



Analysis of the Use of Digital Learning Media Before and After the Pandemic

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Abstract

The purpose of this study was to see the extent of student interest in participating in learning before the pandemic through the application of monotonous conventional methods with learning using digital media after the pandemic. The type of research used in this study is a qualitative research type, for processing data obtained based on observations and publishing a questionnaire that will be answered by all 2018 physics students. In this case, the researcher observes student activities during learning and evaluates them at the end of each lesson. The use of digital learning media for physics students is obtained from research on student answers through questionnaires that can be uploaded via the given page. It is known that 70% of students prefer learning using digital media after the pandemic compared to before the pandemic. The results of this study were obtained by observing an increase in student interest in learning by using digital learning media in the subject of study and learning of physics students for the 2018 class of the teaching faculty of UGN Padangsidempuan.

Keywords: media learning, digital learning, pandemic, learning outcome

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Introduction

The world of education today has dominated the digital system. The rapid development of this technology requires us to be able to combine information and communication technology in every course (Haleem et al., 2022). The growth and development of education in the current digital era empower students to gain insight that is full, efficient, and active (Wei, 2023); (Kamalov et al., 2023). Responding to the refutation of knowledge in today's digital era, lecturers and students in this

century should be experienced in communicating and able to adapt to the following progress, technological advances are in line with increasing problems that require the handling of high-level reasoning (McDiarmid & Zhao, 2023). The discussions that were encountered were quite universal, economic progress, international, social, cultural, and political matches (Mende, 2021). The complexity of this discussion requires us to be able to increase the insight, understanding, and views that are essential to achieving success in today's century. Students are required to be able to think critically and be able to develop their learning creativity in dealing with future problems. Offline learning (outside the network) that has occurred so far for the 2018 class of students tends to be solely assigned without utilizing digital technology so most students lack knowledge in using digital technology.

At the beginning of 2020, the world was shocked by the spread of the coronavirus. Coronavirus is a viral disease that can be deadly because it quickly attacks the human respiratory system. With this outbreak, the government requires that all activities be carried out online (in the network), including in the world of education. Online learning that was carried out during this pandemic forced students to always be updated in learning using technology (Pradana & Syarifuddin, 2021). Lecture activities carried out online can increase student knowledge by utilizing technology (Wardoyo et al., 2021). Various online learning methods can increase student interest in learning (Dwijuliani et al., 2021). Students can use the classroom application, YouTube, zoom, and so on. The learning model is essentially a model used by educators in carrying out teaching and learning activities that include lecturers and students by emphasizing the device and also the location where the learning is carried out. The essence of the implementation of teaching and learning is realizing learning objectives commonly referred to as a learning model. The learning model applied by the lecturer to the students is a form of guide for designing the teaching and learning process in the classroom. The learning model is a learning design that is applied to train study programs over a long period, design learning tools and materials, and guide the course of learning in the classroom.

According to (Liu et al., 2024), revealing the definition of the learning model as a theoretical framework that gives birth to the steps in compiling knowledge to obtain the objectives of learning. The learning model has a role as a guide for lecturers in designing learning. Digital learning includes the perspective of components in the form of a pair of computers that are interconnected with each other and have a role in transferring data and information (Dziuban et al., 2018). The implementation of learning that applies technology efficiently to fortify attractive information channels is also known as digital learning. The use of digital learning as learning goes through substantially increased. The purpose of this study was to see the extent of student interest in participating in learning before the pandemic through the application of monotonous conventional methods with learning using digital media after the pandemic in class 2018 students of the UGN Padangsidempuan teaching faculty. The emergence of digital learning presents a variety of educational breakthroughs where monotonous direct learning immediately switches to learning using digital technology which is interpreted as being able to make learning efficient, innovative, and conducive and learning that is not only confined to the classroom. Some examples of the use of digital learning:

1. Youtube

YouTube is an application that displays a variety of films or images that allow customers to watch and explore various information that includes various things. Besides that, YouTube is also an application that is in great demand by anyone, including students because its access is so wide that it can make it easier for students to get solutions to the problems they face. That way, YouTube is an appropriate learning medium in learning. As a reference in learning, YouTube can also be accessed anytime and anywhere as long as internet and network quotas are available. Students can also monitor subject matter that has been uploaded by lecturers as well as students can fill in their existence through a YouTube channel that is watched by lecturers and students. YouTube can also increase the knowledge of lecturers and students who have provided various information needed.

