

The Effectiveness of E-Learning Through WhatsApp on Teaching and Learning Activities of Universitas Megarezky's Students

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ABSTRACT

This study aimed to describe the effectiveness of using WhatsApp for activities and learning outcomes to encourage research in students; To know the description of Student Responses in Using WhatsApp in learning activities. The research design was used as a pre-test, post-test group design, and fifty random samplings. The instrument used a test instrument to describe questions and non-tests in a student questionnaire. The results showed that the t-test of learning outcomes obtained by t-count = 4.7 greater than 1.7 supported by the N-gain value of the experimental class of 0.72 compared to the control class of 0.54 the average the value of the innovative type is better than the control class. The learning media based on WhatsApp applications have a proportion of 60.19% of learning outcomes. The learning activities through WhatsApp has a positive response for students with a questionnaire result of 83.05%.

Keywords: E-learning, learning activities, and learning outcomes

1. INTRODUCTION

The development of science is an essential milestone in technological development[1]. The use of media such as Whatsapp supports human activities in realizing effectiveness and efficiency, including achieving maximum results[2]. Nowadays, e-learning increases in various life that can use mobile technology in education[1].

Teachers/lecturers and students deliver teaching materials or receive materials[3]. Still, they need a concept that can be used to develop teaching and learning processes so that teaching materials can convey and accept clearly[4]. The learning process begins with planning to run effectively and efficiently to trigger active learning[2]. The teacher acts as a teacher, motivator, facilitator, mediator, evaluator, mentor, and reformed so that they are required to be able to master the class[5]. At the same time, the teaching and learning process takes place[2].

The advancement of communication and information media is a priority icon in the current promotion of education[6]. Teachers and lecturers are required to be creative and innovative in utilizing the Progress of communication and information in the media learning process, so students learn more quickly and will understand the knowledge taught by the teacher[7].

The smartphone is a communication media that will help various efforts that can facilitate humans. The handphone is presented as a manifestation of demands in an increasingly pluralist social community without any balance in changing the increasingly pluralist forms [3]. The use of smartphones is a communication media with various applications that can be utilized in the teaching and learning process to help students understand lessons more easily and quickly [8].

As well as known, that the development of Whatsapp handphones today, very rapidly accompanied and equipped with various advanced features and applications that significantly contribute to helping users to obtain information [9]. The Whatsapp/handphones' Apps are Whatshap, Woowap, Facebook, Yahoo, Google, Twitter, BBM, etc.[5].

The use of smartphones in education is a step to realize the modernization of education. Innovation and creativity in learning are essential things done by every Educational Institution. Innovation and creativity in learning can motivate and stimulate learning activities and even affect students' psychological needs [9]. The change is by the phrase, which says that science and technology's development encourages the learning process to be more applicable and exciting to improve education quality [10].

1.1 E-Learning in The Classroom

In the beginning, the learning process was still relatively simple, with the indicators being the use of media and simple relief methods, and the learning process initially took place in one direction and centered on the teacher (teacher-centered learning)[11]. The development of science and technology, especially in the field of education, influences the learning process. The learning process is no longer focused on the teacher and has used modern media. Therefore, the learning concept used the constructivism paradigm, where education results from its construction (learners) due to its interaction with the learning environment[12].

Based on preliminary observations in every learning process, it shows that currently, there are still many teachers/lecturers using a learning model that is relatively simple and does not seem to be updated. Conventional learning models that are still commonly used in the learning process make students passive in learning[13], lack intensity of interaction, not building cooperation groups, and teachers will give value far from objectivity [14].

The effects of conventional learning are 1. students learn ineffectively, 2. students do not feel motivated, 3. students lack or even understand the teacher's material. Therefore, conventional learning must innovate so that the learning success target is achieved[7].

The use of Whatsapp in the learning process will help students learn. Students can be motivated to use Whatsapp in the learning process to improve student learning activities in education[15]. The use of Whatsapp in the learning process makes learning more effective, efficient, and enjoyable.

The development of Whatsapp operating systems, ranging from gadgets, tablet PCs, smartphones, and other applications, have other Whatsapp operating systems. The Whatsapp operating system supports the community, especially students, in obtaining information because almost all human beings use the Whatsapp system throughout the world. Only a small proportion uses it to help to learn activities and social work[16]. On the one hand, many applications are offered, making it easier to find the information needed.

1.2. The Use of WhatsApp in Teaching and Learning

Whatsapp is an operating system for mobile devices that includes an operating system, middleware, and applications. Whatsapp is an open platform that allows developers to create their applications[17]. Whatsapp is distributed in two types. First, to get full support from Google or Google Mail Service (GMS). Second, those who do not get direct support from Google or Open Handset Distribution (OHD)[2]

Teachers/lecturers can create Whatsapp-based learning media. Handphone can help in the learning process because today, Handphone is not just a communication tool, but now, cellphones can be used in the learning process[5]. One of the Whatsapp-based media that can be used in learning is the google application or google form. Google is an information search engine that can find material relevant to the topic being studied to quickly get varied material. While google form can be used for Quiz's needs, gathering assignments, mid-semester, and event finals. Students can access the google form link through the class group in the WhatsApp application[17].

