and technological skills; and 4) teachers have role as motivator, manager, and facilitator. Blended learning strategy can be a useful learning strategy in the 21st century learning. It is suggested to conduct further study on the effectiveness of blended learning strategy considering the level of education.

Keywords: blended learning strategy, technology, 21st century learning

1. Introduction

Nowadays, people prepare for the development of 21st century since it influences on many sectors (Suwastini et al., 2021). It covers the development of education, social communication, economy, health, etc. (Pala & Başıbüyük, 2021). Especially on educational sector, technology takes an essential part to be integrated in order to support the teaching and learning process in the 21st century (Altun, 2019; Çakmak, 2019; Hikmawati & Suryaningsih, 2020; List et al., 2020; Nikou & Aavakare, 2021; Ningsih et al., 2019; Soler-Costa et al., 2021). Technology becomes the medium implemented during the activities of learning. It is used to assist the teachers in designing their class activities to be attractive as well as meaningful. In addition, the existence of technology helps the stakeholders to become an effective citizen in which they are equipped with technological knowledge to operate the technology (Das, 2018; Dhawan, 2020; Garba et al., 2015). Both teachers and students are able to operate technology. They know how to run different kind of technology used during learning meeting. They also have knowledge about the use of technology.

Moreover, in the 21st century, students are also demanded to have additional skills beside their language skills. The needed skills cover collaboration, critical thinking, communication, and creativity (Chuntala, 2019). In collaborative skills, students can collaborate with others to solve the problems given in the learning process. In this activity, they can get discussion and clarification for deep meaning. In critical thinking, students can do deep thinking rather than remember the information only. They can analyze the provided information to find deep analysis like similarities or differences. Then, in communicate skills, students can conduct effective

communication. In this sense, the students' partner can understand the message that is being delivered by the students. The last is creative skill. Students can create an innovative or different idea for their development. Those skills are needed to prepare students in facing the 21st century learning. Furthermore, students are guided to be an independent thinker and to be ready for working life (Anagün, 2018; Sumarni & Kadarwati, 2020; Ratama et al., 2021). Students have their own thought to solve the existed problems faced by the students. It can be used as a preparation to face the real world.

However, most of the teachers still tend to use the conventional teaching strategy. It is because they used to use it to run their learning class. Mokhtar (2016) states that conventional teaching strategy only focus on students' knowledge and content mastery. It does not cover the skill which is also needed by the students. Students are guided to remember what they have learned without making a meaning from it. In this teaching strategy, students are often asked to remember the topic of the lesson without strengthening the ability to use the information. On the other side, students need to master two more skills besides four skills mentioned above, that are culture and connectivity. It is used as a way to keep up with the change of globalization age (Burton & Stehle, 2019; Anugerahwati, 2019). Related to the problem on teaching strategy, ss an effort to face 21st century, a modern teaching strategy is needed to be conducted along the meetings. There are a lot of learning strategy that can be used. One of the suitable strategies is known as blended learning. It is because this technique meets the need to boost students' development to face the 21st century learning.

Blended learning is well known as a hybrid learning in which it refers to the combination of online and offline class. This strategy has been applied at higher education to engage students' skills and knowledge along the learning process. (Hadiyanto et al., 2021; McGuinness & Fulton, 2019). In this teaching strategy, students have different learning condition in which students can still learn and connect to their friend as well as teachers from home. In addition, they can also learn face-to-face with the teachers and students. The different learning design of this strategy can be assigned based on the consideration of teachers in their class.

Nevertheless, blended learning can be a way to enhance the 21st century learning. Some previous studies have proven that blended learning strategy is effective to enhance students' ability. Blended learning can increase students' motivation and efficiency from the use of internet (Mahalli et al., 2020; Nijakowski et al., 2021; Simbolon, 2021). In addition, it increases students' achievement (Al-Qatawneh et al., 2019; Hadiyanto et al., 2021;Harpiansi & Suryani, 2019). Moreover, it also effects on students' skills (Arta et al., 2019). It becomes a virtual learning solution during Covid-19 pandemic (Sefriani et al., 2021). Considering the explanation above, the present study aimed at exploring the use of blended learning strategy as an effort to face 21st century demands by providing the characteristics of blended learning, its benefits, its challenges, and teachers' role in applying blended learning.

