

THE EFFECTIVENESS OF PHYSICS LEARNING FROM HOME CLASS X STUDENTS DURING THE CORONA VIRUS TIME

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Abstract

This study aims to determine the effectiveness of learning physics from the homes of class X students during the corona virus period. This type of research uses survey research using a qualitative descriptive approach. The subjects in this study were physics subject teachers, totaling 1 person and all students of class X science at SMA Muhammadiyah totaling 20 people. Data collection techniques in this study are questionnaires (questionnaire sheets), interviews, documentation, and observations. The results obtained from this study indicate that the effectiveness of learning physics from the homes of class X MIA students at SMA Muhammadiyah Ende during the corona virus period is categorized as quite effective, with the percentage gain for each indicator, namely for the first indicator, the percentage is 70% with an effective category, the second indicator has a percentage of 56% with a moderately effective category, the third indicator has a percentage of 60% with a moderately effective category, the fourth indicator has a percentage of 58% with a moderately effective category, the fifth indicator has a percentage of 65% with an effective category, and the sixth indicator has a percentage of 58% with quite effective category. The average percentage gain of the five indicators is 61%.

Keywords: Covid-19 pandemic, Learning effectiveness, Online learning

1. INTRODUCTION

Currently the world is shocked by the emergence of a disease outbreak caused by Corona Virus Disease. Covid-19 is a new type of virus that attacks the human respiratory system (Kaleka, MBU). One way to break the chain of the spread of Covid-19 is to limit public interaction which is applied by the term physical distancing. Education in schools is one of the areas affected by the COVID-19 pandemic. Until now, the Government has prohibited schools or universities from carrying out face-to-face learning and lecture activities.

To fulfill students' rights to education services during the corona virus period, the Minister of Education and Culture (Mendikbud), Nadiem Makarim issued Circular Letter (SE) of the Minister of Education and Culture of the Republic of Indonesia No. Number 15 of 2020 concerning BDR guidelines or the implementation of learning from home (Kurniasari, 2020).

BDR is a learning process carried out by students and teachers in their respective

homes. If the previous teaching and learning activities were carried out face-to-face, it became distance learning where the teacher was not present in the same room with the students but took place in a different place (Prasetyaningtyas, 2021).

The condition of students and teachers who do not meet in person makes learning carried out online (Kurniasari, 2020). To provide access to learning for students, teachers are required to prepare learning tools that allow using intermediary applications such as web conference applications or zoom meetings or WhatsApp Groups as learning media (Chaeruman, 2017).

From the results of observations that have been made during the Covid-19 pandemic, researchers found problems faced by teachers or students at SMA Muhammadiyah Ende, namely changes that occurred in students, initially well received, enthusiastic because learning was held at home but over time it caused boredom in students because the routines carried out every day are always the same. If the delivery

of material that is usually done in schools with various learning methods will be difficult for students to accept and may be difficult to apply in this online learning. Sufficient devices that every student must have during the learning process from home as well as inadequate signals and quotas because during the learning process. Base on the conditions that occurred during the Covid-19 pandemic as well as the description above, the researchers were interested in conducting a study entitled "The Effectiveness of Learning Physics from the Homes of Class X MIA Students at SMA Muhammadiyah Ende During the Corona Virus Period".

2. RESEARCH AND METHOD

This research was conducted at Muhammadiyah Ende High School, North Ende District, Ende Regency, East Nusa Tenggara. This research was conducted from 09 to 14 August 2021. The population in this study were students of class X MIA at SMA Muhammadiyah Ende, totaling 20 students.

This type of research is a survey research using a qualitative descriptive approach. This approach was carried out with the intention of knowing and describing in detail the problems faced by teachers in implementing learning from home during the corona virus pandemic in physics subjects for class X MIA students at SMA Muhammadiyah Ende (Arikunto, 2010: 151).

Data collection techniques are a way for a researcher to collect data needed in research. Data collection techniques in this study used a questionnaire (questionnaire), interviews, observation and documentation. The research instrument is a tool to collect data. The instruments used are: a questionnaire (questionnaire), used to collect data regarding the process of learning physics from home during the corona virus period at Muhammadiyah high school. Assessment on filling out the questionnaire using a scale of *Likert*, shown in Table 1.

Table 1. Scale of Likert

Question	Score
Very effective	4
Effective	3
Effective enough	2
Ineffective	2

After obtaining the necessary data, the researcher then analyzed the data using an interactive analysis model. According to

Miles and Huberman (Sugiyono, 2013) interactive analysis model has three components or steps that must exist in qualitative data analysis, namely: data reduction, data presentation and verification.

