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## Utilization of online learning media in learning physics in the Madiun residency during the covid19 pandemic

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**Abstract:** *This study aims to determine the implementation of physics learning in schools during the implementation of the covid 19 pandemic. This research was conducted using a survey method with a population of physics teachers in the Madiun residency. The determination of the survey sample was carried out by random sampling. Based on the survey results, it was found that 87% of teachers used google classroom, and the remaining 13% used virtual face-to-face (zoom and G-meet) and social media such as youtube and Whatsapp groups. Meanwhile, 90% of these teachers conduct learning independently, not centrally facilitated by the school. This fact results in learning monitoring cannot being carried out properly. Teachers at school need additional knowledge related to online learning platforms, especially those that can be used easily in learning physics at school.*

**Key Words:** Online learning media; physics; covid19 pandemic

### Introduction

The COVID-19 pandemic has brought major changes in various aspects of life, including learning. In an effort to ensure continuity of learning, many schools and universities have turned to distance learning systems. In this case, learning physics is no exception. Online learning recommended by the government is one of the efforts also implemented by other countries in Indonesia world, with the hope that there will be continuity of learning and education at every level of education during the Covid-19 pandemic. With the implementation of online learning, it is hoped that knowledge will be run effectively so as to achieve the learning objectives set by educational practitioners (Sefriani et al., 2021).

Distance learning can strengthen student motivation and learning outcomes. For example, some physics teachers use technology such as learning apps and online platforms to provide interactive and fun learning materials for students. Distance learning can help students build critical thinking and problem-solving skills. Physics teachers can use assignments and projects that require students to think creatively and solve problems to improve student learning outcomes. Advantages of distance learning, there are still some problems that must be overcome. Some students may need help accessing technology or understanding physics concepts without the teacher's assistance. Therefore, collaboration and communication between teachers and students are essential to ensure the success of learning physics during the COVID-19 pandemic. According to Lestari et al. (2021) the Covid-

19 pandemic can be said to be an opportunity for the world of education both in the use of technology in line with the demands of industry 4.0. Therefore, in the learning process, Educators must be able to master various learning media because of the different educational conditions constantly changing. Even more so during the COVID-19 pandemic, which demands various sectors to suit circumstances.

According to Klein et al. (2021) distance teaching requires careful thought, planning, technology development and human resources to succeed in achieving what is desired learning outcomes. However, in the current situation, there is very little time for preparation; the instructor must act quickly and adapt to remote teaching. In the process, they have support from their organizations (schools and universities) in providing e-learning and other digital platforms learning management systems, and communication tools. Effective and efficient learning media determine whether the information learning delivered affects student learning outcomes (Azmi et al., 2020). Fun educational learning during a pandemic is very much needed to help students in the learning process. Besides the applications that support the process, there are lots of educational learning, one of which is the use of play media that can be used as a medium to assist in transferring knowledge during this pandemic (Sumarni & Kumala, 2021; Syafi'i, 2021).

Ensuring that physics lessons can be appropriately delivered in the pandemic era is the responsibility of teachers and schools. A survey on the use of instructional media that supports the delivery of physics material in senior high schools can be used as a reference for prospective physics teachers in dealing with similar conditions in the future. In addition to getting a portrait of the condition of learning physics in schools, this research aims to provide an overview of the field, which universities can later respond to in order to build synergy between educational institutions.

## **Method**

This research is quantitative descriptive research with a survey research type (Hamdi & Bahrudin, 2015; Morris, 2012). Respondents in this study consisted of Physics subject teachers from Madiun Residents (Madiun City, Madiun Regency, Ponorogo Regency, Magetan Regency, Ngawi Regency, and Pacitan Regency). The three stages in the survey research method are preparation, implementation, and final. The preparatory stage is preparing the questionnaire instrument, the implementation stage is distributing the questionnaire to the physics teacher, and the final stage is concluding the completed questionnaire/survey results.

