
THE USE OF WORDWALL MEDIA IN INCREASING STUDENT INTEREST IN ELECTRICAL ENGINEERING DRAWING CLASS X SMKN 1 DARUL KAMAL ACEH BESAR

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Submitted:

Accepted:

Published:

Abstract

The low interest of students in learning activities has affected student learning outcomes. As for the ways that educators can increase interest in learning, educators can utilize various learning media available. One of the learning media that can be used is Wordwall media. Wordwall media is one of the interactive media that can be used by educators in the learning process so that students become more active and interested in participating in learning and interactions that can benefit students so that students have more interest in learning and become more active during the learning process at SMKN 1 Darul Kamal. The research approach used in this study is a quantitative approach with a quasi-experimental type of research. Experimental research is a type of research that aims to determine the effect of variable X on Y. The results of research with learning using Wordwall media can increase the learning interest of students of SMKN 1 Darul Kamal. The conclusion of this study is that there are significant changes and it can be said that there is an increase in learning after the application of Wordwall media.

Keywords: Learning Interest, Wordwall, Students.

Abstrak

Rendahnya minat peserta didik terhadap kegiatan pembelajaran telah mempengaruhi hasil belajar peserta didik. Adapun cara yang dapat dilakukan oleh pendidik meningkatkan minat belajar, maka pendidik dapat memanfaatkan berbagai media pembelajaran yang tersedia. Salah satu media pembelajaran yang dapat digunakan yaitu media Wordwall. Media Wordwall merupakan salah satu media interaktif yang dapat digunakan oleh pendidik di dalam proses pembelajaran agar peserta didik menjadi lebih aktif dan tertarik untuk mengikuti pembelajaran serta terjadinya interaksi yang dapat menguntungkan bagi peserta didik agar peserta didik memiliki minat lebih untuk belajar dan menjadi lebih aktif saat proses pembelajaran berlangsung di SMKN 1 Darul Kamal. Pendekatan penelitian yang digunakan di dalam penelitian ini yaitu pendekatan kuantitatif dengan jenis penelitian kuasi eksperimen. Penelitian eksperimen merupakan suatu jenis penelitian yang bertujuan untuk mengetahui pengaruh variabel X terhadap Y. Hasil penelitian dengan pembelajaran menggunakan media Wordwall dapat meningkatkan minat belajar peserta didik SMKN 1 Darul Kamal. Kesimpulan penelitian ini adalah bahwa terdapat perubahan yang signifikan dan dapat dikatakan ada peningkatan pembelajaran setelah diterapkannya media Wordwall.

Kata kunci: Minat Belajar, Wordwall, Peserta didik.

Introduction

Education is one of the most important factors in life that aims to determine the quality of human resources and determine the progress of a nation or society. [1] In Law Number 20 of 2003 concerning the National Education System, education is defined as a conscious and planned effort carried out with the aim of realizing an effective and efficient learning process and a pleasant learning atmosphere so that students can develop their potential [2].

Various parts of the education system, both micro and macro, need to be recognized in depth so that these components can function and develop properly so that the educational goals set can be achieved properly as well. In the world of education, of course, there are teaching and learning activities carried out by educators and students [3].

In the learning process, students are also referred to as subjects. The subject certainly has a very important role in the learning process. Therefore, in the teaching and learning process, students are required to be active and able to master the learning provided by educators. However, what often happens in the world of education is that there are still many students who are less interested and less interested in participating in learning activities. The low interest of students in learning activities will certainly affect the learning outcomes of these students.

Based on the results of initial observations that researchers observed at SMKN 1 Darul Kamal Aceh Besar, there were still many students who seemed less interested in participating in the learning process in class, and also during class hours there were still many students who were outside the classroom, namely the canteen. Educators also often provide a monotonous learning process, meaning that the learning provided by educators only utilizes package books. This is certainly one of the causes of students feeling less interested in participating in learning activities.

