

ANALYSIS OF BLENDED LEARNING EFFECTIVENESS AT SENIOR HIGH SCHOOL DURING COVID-19 PANDEMIC

Ellynd Dwi Kurnia*, Dadi Setiadi, and Baiq Sri Handayani
Biology Education Department, FKIP University of Mataram, Mataram, Indonesia

*Email:ellynddwikurnia@gmail.com

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Abstract: Blended learning is a solution to overcome the limitation of learning space, time, and source learning. This study describes the application of blended learning at Senior High School 2 Taliwang during the Covid-19 pandemic. The research method used is a descriptive research method with a qualitative approach. The subjects in this study were students of class X MIPA at Senior High School 2 Taliwang totaling 62 people consisting of 2 classes. Data collection used questionnaires, interviews, and document studies. The results showed that the application of blended learning during the Covid-19 pandemic is divided between face-to-face and online learning, consisting of three stages, namely planning, learning process, and evaluation. The planning stage of the teacher makes a learning schedule, divides teaching time between teachers, prepares learning devices, materials, learning activities, learning media, and evaluation. At the stage of the learning process, the teacher conducts learning interactions, explains the material, assigns assignments and exercises either directly through face to face or online through Google Forms and electronic applications such as WhatsApp. The evaluation stage is assessed through cognitive assessment (knowledge) through assignments or portfolios and affective assessment by assessing those who actively participate in learning and respond.

Keywords: *Blended learning, Effectivity, Covid-19 pandemic*

INTRODUCTION

The analysis is a thinking activity to describe or solve a problem from the unit into the smallest unit or from the whole into small components [1]. Learning in general can be said to be an effort to teach students. Learning is carried out to help students grow and develop in accordance with the aims and objectives of their creation. In terms of the learning process in schools [2], learning cannot occur by itself, namely students interact with the environment as happens in the learning process in society, the learning process must be pursued and always bound to the goal. Thus, all interaction activities, methods and conditions of learning also always refer to the learning objectives that have been set [3].

Gagne (in Fathurrahman) states that learning is a series of activities designed to enable the learning process to occur in students. Learning refers to all activities that directly affect the student's learning process and learning must result in learning [4]. A learning process is a form of the program because good learning requires careful planning and implementation involves several people, both teachers, and students who have links between other learning activities [5].

The current pandemic Covid-19 has had a large impact on various activities of people's lives. It is undeniable that all community activities are affected, one of which is in education, teaching, and learning activities that previously were all done face-to-face, now have to be done online or with mixed learning. It causes both teachers and students to quickly adapt to changes in learning.

There is an urgency to implement new learning to optimize the teaching and learning process and maximize learning. It does not rely on meetings at school but on utilizing advances in information and communication technology. Learning based on information and communication technology is expected to provide new things that can attract students' attention to biology learning and improve learning effectiveness. Effectiveness is the achievement or success of a goal by the necessary plans and needs, both in data, facilities, and time [6]. Effectiveness is a condition that shows the extent to which the plan can be achieved. The more plans that can be achieved, the more effective the activity will be, so the word effectiveness can also be interpreted as the level of success that can be achieved from certain methods or efforts in accordance with the goals to be achieved [7].

There are several indicators of learning effectiveness: a. The achievement of complete learning, b. The achievement of the effectiveness of student activities (i.e., the achievement of the ideal time used by students to carry out each activity contained in the lesson plan), c. The effectiveness of lecturers' abilities in managing learning and student responses to positive learning [8].

An appropriate alternative learning is Blended Learning. Blended learning is a learning model that combines or combines online learning and face-to-face learning using various web-based technologies, e-learning, and multimedia technologies combined with traditional forms of classroom training and individual training [9].

Blended learning is based on scientific learning because it is learning according to science. In addition to providing unlimited time and place, blended learning allows students to explore more knowledge about science [10].

The Rotation model is a general form of rotation model in lectures given for one semester. Students return to a fixed schedule between online learning, self-study, and traditional face-to-face learning with educators [11]. It is the best model often done between face-to-face learning and online learning. b. Model Flex is a program with a flexible online learning model. Educators provide flexible support according to personal needs through tutorials and small group sessions. This program is suitable for dropout repair and semester credit repair. c. Self-Blend Model is online learning is a small part of learning activities. To complete face-to-face learning, students can choose their form of the online course. Online learning is only a compliment. The Enriched Virtual Model is the development of an entirely online school/campus, then developing a blended program to give students a face-to-face school experience. Study time is divided between attending on-campus teaching and distance learning. In the Model-Enriched Virtual, students rarely attend lectures on campus every day. It differs from the Self-Blend model in that it is a completely on-campus experience, face-to-face only as a supplement.