As a learning medium, YouTube has a role in presenting a variety of knowledge, be it educational, social, cultural, and much more. The use of YouTube is very easy to use by searching according to what is needed and its use can be used from all walks of life. This statement represents that YouTube has an important role in making it easier for students to access various information and provides benefits in the form of increasing children's knowledge because YouTube provides various videos that can attract students' interest during learning.

2. E-Learning

The learning model that applies digital learning in the form of information and communication technology, namely by using electronic devices, is an understanding of E-Learning. The learning process using electronic media is also referred to as part of E-Learning learning. The application of E-Learning learning is formed with several components including audio, audiovisual, and other components. The characteristics of E-Learning learning are the following reasons: a. Provide information that is in line with learning objectives, b. The method is instructional, c. The variation of the learning media used, d. Learning that focuses on educators is conceptualized to achieve independent learning, e. Creating skills that can achieve goals from learning. The purpose of this study was to see the extent of student interest in participating in learning before the pandemic through the application of monotonous conventional methods with learning using digital media after the pandemic.

Methodology

The type of research used in this study is qualitative research type. According to (Arikunto, 2010), qualitative research is research based on collecting data from a research subject which is then analyzed to obtain the results to be studied. Moleong, 2006 also revealed that qualitative research is a treatment for investigating a phenomenon to be reviewed after which a trick is designed to obtain the validity of a study. Data validity is data collected by researchers from a subject with no difference in the data received from researchers, then the accuracy of the data is proven and the validity of the data is checked. The components obtained in this study are in the form of investigations from clear observations. The questionnaire is intended specifically for physics students of the teaching faculty of UGN Padangsidempuan class 2018. All 2018 physics students who are samples in this study will answer all statements from each of the questionnaires that have been uploaded by the lecturer and can be downloaded on the website. <https://docs.google.com/document/d/1SCYxvkPC4efqIxxgH4kaOax4m8Tj4Vpqq/edit>. In collecting samples in this study, the researchers set them randomly which we can know as the Cluster Random Sampling system. Apart from the research data obtained, the researchers coordinated the data contained for further study properly. At the level of data analysis research results will be discussed thoroughly with an effort to work on the results of data that have been obtained from physics students which are then described as research.

Results

Based on the results of research obtained by collecting answers from students of the 2018 batch of teaching faculty at UGN Padangsidempuan through a questionnaire downloaded through the website. The results obtained in the research are:

1. Lecturers teach by applying conventional methods
Of the 25 students from the 2018 batch, 8 students answered STS, 8 students answered TS, 6 students answered S, and 3 students answered SS.
2. Learning tends to be just assignments without any feedback
Of the 25 students from the 2018 batch, 10 students answered S, 6 students answered TS, 3 students answered STS, and 6 students answered SS.

3. Learning can only be transferred about knowledge that is known to the lecturer.
Of the 25 students from the 2018 batch, 7 students answered SS, while those who answered S were 6 students, 7 students answered TS and 5 students answered STS.
4. Lecturer-centered learning, not students
Of the 25 students from the 2018 batch, 8 students answered SS, 7 students answered S, and 5 students answered TS and STS each.
5. Learning is not conducive and tends to be boring
Of the 25 students from the 2018 batch, 10 students answered S, 7 of them answered SS, and 8 students answered TS.
6. Students often have difficulty in solving problems given by the lecturer
Of the 25 physics students who answered SS, 5 students answered SS, 9 students answered S, 6 students answered TS and 4 students answered STS.
7. Students lack confidence in presenting the results of the assignments given
Of as many as 25 physics students who answered SS, there were 8 students, 7 students who answered S 8 students answered TS, and 2 students who answered STS.
8. Students do not dare to express their opinions
Of the 25 physics students who answered SS, 5 students answered SS, 9 students answered S, 6 students answered TS and 4 students answered STS.
9. Lack of learning innovation
Of the 25 students from the 2018 batch, 8 students answered STS, 8 students answered TS, 6 students answered S, and 3 students answered SS.
10. Learning achievement is decreasing
Of the 25 physics students who answered SS, 5 students answered SS, 9 students answered S, 6 students answered TS and 4 students answered STS.
11. Learning is more varied so that it triggers student enthusiasm
Of the 25 students from the 2018 batch, 9 students answered SS, while those who answered S were 12 students, 3 students answered TS and 1 student answered STS.
12. Learning through digital makes it easier for students to solve the problems given