2. Research Method

The present study was designed in qualitative research using library research method proposed by George (2008) in which the articles related to blended learning were reviewed as well as explicated in the result of the study. The articles were searched in Google Scholar and Springer. The keywords for this topic were the blended learning strategy for the 21st century learning, characteristics of blended learning strategy, benefits of implementing blended learning strategy, challenges in conducting blended learning, and teacher's role in blended learning strategy. There were some steps conducting in this study as follows. The first step was on identifying the topic of the study. The suitable teaching strategy was identified related to the development of the 21st century learning. Blended learning strategy was selected to be identified in this study. On the next step, the research questions had been formulated to the present study covering what are the characteristics of blended learning strategy, what are the benefits of blended learning strategy, what are the challenges of blended learning strategy, and how do the teachers take role in blended learning strategy. In the third step, the research plan was set. It planned to get information related to the proposed research questions. It was done by finding related articles on the journal website as well as books covering blended learning strategy. Then, in the fourth step, the obtained articles were used as the sources of the study to support the explanation of blended learning. They were used to give information related to its characteristics, benefits, challenges, and teachers' role. In the fifth step, the criteria of the articles were determined. The articles which were published in reputable journals indexed by SINTA and Scopus were collected in this study. The mentioned keywords above were used to find the related articles. Then, in the sixth step, the topic of blended learning strategy was limited on its characteristics, teacher's role, its benefits, and its challenges. In the next steps, the obtained articles were read critically to make meaning from each article. The implementation of blended learning was interpreted as well as the benefits, and challenges were interpreted. From this activity, the information was used to answer the proposed research questions in this study. In the last step, the information was elaborated deeply as arguments about the characteristics of blended learning, the benefits, challenges of blended learning, and how teachers take role in blended learning. The obtained information was outlined for the present study. The suggestions

from colleagues and further reading were conducted to revise the information of the study.

3. Results And Discussions

The blended learning strategy has been discussed by many researchers from how it is used in the learning process. In this study, the discussion of blended learning strategy is limited by providing the information of its characteristics, benefits, challenges, and teachers' role in implementing blended learning as a contribution to face 21st century demands.

3.1. *Characteristics of Blended Learning Strategy*

The main characteristic of blended learning strategy is the combination of online and offline learning setting (Albiladi & Alshareef, 2019; Anthonysamy et al., 2020; Mahalli et al., 2020; Wijayatningsih et al., 2021). It refers to the condition in which the students can conduct face-to-face learning at school and virtual class from their home by using the internet connection (Simbolon, 2021). In offline learning, students and teachers can meet in person directly in the classroom. They can conduct real interaction during learning process. On the other side, the online setting can be designed into two activities, namely synchronous and asynchronous learning activity (Karaaslan et al., 2018). In synchronous activities, students directly meet their teachers and friends on virtual class. Students and teachers can conduct live interaction assisted by their technology. They can create a discussion, sharing, and giving comment as well as feedback. On the other hand, asynchronous activities allow students to learn from home in which they do not conduct conference virtual (Heilporn et al, 2021). Students access the web or application to do discussion, comment, or submit their works in which they are not accompanied by the teachers at the time on virtual class.

Not only that, blended learning strategy is characterized by the use of technology during learning activities (Abbacan-Tuguic, 2021; Islam et al., 2022). The students are allowed to use as well as access the technology to support gain more knowledge to the related topics. The exploration about the discussed topic is not limited by the explanation of the teachers only. Students are free to obtain more sources from the internet to deepen the information related to the discussed topic. In addition, in offline setting, the use of technology is reflected on different learning design in which students can get different learning activities assisted by technology. Students are assigned to experience different activities in line with the proposed technology used in the study. Students may explore their skills like doing presentation assisted by the use of power point. However, in online setting, technology is used to connect students and teachers from their home (Istiqomah, 2021). The online learning can be done if the students have adequate technology like laptop, handphone as a media to connect students and teachers in this setting. In addition, blended learning strategy also promotes the assistance of learning management system (LMS) platform like Schoology or Google Classroom (Sefriani et al., 2021). The use of this LSM will assist the teachers to manage their class. They are provided with some features to be utilized. Students can access learning materials from it. Moreover, they can submit as well as ask from the LSM itself.

From the explanation above, it can be seen that the main characteristics of blended learning which can be seen from two main points, namely 1) the combination of online and offline learning setting and 2) the assistance of technology. Students can experience two different conditions of learning in which they can get face-to-face meeting and/or virtual meeting. Especially for online learning, it can be done in synchronous way in which the students meet live virtual meeting whereas in asynchronous way, they are not needed to conduct live interaction. They run the meeting by giving response on the LSM directly without being discussed at that time on a virtual discussion.