The sample selection used a random sampling method; the sample was chosen randomly without distinguishing gender, age, significance, and length of the term of office. There is no special treatment for respondents. Data collection is done by sharing the Google Form link. The list of questions asked consisted of names, institutions, whether they had ever done online learning, learning media that were often used, reasons for using these learning media, and the advantages and disadvantages of learning media that had been used based on experience. In comparison, the data analysis technique used is quantitative-descriptive, intended to simplify the data obtained into a form that is easier to read and interpret through statistical data

## Results and Discussion

Physics teachers at school continuously adapt in delivering material during a pandemic. They carried out various kinds of experiments in conveying learning material in class and participating in multiple training in the framework of sustainable professional development, supporting their performance in delivering physics material in class. Many types of applications support the process of making learning media with the e-learning model, one of which is Moodle. Moodle is a software package that can be modified/incorporated with various multimedia elements in the form of flash (moving animation), audio (sound), or video (pictures and sound). Edmodo is an exciting application for teachers and students that shares ideas, files, activity agendas, and assignments that can create teacher and student interaction. Apart from that, Google classroom is a learning platform developed by Google for schools that aims to simplify the creation, distribution, and assignment of assignments in a paperless way.

All respondents (teachers) have done online learning in their respective schools. In delivering subject matter, teachers need online learning media to make learning activities easier. Each teacher uses a variety of online learning media that different. This can be seen in Figure 1.

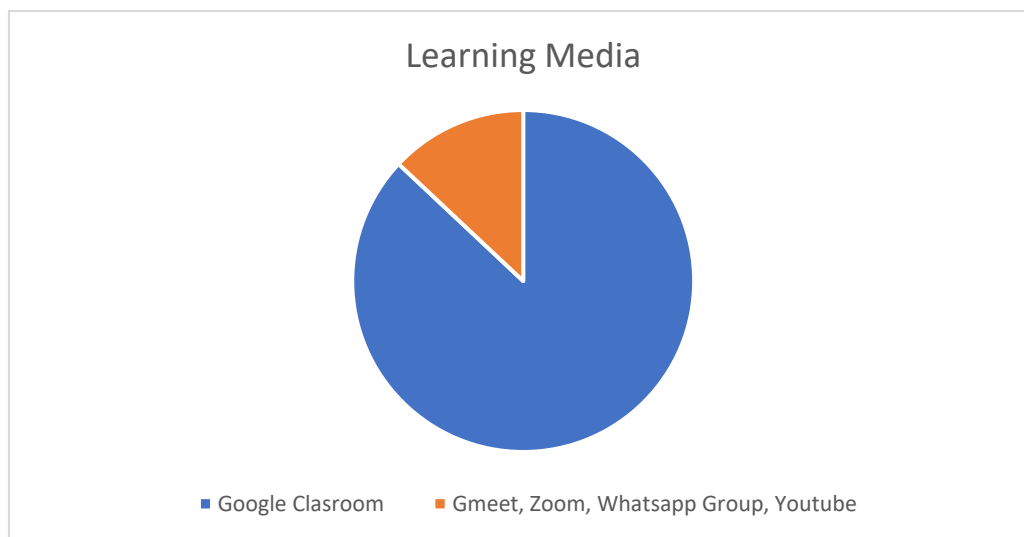


Figure 1. Physics Learning Media

The majority of respondents use Google Class Room as a learning medium. At the same time, 13% of the other respondents use other learning media such as YouTube, WhatsApp, and other media in carrying out online learning. Based on the respondents' answers, many teachers use Google Classroom as an online learning medium with the reason that Google Classroom is easy to access (17%), easy to understand (3%), and easy to use (7%) on Android smartphones in learning and assessment. In comparison, other respondents use learning media such as YouTube, WhatsApp, and other media that are easy to access 4%, easy to understand 2% and easy to use 2%.

Teachers at school are required to have the ability to adapt and be creative in packaging learning by always considering the conditions and situation at school (Yusro, 2022). The Blended Learning Model in the Distance Learning System should be implemented to increase

students' creativity, critical thinking, collaboration, and communication (Andrini & Yusro, 2021). Ensuring learning objectives are achieved, loss generation does not occur. Based on the survey results, each learning media used has advantages and disadvantages, which are considered when choosing and using the suitable media in each learning process. Easy to use, has quite complete features and others. The weakness of the classroom is that it can only be accessed online. For other learning media, namely WhatsApp, youtube, google meet, and zoom applications, educational media platforms have almost the same advantages and disadvantages as classroom. Teachers at school need additional knowledge regarding online learning platforms, especially those that can be used easily in learning physics at school and are not too expensive.

## Conclusion

All teachers have tried to continue learning physics during the co-19 pandemic. They handled various obstacles wisely so that teaching and learning activities continued. Google Classroom, Youtube, Google Meet, Zoom, and WhatsApp Groups are the platforms they are familiar with in learning. Not a few respondents spent personal funds to fulfill these online learning resources.

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