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Hybrid learning as an alternative to online learning: literature studies

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Abstract. Learning conditions for more than 2 years have changed due to the covid-19 pandemic which requires learning to be dominated by online learning activities. Various approaches and learning models are applied to maintain the quality of education during the pandemic. This condition also requires the world of education to prioritize the use of technology in learning activities. One of the learning models applied is hybrid learning. Hybrid learning is a learning model that combines face-to-face methods and electronic learning. The purpose of this study is to analyze the literature related to the benefits, advantages, and disadvantages of using hybrid learning models in learning so that it can be a reference in choosing the right learning model following the times. There needs to be good cooperation and communication in the implementation of the expected learning methods. In addition, the implementation of hybrid learning requires the availability of facilities and infrastructure that support face - to - face and network learning that takes place simultaneously

Keywords: Hybrid Learning, E-learning, Learning Model

1 Introduction

The unstoppable spread of the COVID-19 virus, along with the strong escalation of distribution on a wide scale, has made the world experience a pandemic. This condition requires humans to limit the space for interaction. All sectors of life experience suspended animation. The sectors in question include the economic, social, political, and cultural sectors, including the education sector. Learning conditions during the pandemic have directed the world of education to use technical assistance. The role of technology here is not as a substitute for the role of the teacher and also cannot replace the interaction between students and teachers because education is not only about acquiring knowledge but also about values, cooperation, and competence. This is a challenge in itself and also requires creativity in the world of education, especially the driving force of education in the use of technology. The Director General of Higher Education at the Ministry of Education and Culture explained that the challenge of developing creativity in the use of technology is not only transmission but also how learning is delivered properly [1].

In the conditions of the modern world, which has experienced a shift from the industrial revolution 4.0 to the conditions of the era of society 5.0, this demonstrates the significance of

technology in prioritizing the role of a human-centered society in balancing the progression of time. At this time it is known as education 4.0, which is shown by how important educational technology is in the world of education, such as *E-learning*, learning applications, and self-study *platforms* that are in line with the demands of education 4.0 [2]. The alignment of the pandemic conditions and the progress of digitalization greatly helped the condition of education, which had experienced a downturn due to restrictions on human space.

The government, especially in the world of education, responded to the pandemic condition by issuing Circular Letter No. 4 of 2020 from the Minister of Education and Culture, which recommended that all activities in the educational environment must maintain a distance and all delivery of learning materials be delivered at their respective homes. This learning condition is better known as distance learning (PJJ). In response to this condition, the education system has begun to innovate in terms of effective learning activities. Several learning innovations were introduced during the pandemic, including learning from home where there is a collaboration between schools and parents, and blended learning innovations [3] and [4]. The learning activities referred to above are carried out by utilizing the internet network, as well as information and communication technology (ICT).

In terms of benefits, the implementation of distance learning (PJJ) has set the education process in the country towards digitalization. But on the other hand, it also creates obstacles. For areas experiencing internet access constraints and the absence of a device due to the low economic level of the community, PJJ is quite difficult to do. In addition, the teaching and learning process that requires hands-on practice also encounters obstacles.

Teachers have an important role in carrying out learning during a pandemic. In addition to the demands of the pandemic, teachers are also required to align their skills with digitalization and be creative. At least teachers must use ICT and have 21st-century life skills, namely leadership skills, digital literacy, communication, emotional intelligence, entrepreneurship, global citizenship, teamwork, and problem-solving. The focus of expertise in the field of 21st-century education is currently known as the 4Cs, which include creativity, critical thinking, communication, and collaboration. Educators in the 5.0 century must be teachers who prioritize students over themselves, take the initiative to make changes to their students, take action without being asked, continue to innovate, and take sides with students [5].

Utilization of learning innovation is important during a pandemic, especially in learning methods. The use of the Internet as a learning medium is an alternative to one of the learning methods. This is known as e-learning or learning through applications that facilitate the delivery of learning materials so that the learning process is more interesting and not boring. There are quite several e-learning learning methods introduced and developed during the online learning period, ranging from using certain platforms to using social media.

As time goes by, the pandemic condition gradually recovered. The use of technology in learning is still needed. The term PFMT (Limited Face-to-Face Meeting) in learning presents learning conditions with a limited number that still prioritizes the use of technology. Currently, education tends to use blended learning or hybrid learning in learning because it does not require students to be fully present in learning.

In this literature review, the researcher only focuses on the hybrid learning model as an alternative learning method, because there is still a tendency to equate blended learning and hybrid learning models.

2 Research Method

This research is qualitative research using descriptive analysis techniques from a literature review. This research is directed at e-learning learning, especially hybrid learning as an alternative to online learning that prioritizes technology following the demands of the times

3 Result and Discussion

3.1 Online Learning

Online learning is learning that is done through the internet. Online learning was first recognized because of the influence of the development of electronic-based learning (e-learning), which was introduced by the University of Illinois through a computer-based learning system (Hardiyanto) [6]. Online learning is considered closer to today's younger generation, known as Generation Z, which is very integrated with technological products. Especially during the pandemic, online learning is an alternative to continuing teaching and learning activities within a limited distance.