3.2. *The Benefits of Blended Learning*

There are some benefits in conducting the blended learning as follows. Firstly, it provides a flexibility for the students and teachers in teaching and learning activities (Badaruddin et al., 2018; Simbolon, 2021; Verawadina et al., 2020). In this sense, students can conduct flexible learning activities. Students can still learn from their home if they conduct online class. In addition, students can submit their assignment from any places. They do not need to go to school or meet their teachers directly to give the assignments. They just need to contact their teachers to ask about the learning platform or media that they need to access. It also helps the teachers to take an efficient time for this kind of activity. Moreover, on the teacher's side, the teachers can also give feedback directly to the students' works without meeting the students directly. The proposed feedback can be inserted on students' works which have been uploaded by the students.

Secondly, blended learning creates different learning atmosphere comparing to the traditional strategy. It makes lesson more enjoyable since students follow some different activities (Muhtia et al., 2018). Students do not only listen the explanation from their teachers but also, they involve during the learning process. In this condition, students may create an interactive task by providing students a link that can be easily accessed by the students. In order to do the task, students have to explore more information as well as discuss with their friends. Not only that, teachers may provide the activities with the songs taken from internet. It can decrease students' stress while they are studying (Faus et al., 2019). It is because the songs create comfortable condition for the students to join learning activities. When the students feel safe, they enjoy to follow learning activities. In addition, the use of video can be inserted in this application to attract students' attention. If the attention is paid to the video, students can follow the learning material by watching the provided video given by the teachers. Furthermore, students can explore their knowledge or skills from the use of learning application in the learning activities. The provision of learning application boosts students' skills since they can be assisted to support their skills.

Thirdly, it allows students to explore more learning sources to deepen their insight of the discussed topic (Rojabi, 2021). The learning application provides some related materials that have been inserted by the teachers. Students can easily access the material and reread it if they want to get more confirmation. Not only that, students are also allowed to access more learning sources from other resources besides in their learning application. Since in this strategy students are occupied with the provision of internet, they can find some supportive learning media which can help them to gain deeper understanding related to the discussed learning materials. Furthermore, this kind of activity can keep students to get higher engagement in learning process (Ughanda & Badre, 2020). When the students get a lot of learning sources, they may discuss the obtained sources with their friends about the similarities and differences of them. From the sharing, students get more exploration on analyzing deeply the discussed topic. They can get a meaningful insight for their needs.

Fourthly, it promotes students centered learning to increase their critical thinking (Cahyani et al., 2021; Trisnowati & Firmadani, 2020). Students do not wait for the instruction from the teachers, but they have their willingness to find more information. By using technology in the learning process, students have their responsibility of their learning in which they are given chance to explore their knowledge and skill by themselves. With the provision of open access to the source of learning, students can increase their critical thinking after guided by their teachers in the discussion. The obtained sources are not only read by the students, but also, they are asked to make meaning of them. Students are required to interpret the information consisting in the obtained sources. This activity gives more chance for the students to use their critical thinking when they face problems.

The last, it promotes digital literacy skills both teachers and students (Lalima & Lata Dangwal, 2017). These skills are obtained since blended learning strategy apply the use of technology in the learning activities. The technology is implemented to support and activate learning and teaching activities. Both teachers and students are required to operate technology along learning process. In a discussion section, students and teachers discuss their topic assisted by technology in the form of leaning platform. Before using it, they have to know the features consisted in it as well as how to make use of them. From this activity, students and teachers are trained to be familiar with the use of technology. As a result, they can acquire digital literacy skills to operate technology in learning process.

To sum up the benefits of blended learning, it can be concluded that blended learning five benefits for teachers and students to run learning activities. The benefits cover the flexibility of blended learning strategy, different design of learning to be done, easy access to obtain learning resources, concerning student-centered-learning, and training students' critical thinking. These benefits can be obtained if both teachers and students can manage the design of learning activities. On the teachers' side, they are able to direct their students to follow learning. Besides, on the side of students, they need to consider teachers' guidance as well as being active leaners to get the benefits of the strategy.

3.3. Challenges in Conducting Blended Learning Strategy

In spite of the benefits, the implementation of blended learning face challenges as follows. Firstly, the challenges occur because of technical problems of the technology. It covers the lack of internet connection and device problems (Cahyani et al., 2021; Hande, 2014; Kaur, 2013; Rojabi, 2021; Ughanda & Badre, 2020). The internet connectivity and devices become the bridge to conduct online learning as well as to search any learning materials in implementing blended learning strategy. When their devices have problem and there is no internet connection, they cannot join virtual class to do learning process as well as explore any information. In addition, both teachers and students cannot run the discussion well due to these problems. If they force to join the online class, they will not get communicative interaction. As a result, they cannot make meaning from the activities.

