ANALYSIS OF THE IMPACT OF ONLINE-BASED LEARNING MEDIA USING MICROSOFT TEAMS ON STUDENT'S UNDERSTANDING IN PHYSICS SUBJECT AT SMAN PAKUSARI

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Abstract

The purpose of this study is to know the impact of online-based learning using Microsoft Teams on student's understanding of Physics subjects. The research method uses a survey method with respondents collected from students of class X MIPA 5 of SMAN Pakusari. Samples were taken using random sampling techniques for up to 33 respondents from the students of class X MIPA 5 of SMAN Pakusari. The data analysis is conducted using the descriptive tables from the results of the questionnaire to determine the results of students' understanding of Physics subjects using MicroTeam-based based learning media. To determine the validity and reliability, the results of the questionnaire were tested using SPSS. The research result showed that among 33 respondents, 33% of students are indicated as having a good level of understanding and 67% of others had less level of understanding of Physics subjects using Microsoft Teams as learning media. Upon the students' satisfaction level, it showed that 33% of students had a good level of satisfaction and 67% of others had less satisfaction level in learning Physics using Microsoft Teams. Also on the index of Microsoft Teams media influence, it showed that 30% of students are indicated as having a good influence level, and 70% of others had less influence level on learning Physics using Microsoft Teams. In the reliability test using SPSS, the Cronbach Alpha value was shown to be 0.73. It is concluded that online-based learning media using Microsoft Teams is less effective to be applied at SMAN Pakusari due to the poor results of its impact on student understanding, satisfaction and influence.

Keywords: Online-based Learning, Microsoft Teams, Students Understanding

INTRODUCTION

Education plays a very important role in the means of improving human resources quality. Therefore, education must be developed continuously so that it can be equivalent to the current development (Saharsa et al., 2018). Learning is a process carried out to help students acquire knowledge proficiently. Various media are used so that the learning material can be conveyed and accepted by students as well. But so far there are still teaching and learning activities that tend to be dominated by teachers in the learning process. It may be effective because the material presented can be by the achievement of the established material, but the students' involvement and creativity cannot develop properly because they lack the opportunity to cultivate themselves (Andaru et al., 2019).

In the 21st century, there are many changes in the field of technology and information, which have impacted hua man civilization regarding the use of technology and information, especially in the field of education (Rohim et al., 2021). The development of information and communication technology has penetrated the field of education without exception (Yuniarti, 2021). Good quality education will deliver good quality human resources as well, to develop human thinking skills so that they are aware of technical sciences, and can take advantage of current technological developments (Metaputri et al., 2016). With the rapid development of science and technology and the increasing needs of society, it is important to develop the quality of education as well. In this modern era, what was originally conventional learning has now shifted to technology-based learning. With technology-based learning, students now can gain knowledge from various sources (Putri et al., 2019).

In early 2020 the government gave appealed to the public to carry out learning from home due to the Covid-19 outbreak (Kari et al., 2021). Learning that was originally done offline has turned into online learning. This online learning is due to an appeal to stay at home. Online learning is carried out to ensure that students' learning rights can be fulfilled and to alleviate difficulties in the learning process during the pandemic (Ainiyah & Sulistyaningsih, 2020). In the implementation of online learning, teachers are expected to be able to carry out learning thoroughly (Wirza & Ofionto, 2021). This online-based learning is often referred to as so-called e-learning. E-learning can also be included in the learning medium since it utilizes an internet connection to

provide material or learning to students (Yusfriyanti, 2021). Most schools in Indonesia adopted applications that can support e-learning, which is caused by the discharge of learning from home during the pandemic (Fauziah, 2022).

Since the early pandemic, education in several regions in Indonesia has been carried out online using learning media such as Microsoft Team. Microsoft Teams is a communication platform that contains video meetings, chat features, file storage,e, and assignments. The goal of Microsoft Teams is for distance learning without having to come to school and can create dynamic learning. Microsoft Teams makes it very easy for teachers to communicate with students, in which teachers can share material files, can distribute and take notes in Onenote (Rakhmawati & Sulistianingsih, 2020). Similar to the results of that study, previous studies also obtained the same results where Microsoft Teams was considered a very helpful platform in online learning due to the many supporting features available and proprovidingrsonal facilities such as chatting, downloading materials, accessing assignments/quizzes, as well as interaction through post replies. Moreover, Microsoft Teams is also designed as an application that is easy to use and not heavy (Nugroho, 2021).