Online learning is not only about sharing learning materials on the internet network there are online learning materials along with the online teaching and learning process. There is interaction in online learning. Interaction in learning consists of interactions between the learner and the teacher and/or facilitator (teacher), with other fellow learners, and with the learning material itself (Moore, 1989). The three types of interactions that occur in online learning will create a learning experience.

Online learning is often connoted as open learning. Not all online learning is free. In the literature, it is stated that the characteristics of open learning must at least contain an element of flexibility, including in terms of age (no age limit), location (biased from anywhere), cost (cheap or even free), length of study (no study time limit), and prerequisites. (no need to have a previous education diploma), multi-entry and multi-exit (can enter and stop at various alternative times/anytime). [6].

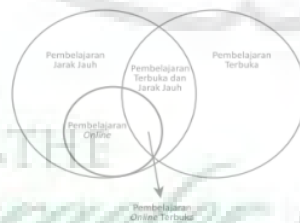


Fig. 1 Distance learning, Online learning and Open online learning

Fully online learning requires several requirements for students, namely: (1) ICT literacy: students must have initial skills in the form of basic ICT mastery as a tool for learning. (2) Independence: online learning requires the condition of students who are accustomed to independent learning. (3) Creativity and Critical Thinking: online learning facilities are very diverse, students can participate in various available tools such as browsing, chatting, group discussions, video conferencing, online quizzes, online drills, and others, this requires the creativity of students to take advantage of everything optimally. [7][8]

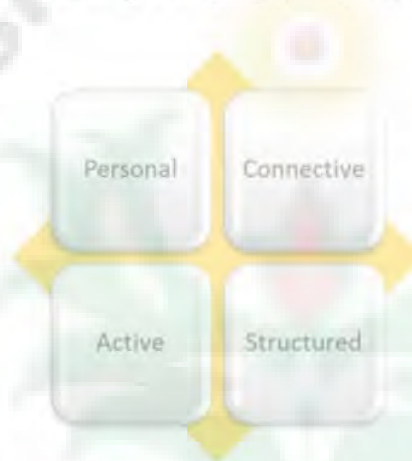


Fig.2 Characteristics of Online Learning

3.2 Methods in Online Learning

To deliver learning materials to students, a strategy or regular process is needed by the teacher so that the learning objectives that have been set can be achieved. The rapid development of the times, along with the pandemic conditions, requires directing learning activities using the help of the internet and devices connected to the internet, such as using Zoom, Google Classroom, Google Meet, and so on. This method is very popular and effective in carrying out learning during a pandemic [9][10]. However, in the beginning, it was still faced with various kinds of obstacles and problems, both in terms of user control and available facilities or infrastructure limitations.

According to Fordham University, there are 3 types of online learning, which are divided based on time interaction [9]

1. **Asynchronous online courses:** The first type is *asynchronous*, where students do not have to learn in *real time*. Assignments and materials are given at a certain time, and students can work at any time with a predetermined time limit. Students do not need to be online at the same time.

2. **Synchronous online courses:** *students* must attend classes directly and interact at the same time or in *real-time*. This type requires students from anywhere to participate at the same time.
3. **Hybrid courses** are a combination of the two types of online learning above. Students can choose to take synchronous or asynchronous classes.

In addition, we also know about the blended learning method, which combines face-to-face learning with online learning. Many people assume that blended learning and hybrid learning are the same two learning methods. This is wrong because basically, blended learning is a combination of two modes of learning: independent learning (asynchronous) and learning together. While hybrid learning combines the delivery of material for those who are independent online and face-to-face

3.3 Hybrid Learning

Understanding Hybrid learning is a learning model that integrates innovation and technological progress through an online learning system with the interaction and participation of traditional learning models (Kaye Thorne, Kogan Page, 2003) [11]. Hybrid learning is a combination of online learning with regular face-to-face learning. It's just that in its application there needs to be an adjustment, which depends on the conditions of the school and the student's residence [12]. **Hybrid learning is a learning method** that combines or combines online learning with **face-to-face** learning (PTM). The meaning of incorporation in the definition above is the combination of delivering material simultaneously for two methods of implementing learning. The following is a view of using hybrid learning in an educational institution [16]



Fig.3 Example of Hybrid Classroom Implemented

With the decline in positive cases of COVID-19 in Indonesia, which is already below 1 %, **online learning activities** or PJJ (Distance Learning) are expected to begin to be reduced or even removed. It is certainly not possible to completely delete it because the pandemic is not over yet. Then blended learning is applied as the best solution. The government, together with the Ministry of Education and Culture (Kemendikbud), then decided to implement a limited class face to face. Namely, hybrid learning itself, which combines PTM with PJJ.

It is called "limited-PTM" because the number of students in the class is limited to only 50%, and then there is an obligation to strictly implement health protocols. In addition, it is also stipulated that PTM can be terminated if there is a positive case at the school or campus

concerned. In addition, limited PTM can only be implemented in areas with PPKM levels 1-3 only.