3. RESULT AND DISCUSSION

Based on the data obtained from the results of interviews and filling out the questionnaire, each of the following aspects can be described in Table 2.

Table 2. Percentage of each aspect

Indicator	Percentage
Applications used	70%
Convenience of online learning	56%
Level of student adaptation to online learning	60%
Internet access	58%
App convenience level	65%
Online learning fees	58%

1. Applications used

Based on the results of interviews with physics subject teachers and filling out questionnaires by 20 MIA class X students, the process of learning physics from home (online) during the corona virus period took place effectively. The physics learning process is carried out by utilizing the WhatsApp Group application and Zoom Cloud Meeting via a cellphone or laptop that is connected to an internet connection.

Zoom cloud meeting is an application that provides face-to-face interaction facilities for teachers and students virtually via video conferencing with a PC or laptop or smartphone, this application is an application that is used as a medium of remote communication by combining video conferencing, chat, online meetings and mobile collaboration (Monica & Fitriawati, 2020).

In addition, the WhatsApp application is one of the communication media which in its use must be installed first on a smartphone, functioning as a communication tool in the form of chat by sending messages, be it text messages, pictures, videos, or telephone calls. Using WhatsApp requires a data package in the phone card of the smartphone owner (Suryadi et al., 2018).

According to Mrs. Sri Ramlan Yahya as a physics subject teacher, she

revealed that on average all students of class X MIA already have an Android cellphone and there are students who have personal laptops so they can install WhatsApp Group and Zoom Cloud Meeting applications to carry out the learning process during the corona virus period. He also revealed that by using the Zoom Cloud Meeting application, he and the students could carry out the face-to-face learning process at the same time and ensure that their students followed the learning process. Meanwhile, he uses the WhatsApp Group application to give school assignments and collect assignments. The task is carried out in an assignment book and collected in the form of photos.

2. Convenience of online learning.

Based on the results of filling out questionnaires by 20 MIA class X students, researchers found that the comfort during the online learning process was felt to be sufficient. The atmosphere of learning at home is comfortable, the material provided by the teacher can also be understood, but they prefer the atmosphere of learning at school.

As a subject teacher, Sri Ramlan Yahya's mother believes that she is more comfortable holding face-to-face learning at school because she can easily supervise and provide direct explanations to students if the material she provides cannot be understood by them.

3. Level of student adaptation to online learning.

The Minister of Education and Culture called online learning as a process of adapting to technology. Adaptation to technology for children is much easier because children are in a generation that is very attached and familiar with digital devices or technology (Roni Hamdani & Priatna, 2020).

Based on the results of interviews with teachers of physics subjects and filling out questionnaires by 20 MIA class X students, the researchers found that the level of adaptation of students to online learning was quite effective.

This can be seen from the results of filling out the questionnaire, some students use the time to study at home to

the maximum and there are also students who spend more time having fun. Some of the students felt that the assignments given were too many and the material provided was not understood.

4. Internet access

Internet connection is important and the main thing for the creation of online learning, because learning must be accessed via the internet, without an internet connection, there will be no direct interaction between students and teachers. Internet connection in Indonesia in general, and in Ende Regency in particular is still not evenly distributed, but most of them already support 4G connections (Word & Grace, 2020).

Based on the results of interviews with teachers of physics subjects and the results of filling out questionnaires by students of class X MIA as many as 20 researchers found internet access during the online learning process was quite effective.

Mrs. Sri Ramlan Yahya as a physics teacher revealed that internet access is the most important factor during the learning process from home. He revealed that internet access was sometimes not good when he carried out online learning activities.

5. App convenience level

In an interview with Sri Ramlan Yahya's mother, he revealed that the WhatsApp Group and Zoom Cloud Meeting applications really helped him in carrying out online learning. He also believes that today's children are very close to technology so it is easy to operate the application as an intermediary during the learning process from home.

From the results of filling out the questionnaire, it was found that the level of convenience of the application as an intermediary for online learning activities was quite effective. Most students can operate the WhatsApp Group and Zoom Cloud Meeting applications.

6. Online learning fees

Based on the results of interviews with teachers of physics subjects and filling out questionnaires by 20 MIA class X students, the cost of online learning

during the online learning process is quite effective.

This can be seen from the results of filling out the questionnaire, students spend quite a lot of money to buy internet quota. This also agrees with Sri Ramlan Yahya's mother, she said that online learning requires more expensive costs to just buy quotas.

4. CONCLUSION

Based on data analysis and discussion of research results, 6 indicators of learning effectiveness show an average score of 61%, it can be concluded that the effectiveness of learning physics from the homes of class X MIA students at SMA Muhammadiyah Ende during the corona virus period is quite effective.

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