Based on observations and interviews with biology teachers at Senior High School 2 Taliwang, during the pandemic Covid-19, learning that was originally entirely face-to-face is now using Blended Learning. Students get face-to-face learning at school and online at home. Face-to-face and online learning are divided into 2 waves divided into groups 1 and 2, with learning are done every day with time-division between face-to-face and online. Based on the above background, researchers are interested in researching the Analysis of Blended Learning Effectiveness at Senior High School 2 Taliwang.

RESEARCH METHODS

This research was conducted at Senior High School 2 Taliwang in the even semester of the academic year 2020/2021. This type of research is descriptive research with a qualitative approach. The subjects used in this study were students of class X MIPA, namely MIPA 1 and MIPA 2, totaling 62 students.

Data collection to describe the application of blended learning during the pandemic Covid-19 was carried out through giving questionnaires to teachers and interviews with students and teachers. The data that has been collected was analyzed using the Huberman and Miles interactive model analysis technique in Jufrida's article [12]. There are three steps, namely:

a. Data reduction

Data reduction is a process of selecting, focusing on simplification, abstracting, transforming coarse data that emerges from field notes. In this study, data reduction was carried out by categorizing the data that had been obtained from the data collection techniques that had been carried out.

b. Presentation of data

By presenting the data, it will be easier for researchers to understand what happened plan further work based on what has been experienced. The presentation of data in this study is from questionnaires, interview results, scientific literacy test results, and student learning outcomes.

c. Conclusion

Conclusions are the results of research that answer the research focus based on the results of the data that has been obtained. At this stage, the data that has been obtained or that has been presented is concluded.

Furthermore, the data validity was checked using the credibility test and confirmability test.

1. Credibility Test

Data can be said to be credible if there are similarities between what is reported by the researcher and what actually happened to the object under study. Testing the credibility of the data or trustworthiness of qualitative research data consists of extending observations, increasing accuracy, triangulation, negative case analysis, using reference materials, and member checks [13].

2. Confirmability Test

In qualitative research, the confirmability test is similar to the dependability test, so the tests can be carried out simultaneously. Testing confirmability means testing the research results associated with the process carried out, then the research has met the confirmability standard [14].

RESULTS AND DISCUSSION

The research data used is from teacher questionnaires and interviews with teachers and students related to the implementation of blended learning during the pandemic Covid-19. The application of blended learning consists of 3 stages: planning, learning implementation process, and evaluation.

Table 1 shows that the learning carried out at Senior High School 2 Taliwang during the pandemic Covid-19 was by applying blended learning. It is done to minimize the spread of Covid-19 while still adhering to health protocols. Learning that was originally done face-to-face is now carried out with a learning model that combines face-to-face learning with online learning, or called blended learning. One of the learning methods that teachers need to do to help distance learning is blended learning, where this learning uses two approaches at once [15].

Table 1. Application of Blended Learning at Senior High School 2 Taliwang during the pandemic Covid-19

Stages	Description
Planning	The planning stage starts from making a blended learning schedule divided between face-to-face and online learning, divides teaching time between teachers, prepares learning tools consisting of RPP (Learning Implementation Plan), materials, teaching and learning activities, and online and offline learning media conducting the evaluation.
Learning implementation process	The teacher conducts teaching and learning interactions through various strategies, methods, learning techniques and utilizes learning media. Face-to-face learning in delivering material is carried out using the lecture method with reading sources from textbooks, while online learning uses electronic media.
Evaluation	The teacher evaluates the learning process carried out. Cognitive assessment (knowledge) through assignments or portfolios and attitude assessment by assessing those who actively participate in learning and always respond even though learning is done online.

A blended learning model can make it easier for students to obtain and understand learning materials than online learning or e-learning. Senior High School 2 Taliwang has implemented a blended learning model during the pandemic Covid-19. It can be seen that the learning process consists of 3 stages. The first stage is planning. Planning has an important position in the application of learning. Planning itself is a design made to determine what must be done in order to achieve the goals that have been determined. Planning is done by making a blended learning schedule which is divided between face-to-face and online learning where face-to-face learning is carried out every day with shifts divided into 40 minutes for each subject, then prepare learning tools consisting of RPP (Learning Implementation Plan), materials, teaching and learning activities, online and offline learning media such as textbooks, LCD and projectors to display power points, electronic applications that use the internet network such as using Google Forms and WhatsApp applications, Google classroom, and evaluating by preparing LKPD by Theory.

Preparing learning tools is intended so that the learning and evaluation process can be carried out and obtain maximum results following the goals that have been determined. The planning of the learning process is the preparation made by the teacher to be applied in the learning process in the classroom [16].