Because hybrid learning is a learning method that combines or combines online learning with face-to-face learning (PTM) so it can be implemented as an alternative to online learning. Several learning activities already exist that implemented hybrid learning in the world of Indonesian education even before the pandemic occurred. There is a much different learning motivation for students who use hybrid learning than the usual learning model [13]. The implementation of hybrid learning is also carried out when PTM is limited and declared successful according to Wahyuni's research, which states that hybrid learning can be used as an alternative model to increase student motivation and learning outcomes in limited face-to-face learning [14]. From the research experience, it was found that students liked hybrid learning applications in schools. Students prefer face-to-face learning because they can understand the material clearly and can interact directly with other students who study at home and take turns getting the opportunity to study at home and directly [15].

Several studies stated that they did not find significant differences between physical and distance attendance regarding conceptual understanding, but significant differences were found in terms of affective engagement that supports on-site students and remote students who have different opportunities for learning, evaluation processes, and activities. 16][17][18]. There are also findings that state that test results using hybrid learning are lower than conventional learning [11], despite using innovation in learning. This is considered because it is considered that for some quantitative lessons, the presence of a teacher is needed physically.

Policies to implement hybrid learning get mixed responses; there are pros and cons. This is inseparable from the advantages and disadvantages of the mixed learning model.

From some research findings, we can explore some of the advantages of hybrid learning as follows:

1. **Opening Social Opportunities:** The first advantage of this mixed learning method is that it can provide opportunities for socializing, because there are face-to-face learning activities even though they are not all in one week. For example, in elementary schools, the average school day is once a week. When you enter the class and meet the lecturer or teacher directly, it will provide opportunities to socialize. Meet face-to-face, interact face-to-face, and then be able to do more than with people at home. Socializing hones social life skills and is good for psychics.
2. **Better Material Understanding:** Online learning still offer opportunities to be able to understand the learning material. However, it is not as effective when experiencing face-to-face learning. so that with hybrid learning, students have the opportunity to understand the learning material better.
3. **Keep Using Technology:** Blended learning continues to utilize technology, whereas Indonesia itself is still lagging behind other countries in the use of technology in education. However, since the pandemic, the use of technology has become easier and carried out well. Blended learning then does not close the loop.
4. **giving refreshments** after almost 2 full years of online learning, which not only generated complaints but also started to feel boring. The new policy, namely the implementation of limited face-to-face learning or blended learning, is certainly good news. This learning method can be a refresher so that students and educators can carry out the normal routine of coming and going from school or campus.
5. **Improve the Quality of Physical and Mental Health:** Blended learning can also help improve the quality of physical and mental health, because they are not only sitting at

home during classes but also occasionally going to campus and actively moving to and from classes.

In addition to having a series of advantages, hybrid learning also has several disadvantages or weaknesses, like:

1. **More Demands on the Role of Parents, although they** still carry out PTM in a few days for one week. There is still time for students to study at home following online learning, so that while learning from home, the role of parents is still needed, especially for elementary school students.
2. **Having Difficulty in Setting a Daily Study Schedule:** Blended learning activities then change according to the time to enter the school or campus. This learning model can then create difficulties in managing daily study schedules. So it needs high discipline and high focus to be able to manage a good study schedule.
3. **While Still Depending on Internet Devices and Networks:** When studying at school or on campus, there is no need to depend on the condition of devices such as computers and internet networks. However, if it's time to learn from home, it still really depends on these two aspects. So there are times when learning becomes less effective and even difficult to access, especially for students whose internet network is still very bad.
4. **Difficulty in Developing Learning Methods:** Other shortcomings are experienced by educators, who, of course, have difficulty in preparing learning methods, so that the material can be delivered well, interestingly, and can be accessed evenly by all students. So that requires all parties to be able to adapt well to this new learning method.

The advantages and disadvantages of hybrid learning certainly need to be addressed wisely. All the shortcomings in this learning method need to be immediately resolved. Because as difficult as blended learning is, it is certainly more difficult to face online learners in full. This opportunity needs to be utilized properly to be able to successfully access educational services.

4 Conclusion

Looking at the advantages and disadvantages as well as the findings in several studies, it can be concluded that hybrid learning can be used as an alternative to online learning because it is considered attractive and relevant with a high level of flexibility. However, in its implementation, it is necessary to consider the completeness of facilities. Because basically hybrid learning is very different from blended learning. Hybrid learning is online and face-to-face learning that takes place simultaneously, which means that teachers must have virtual face-to-face facilities while broadcasting material directly when teaching face-to-face. The Hybrid Learning method seems more suitable to be used as a supporting method for quantitative courses, especially when it is needed to add time to practice questions. The point is that the characteristics of the subject or material really must be considered when applying a particular method. There needs to be good cooperation and communication in the implementation of the expected learning methods. In addition, the implementation of hybrid learning requires the availability of facilities and infrastructure that support face-to-face and network learning that takes place simultaneously.

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