The use of google or google form, social media application (WhatsApp) makes student learning interesting, fun, not dull, and the nuances of playing are very high. Students will be useful if students are in pleasant and happy situations and conditions [14]. Vice versa, students will feel scared, anxious, alarmed, feel uncomfortable, which can lead to suboptimal results if the student learning process is too forced[18]

The use of google or google form and social media applications (WhatsApp) in research methodology courses can help students find related material. Moreover, there are many terms in the direction that are relatively foreign to students. With Whatsapp learning, students can understand words and materials quickly and varied [2].

The use of Google forms in collecting assignments, quizzes, and mid/final tests will make it easier for students to work anywhere. Google form will also make it easier for lecturers to assess and collect assignments and test results, quizzes, and using Google forms to minimize paper[19].

Based on the background above, the authors are interested in knowing "the effectiveness of using the Whatsapp application on the activities and learning outcomes of Universitas Megarezky's Students. The research design used was the pretest-posttest; the experiment used was an actual experiment. Using the real test is that this study's sampling technique is random. This study's targets are students of Megarezky University with a sampling system using random sampling with a 95% confidence level or 0.05 error margin assuming that 98% of students have used WhatsApp.

This study's data used a student response questionnaire and pre-test and post-test questions for student learning outcomes. The collected data used a quantitative approach to analyze students' responses in learning outcomes pre and post using the parametric hypothesis test T (paired sample T-test) because the collected data is in the form of data ratio[18].

2. FINDINGS AND DISCUSSION

The data obtained in this study were the value of learning outcomes at the Megarezki University students consisting of 50 students. The learning implementation is adjusted to the learning implementation plan, which is divided into five meetings. Students were given a pre-test problem at the initial meeting tested, and its validity was calculated. After learning the research, the researchers did a post-test to determine the students' outcomes. The results of the study are as follows:

2.1. Student learning activities in WhatsApp

The study results show that learning by using WhatsApp encourages students to be active in the teaching and learning process, enabling students to obtain more complex material. The following results of the research activities of students in the application of WhatsApp as follows:

Student activities on WhatsApp learning showed an increase from before, and after the use of WhatsApp, knowledge was applied. Of the six achievement indicators set, each shows improvement after the application of WhatsApp learning. The first indicator increased by 93.6% with a frequency of 234 students; the second indicator was 83.6% (209 students), the third indicator increased by 80.4% (201 students), while in the fourth indicator, there was still no student doing any activity, the fifth indicator rose to 79.6% (199 students). The sixth indicator equals the same as the fourth indicator of no one doing any exercise.

Whereas in the first cycle, only 97.2% (243 students) were on the early indicator, the second indicator was 75.6% (189 students), while the third indicator was only 60% (150 students). The fourth indicator was not at all students doing any activities. The fifth indicator is only 40.8% (102 students), and the sixth indicator is the same as the fourth indicator. There are also no students who carry out any activity.

2.2. Student learning outcomes in WhatsApp

WhatsApp handphones in learning activities and research methodologies can motivate students to learn the material quickly and work together to complete their assignments.

The use of the WhatsApp learning model provides convenience in the teaching and learning process. Both the ease of students receiving material and doing assignments also make it easier for educators give grades or scores to students' work. WhatsApp mobile phones, educating students in independence in spelling out flexible tasks, can be done inside the school can also be done outside of school.

Learning with WhatsApp makes students happier because it is packed with games, and students can learn anytime and anywhere. With the high interest

and motivation of students' learning, it also increases students' learning outcomes.

Data retrieval of students' learning outcomes is done both in the control class and in the experimental category. In the innovative style, the treatment is applied WhatsApp, and in the treatment control class is a conventional learning model. With the average calculation and t-test, the analysis can be seen in the table below:

Table 1. Students' Completion of the treatment class

Learning Outcomes	Mean	SD	P-value sig (2-tailed)	Nilai t	n
pretes	85.55	8.337	0.000	4.7	50
Posttes	72.55	8.445			

Based on data management and data analysis results, there are learning outcomes in statistical subjects and research methodologies using WhatsApp. The point as an indicator of the learning process using WhatsApp has a better value of learning outcomes than the learning.

2.3. Description of Student Responses in Using WhatsApp

The questionnaire and observation that we gave to both classes to determine the description of students' responses to WhatsApp. The questionnaire administered was a Linkert scale questionnaire containing five rating classifications form. The study results showed that the reaction of UniversitasMegarezky students is very high. The indicator is the high percentage of the questionnaire distribution results to determine students' response in using the WhatsApp learning model. The application of WhatsApp is very useful in increasing student motivation in learning. While the use of media learning in WhatsApp applications can increase student motivation and make learning more active and exciting to foster student learning, that will impact improve student learning outcomes.

3. CONCLUSION

The conclusions in this study are; 1) The use of WhatsApp virtually affects the activities and learning outcomes of teaching-learning activities. The research methodologies in students are categorized as useful. The indicators are that the learning process that uses WhatsApp has a better learning outcome value than learning to use with calculations: t-count = 4.7 greater than t table = 1.7 strengthened by N-gain. 2) The student response in using WhatsApp has a very high category; the indicator is the high percentage of the questionnaire distribution results to determine student responses using the e-learning model.

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