With the developing and advancing science and technology of a country along with the wider information that can be obtained, many developers from some companies provide or facilitate the availability of online or virtual learning. One of the platforms that provide virtual learning services is Microsoft Teams. Microsoft Teams is a platform or program developed by a company to be used as a means of communication that can help students and teachers to conduct teaching and learning activities virtually (Rahayu et al., 2021).

One of the lessons that can be provided using Microsoft Teams media is the Physics subject. Physics is a science that studies formulas, and symbols and relates them to everyday life, making students often confused between one material to another. If Physics learning is carried out in a monotonous method, the students will be not interested in studying Physics eventually. The creativity of the teacher in arranging and delivering the learning material is very essential, various methods can be tried until it can be seen which method is applicable for the material and interesting for students (Hidayah & Yuberti, 2018).

This study focuses on online-based Physics learning using Microsoft Teams on students' understanding of Physics subjects at SMAN Pakusari. This particular location is chosen for the reason that SMAN Pakusari is applying Microsoft Teams as a learning medium in Physics subjects and as they conduct learning online, many students can not understand the lesson material. On this wise, this study aims to know the level of students' understanding of Physics subjects using Microsoft Teams-based learning at SMAN Pakusari.

RESEARCH METHOD

This research used a survey as a method. Data were obtained from the source primary and secondary data. Primary data is collected by using questionnaires towards respondents that contain three indexes; understanding level, satisfaction level, and influence level of Microsoft Team-based learning on SMAN Pakusari students. Secondary data is contain images, journals, scientific articles, and related research articles. The research location is at SMAN Pakusari, Jember Regency. This research was conducted in June 2022. The research population is the students of class X MIPA of SMAN Pakusari. Samples were taken using random sampling techniques with samples of up to 33 respondents from the students of class X MIPA 5 of SMAN Pakusari. Calculation of the sample size using the percentage formula. With the independent variable, online-based Physics learning with the implication of Microsoft Teams. The dependent variable is students' understanding. Calculation of the sample size using the formula:

$$Percentage = \frac{Parts\ Value}{Total\ Value} \times 100\% \tag{1}$$

Table 1. Valuation Rating

Interval (%)	Rating
81 – 100	Very good
61 – 80	Good
41 – 60	Medium
21 – 40	Poor
0 – 20	Very poor

The research instrument used questionnaires. In this study, there are three stages of research. First, the preparation stage is to determine the research index and prepare the contents of the questionnaire distributed

to respondents. Second, the implementation stage is collecting data using questionnaires to respondents regarding aspects of understanding online learning using Microsoft Teams. Third, analyzing the data from the research. Research data analysis, thorough data collection, data analysis, and concluding. The correct answer was given a score of 1 and the wrong answer was given a score of 0. The results of the questionnaires for class X MIPA 5 SMAN Pakusari were tested for validity and reliability using SPSS.

RESULTS AND DISCUSSION

Analysis of student understanding in online learning using Microsoft Teams in class X MIPA 5 SMAN Pakusari is the description presented by the researcher. The questionnaire results to students are used as primary data and equipped with documentation as secondary data. The results of research on students' understanding of Physics subjects using Microsoft Teams learning media at SMAN Pakusari had three indexes as such understanding level, satisfaction level, and influence level as pointed out in Table 2:

Table 2. Distribution of Student Understanding Frequency towards Physics Subject Learning Using Microsoft Teams

Understanding	Amount	Percentage (%)
Good	11	33
Poor	22	67
Total	**33**	**100**

According to Table 2. the result obtained from 33 respondents who have a good level of understanding of Physics subject using Microsoft Teams is amount 11 respondents with 33% (percentage) and is lower than the poor level of understanding with 67% (percentage) of students (22 respondents). Previous research stated that online learning using Microsoft Teams can help students to understand the lesson because Microsoft Teams has provided features that allow teachers to communicate directly with students and deliver material virtually by holding meetings, also features to upload material for teachers and collect assignments for students (Rakhmawati & Sulistianingsih, 2020). With online learning using Microsoft Teams, the understanding of students of class X MIPA 5 regarding Physics subjects is not good due to several things; that is students feel less helpful in exploring the Physics material delivered by the teacher using Microsoft Teams and students find it difficult to relate the Physics material explained with Microsoft Teams to daily events. In addition, the difficulty that students find in exploring the material presented by the teacher is because students are accustomed to participating in teaching and learning activities with conventional methods where students and teachers meet face to face so that students feel unfamiliar with using Microsoft Teams.