The second stage is carrying out the learning implementation process. The implementation of learning is the implementation of the lesson plan, which includes preliminary activities, core activities, and closing activities [16]. Preliminary activities in the learning process are by checking student attendance in class. The teacher delivers learning materials using the lecture method with reading sources from the school's textbooks. In contrast, online learning uses electronic media such as Google Forms and electronic applications WhatsApp, Google

Classroom, and learning resources. Students not only come from teachers, but students can access other sources via the internet. The material presented by the teacher is usually in the form of sub materials, a summary of the material in the form of power points, and a Google Form link sent by the teacher via the WhatsApp application.

Furthermore, students are asked to study and understand the material that has been shared. Then the teacher will give assignments through Google Forms. Assignments or exercises are given in the form of multiple-choice, totaling 10 to 15 questions that must be done within a predetermined time limit. The assignment is done after the material has been discussed, and the collection of assignments is done right away. Still, if the time to do the questions is not enough, the teacher will relieve students to collect assignments via WhatsApp and Google Form.

In addition, in the learning process, students are more active, enthusiastic and understand if learning is done face-to-face compared to online learning, because with online learning, students feel bored and there is no direct interaction between students and teachers, and the presence of students is less active because there are some students who do not participate in online learning, some students complain that they still do not understand the material. One of the efforts made by the teacher is to provide a stimulus or stimulation before starting teaching and learning activities to motivate and increase students' enthusiasm so that they are not bored when learning takes place, and the teacher provides opportunities for students to ask questions if there is the material that students do not understand. Some students have not been able to be disciplined in participating in blended learning due to the short face-to-face learning time, and online learning caused by the network factor is not good, and the internet quota is not sufficient so that you can't take lessons to the fullest. In this case, blended learning

is structured because it is divided between face-to-face and online.

The evaluation or assessment carried out by teachers on learning outcomes is to measure the level of achievement of student competencies and is used as material for preparing reports on the progress of learning outcomes and improving the learning process [16]. According to Purwanto [17], it is the duty of every teacher to carry out the evaluation activities. Regarding how and to what extent the mastery and abilities have been achieved by students regarding the material and skills regarding the subjects that have been given. From the opinion above, it can be understood that evaluation is absolutely carried out and It is an obligation for every teacher at all times to carry out activities learning. It is called so, because it is one of the main tasks of the teacher in addition to teaching, is to carry out evaluation activities. Evaluation and teaching activities is a very close series in which the two cannot separated.

Evaluation can encourage students to be more active in learning continuously and also encourage teachers to further improve the quality of the learning process and encourage education managers to further improve the facilities and quality of student learning. In this regard, the optimization of the evaluation system has two meanings, the first is an evaluation system that provides optimal information. The second is the benefits achieved from the evaluation. The main benefit of evaluation is to improve the quality of learning [18]. With the evaluation, students can find out how far the success that has been achieved while attending education. In conditions where students get satisfactory grades, it will have an impact in the form of a stimulus, a motivator so that students can further improve achievement. In conditions where the results achieved are not satisfactory. then students will try to improve learning activities, however, it is very necessary to provide positive stimulus from the teacher so that students do not despair [19].

Evaluation in blended learning consists of face-to-face and online assessments. The evaluation carried out by the teacher is a cognitive assessment (knowledge) through individual assignments group assignments either directly or through Google Forms, WhatsApp, Google Classroom. The attitude assessment is assessed from the presence of students in class and online, active during the learning process, and always responding. Student learning results during blended learning are not as optimal as learning in normal times. Still, by using this model, student learning outcomes are not too decreased, and student learning outcomes are quite adequate.

Applying the blended learning model during this pandemic, the learning process can take place and is structured and has implemented health

protocols in its implementation. However, the evaluation of student learning outcomes during blended learning is not optimal in normal times, but using the blended learning model does not decrease too much. It can be said to be quite good or quite effective.

It is in line with Masitoh [20] in his research explaining that a teacher wants to design blended learning taking into account several main components, there are seven components, namely: learning objectives, characteristics of teaching materials and materials, learning process, learning facilities, student characteristics, time spent and evaluation of learning.

CONCLUSION

The application of blended learning at Senior High School 2 Taliwang during the pandemic Covid-19 consisted of three stages: planning, implementing learning, and evaluating. The planning stage of the teacher makes a learning schedule prepares learning tools, materials, teaching and learning activities, learning media, and evaluations. The implementation stage of the teacher conducts teaching and learning interactions explaining the material, assignment, and training either directly through face-to-face or online through electronic applications. The final stage is the evaluation stage. The evaluation carried out is assessed from the learning process through cognitive assessment (knowledge) through assignments or portfolios and attitude assessment by assessing those actively participating in learning and responding.

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