Of the 25 students from the 2018 batch, 11 students answered SS, while for those who answered S 11 students, 3 students answered TS.
13. Learning leads students to be able to think critically
Of the 25 students from the 2018 batch, 9 students answered SS, while those who answered S were 14 students, and 2 students answered TS.
14. Digital-era learning helps students to be more active and innovative.
Of the 25 students from the 2018 batch, 10 students answered SS, while those who answered S were 11 students, 3 students answered TS and 1 student answered STS.
15. Student creativity increases
Of the 25 students from the 2018 batch, 11 students answered SS, while those who answered were 9 students, 4 students answered TS and 1 student answered STS.
16. Students are increasingly active in developing knowledge through digital technology
Of the 25 students from the 2018 batch, 9 students answered SS, while those who answered S were 13 students, 2 students answered TS and 1 student answered STS.
17. Digital era learning opens wider horizons of thinking
Of the 25 students from the 2018 batch, 9 students answered SS, while those who answered S were 14 students, and 2 students answered TS.

18. When compared to learning before the pandemic which did not use technology, learning before the pandemic was boring.
Of the 25 students from the 2018 batch, 10 students answered SS, while those who answered S were 9 students, 4 students answered TS and 2 students answered STS.
19. Before the pandemic, conventional learning couldn't run well
Of the 25 physics students who answered SS, 5 students answered SS, 9 students answered S, 6 students answered TS and 4 students answered STS.
20. Learning after the pandemic makes good use of technology so that students feel happy
Of the 25 students from the 2018 batch, 11 students answered SS, while for those who answered S 11 students, 3 students answered TS.

Discussion

From the research data obtained by the lecturers, it can be seen that students prefer learning by using digital learning media after the pandemic. The learning that took place before the pandemic focused more on the assignment aspect (Dhawan, 2020); (Dunlosky et al., 2013); (Zhang et al., 2023), lecturer-centered learning itself (Xia et al., 2022); (Aristovnik et al., 2020); (Bergdahl, 2022), and students were not facilitated to develop their knowledge so learning became boring for students as a result (Amerstorfer & Freiin Von Münster-Kistner, 2021); (Bishop, 2021); (Ong & Quek, 2023), students' final grades decreased from time to time. In this case, the lecturer does not understand what students need during the learning process which has an impact on the condition of students who tend to close themselves, are embarrassed to express opinions and their self-confidence does not grow.

During the pandemic, students are encouraged to study online, which requires them to always use digital media, be it WhatsApp, Zoom, Classroom, or YouTube. This invites students' interest in finding out more knowledge by searching on the internet (Schindler et al., 2017). So, it can be obtained that students prefer learning after the pandemic.

Conclusion

The learning process of implementing a digital system is a learning that is in great demand by most students, especially physics students from the 2018 class, this can be seen from the results of research conducted by researchers. Any subject when associated with a digital system will make learning more effective, innovative, and creative. Students will find it easier to solve problems given by the lecturer and be able to struggle with ideas that are considered capable of developing their insights and knowledge. From the results of the study, it can be concluded that learning after the pandemic is more fun than learning before the pandemic because digital learning has begun to be emphasized by lecturers since the teaching and learning process is carried out online.

Conflicts of Interest

The authors declare no conflict of interest

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