Table 3. Distribution of Student Satisfaction Frequency towards Physics Subject Learning Using Microsoft Teams

Satisfaction	Amount	Percentage (%)
Good	11	33
Poor	22	67
Total	**33**	**100**

According to Table 3. the result obtained from 33 respondents who have a good level of satisfaction towards understanding Physics subject using Microsoft Teams is amount 11 respondents with 33% (percentage) and is lower than the poor level of satisfaction with 67% (percentage) of students (22 respondents). Student satisfaction in learning is a positive attitude during the learning process carried out by educators, it is acquired by how much the correlation between what they expected to achieve and require are as much as what they get in reality. If the learning process obtained is equal to what students expect, then students will feel satisfied with their learning and vice versa, if the learning process is not what students expect, then students will feel unsatisfied with their learning (Nugroho, 2021). With online learning using Microsoft Teams, the understanding of students in class X MIPA 5 regarding Physics subjects is not good, compared to the previous learning method that was carried out directly which made it easier for students to understand Physics lessons. This downturn is caused by several things such as the uncomfortable feeling and the tendency of getting bored in participating in online Physics learning using Microsoft Teams media. In addition, the enthusiasm of students in learning is slacking off because the learning media using Microsoft Teams does not attract their interest in learning, resulting in their learning outcomes are not satisfactory. It is all due to many interferences that occur, such as poor connections and monotonous learning.

Table 4. Distribution of Student Understanding Influence Frequency towards Physics Subject Learning Using Microsoft Teams

Influence	Amount	Percentage (%)
Good	10	30
Poor	23	70
Total	**33**	**100**

According to Table 4. the result obtained from 33 respondents who have a good level of influence towards understanding Physics subject using Microsoft Teams is amount 10 respondents with 30% (percentage) and is lower than the poor level of influence with 70% (percentage) of students (23 respondents). Previous research stated that during online learning there are constraints that generally often occur to students such as poor networks, limited internet quota, the number of assignments given by the teacher, and the explanation given by the teacher is not clear enough so it is not easy for them to understand. In addition, many students do not understand how to operate the features of an application used during online learning (Zahratusholihah & Nawawi., 2021).

With online learning using Microsoft Teams, it is unquestionable that there is some influence on the understanding of Physics learning in class X MIPA 5, i.e. it is decreasing learning outcomes caused by usage difficulty of Microsoft Teams media during Physics learning, it is confining student activity and involvement in learning, lack of student motivation to pay attention to the material during Physics lesson whenever using Microsoft Teams, and unsuitable application of online-based learning media using Microsoft Teams in Physics subject. Based on previous research, it is shown that 73.80% of respondents have a good understanding and resulting in grade achievement above the Minimum Integrity Criteria (KKM, *Kriteria Ketuntasan Minimum*). However, there are still 26.20% of respondents still lack the level of understanding so that they get grades under KKM (S. Rahayu et al., 2021). Thus, we can conclude that the level of students' understanding of using Microsoft Teams learning media can be said to be high.

A reliability test with Cronbach's Alpha was carried out for instruments whose answers were more than 1, such as surveys, essays, and questionnaires. The instrument is said to be reliable if the Cronbach's Alpha coefficient is more than 0.6 and cannot be more than 0.9 (Yusup, 2018). In the questionnaire reliability test using SPSS, it was found that the Cronbach's Alpha value was 0.731 which the results can be said to be reliable because the Cronbach's Alpha value > 0.6.

Table 5. Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
0.731	15

CONCLUSION AND SUGGESTION

A. Conclusion

Based on the data analysis that has been described in the discussion, it can be concluded that the students of class X MIPA 5 SMAN Pakusari have different levels of understanding of Physics subjects using Microsoft Teams. Most students in class X MIPA 5 at SMAN Pakusari have a poor level of understanding due to students' unfamiliarity with online learning using Microsoft Teams. Data analysis regarding student satisfaction in understanding Physics subject has poor satisfaction level, that is caused by the decreased learning outcomes and less conducive learning atmosphere due to an unstable network and less compatible features of Microsoft Teams. Data analysis regarding Microsoft Teams influence towards students' understanding in learning Physics has poor influence, showing how the students lack of motivation in studying during Physics lessons using Microsoft Teams. In the reliability test, Cronbach's Alpha value is shown to be 0.731.

B. Suggestion

It is presumably that further researchers will conduct research with a wider range and more respondents. It also aspires that the SMAN Pakusari school will maintain learning motivation to students in developing and using online learning media such as Microsoft Teams or fix upon another suitable online-based learning media according to current circumstances.

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