Secondly, self-regulation becomes another challenge in implementing blended learning (Rasheed et al.,

2020). In online setting, teachers cannot control the students at their home. Teachers do not know whether or not the students follow the learning activities. The students can do another activity besides joining the online class. Besides, students can ask somebody to do their homework. It leads to negative self-regulation in which students do not manage themselves to do their homework by themselves. In addition, some students cannot manage themselves to follow learning process especially on gathering learning sources. As a result, some students do not trust their friend when they are asked to work collaboratively. The students doubt about their partners' work since they do not know whether or not the obtained sources from their partner are reliable (Al-Samarraie & Saeed, 2018).

Thirdly, on the other design, blended learning limits social interaction of the students (Nijakowski et al., 2021). When the teachers only design to conduct online setting of blended learning strategy, students have limited time to meet with their friends which leads to limited social interaction. In some cases, this kind of situation can discourage students because they cannot directly ask their friends at that time to face the problems (Noour and Hubbard, 2015; Ramli et al., 2022; Sirisakpanich, 2022). As a result of limited social interaction, students who cannot handle it by themselves feel demotivated to continue their works.

The last is lack of technological skill. Teachers cannot operate technology in designing their class both online and offline class. It is due to lack of training on teacher's side in using learning platform or learning technology (Kaur, 2013; Aldosemani et al., 2018). It is difficult for teachers who are not familiar with technology to be used. They do not know how to use the features on certain learning application. It leads to less exposure as well as engagement of students in using technology.

In a nutshell, the challenges cover four main problems, namely technical problems, lack of self-regulation, limited social interaction, and technological skills. Those problems come from internal and external factors. Internal factors emerge from students and teachers themselves. It is because of the lack of experiences and skills of students and teachers in adapting new learning strategy to be applied in learning process. On the other hand, external factors emerge from the surrounding condition. It refers to the learning media as well as environment to support process of learning.

3.4. Teachers' Role in Implementing Blended Learning

Considering the implementation of blended learning strategy, teachers have different role comparing to traditional strategy as follows. Teachers have role as facilitator and manager during learning process. Since blended learning promotes online and offline setting, the teachers take charge in both settings. As a facilitator, teacher provides learning materials that are needed by the students. Teachers also equip students with more sources on learning application to provide students with more information. In addition, students are assisted by the presence of their teachers in the class since they can ask for feedback and guidance during their working (Schechter et al., 2017). As a manager, teachers manage the learning process, especially for the online setting, teachers manage the time for each activity for the online class (Huang, 2019). Teachers plan the activities that can be done in the learning process (Pierce, 2017). Teachers can also make use the features of the tools of application to make students more active in participating the learning situation (Evans et al., 2020; Oskay, 2017; Zahid & Khanam, 2019). Moreover, Hew (2016) adds that teachers need to consider four important aspects in conducting blended learning as a strategy in their learning process, namely 1) Teachers need to start with the problem along with clear description. The teachers ask their students to solve the existed problems; 2) Teachers need to put students as center of learning. In this case, students engage themselves to explore their skills and knowledge. Students get more practices in the learning activities; 3) The teachers design peer interaction between students. Teacher is expected to use this kind of activities to assist students if they feel hesitated to ask the teachers; 4) The teachers motivate students along the learning process to get their improvement (Lalima & Lata Dangwal, 2017). Teachers give direction as well as encouragement for students to feel excited in following learning activities. After exploring the role of teachers in the implementation of blended learning, it can be concluded that the teachers have different role comparing to conventional learning strategy. It covers the role as facilitator, manager, and motivator. Teachers do not take a role as a center of learning but they encourage students to be the center of learning by designing active class, giving them guidance toward the assignments, motivating students to do improvement.

4. Conclusion

From reviewing the articles, the presents study covers four main results, namely characteristics of blended learning, its benefits, its challenges, and teacher's role in implementing blended learning. Those results indicate that blended learning strategy is useful to be conducted in the learning process. In addition, bended learning is a complex strategy that exercises students' skills and knowledge. It trains students to use their knowledge when students face a case requiring their insight. Not only that, it also allows students to get practice of their skills to be shown during learning activities. Moreover, blended learning strategy promotes students centered learning in order to face 21st century learning. Teachers do not take authority during process. They guide students to be engaged in the activity of learning. Furthermore, the previous studies also support that blended learning is effective to improve students' skills and knowledge. In this study, the information is limited on the implementation of blended learning strategy. Some future recommendations are suggested for other researchers in the future as follows. Firstly, future researches can be done by considering other aspects of blended learning which have been mentioned in this study. It also can consider the focus on the level of education in which blended learning is applied. Secondly, the present study suggests to other researchers to conduct experimental study in order to see the effectiveness of blended learning in improving students' skill and knowledge as the concern of future study. Thirdly, combination of another learning strategy can be also a consideration for other researchers to be conducted in the future. It is recommended to conduct further research about the combination as well as the effectiveness of blended learning.

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