In addition, an interview with Mrs. Jamilah, one of the teachers at the school, also stated that the curriculum used in teaching and learning activities still uses the K-13 and has not used the independent curriculum. In addition, students' interest in learning at the school is still low. Not a few of them feel bored when participating in learning activities. Sometimes students also do not listen well when the educator is explaining the learning material so that when the teacher gives evaluation questions, students find it difficult to answer them. Learners do not understand and master well any learning that has been given. This results in low learning outcomes for students [4].

As for the ways that can be done by educators so that each student is able to master and understand the learning provided, educators can utilize various learning media available. One of the learning media that can be used to overcome the above problems is Wordwall media [5]

Wordwall learning media is considered a very suitable media given to students so that students have more interest in learning and become more active during the learning process. Thus, the learning outcomes of students will also be better because students are able to understand and master the learning material provided and students will also be able to answer evaluation questions given by the teacher.

The purpose of this study was to determine the use of Wordwall media in increasing students' interest in learning in electrical engineering drawing subjects for class X students of electrical power installation engineering at SMKN 1 Darul Kamal Aceh Besar and to determine the results obtained by students before and after the application of Wordwall learning media in electrical engineering drawing subjects. Based on the description of the problems above, the researchers are interested in conducting research with the title "The Use of Wordwall Media in Increasing Student Learning Interest in Electrical Engineering Drawing Subjects for Class X Students of Electrical Power Installation Engineering SMKN 1 Darul Kamal Aceh Besar".

Literature Review

The word media comes from Latin *medius* which means middle or intermediary. Media used by educators in the world of education or in the learning process is also called learning media [6]. Media is a tool used to convey a set of messages or information in the form of learning materials [7]. Media is also defined as a tool that can be used to assist the learning process because the tool can convey learning messages effectively and efficiently. Meanwhile, learning is a process or method carried out by a group of people so that it can make the group of people learn. Learning also means the interaction between educators and students to achieve an expected goal [8].

Wordwall is a learning media that is used not only to be seen or heard, but also designed as well as possible to increase learning groups and can also involve students in the manufacturing process [9]. Wordwall is also an interactive learning media because it has the concept of learning while playing. Learners are not only required to read and answer the questions given, but learners must also play to be able to answer these questions. There are many games contained in this application such as match up, quiz, missing word, gameshow quiz, and so on. In addition, this application also provides 18 templates that can be accessed free of charge [10]. Wordwall media is also very suitable for designing or reviewing a learning value.

Interest in learning is a sense of liking that each individual or student has for a particular learning[11]. Interest in learning also means the tendency of individuals to have a sense of like or pleasure in something without coercion so that it can cause changes in knowledge, skills, and behavior [12].

The subject of electrical engineering drawings is usually taught in the curriculum at the vocational high school (SMK) level or equivalent. This subject is designed to provide a basic understanding of technical drawings related to electrical installations and electrical systems. Here are some of the topics covered in class X electrical engineering drawing.

1. Electrical engineering symbols: Symbols of electrical components such as resistors, switches, lights, and power sources.
2. Electronic engineering symbols: symbols of electrical components such as batteries, grounds, inductors, and relays.
3. Branching relationship symbols:
 - a. Depiction of wiring in household electrical installations or industrial systems.
 - b. Depiction of dotted and non-dotted wiring branching symbols
4. Switch symbols in the drawing: Use of various break and make or open and close symbols
5. Drawing electrical circuits:
 - a. Lighting installation drawings.
 - b. Common symbols such as magnetic coils, ohm resistance, condensers, ground (ground connection), high voltage, and connection or branching of electrical conductors.
6. Symbols of various switches: Symbols of types of switches in electrical circuits

Method

a. Research Approach and Type

The research approach used in this study is a quantitative approach with a quasi-experimental type of research. Experimental research is a type of research that aims to determine the effect of variable X on variable Y [13]. Meanwhile, Sugiyono said that experimental research is a study used to find out how much influence is given to something under controlled conditions [14]. The research design that will be used in this study is one group pretest-posttest design. Researchers provide treatment, namely using Wordwall learning media. After giving treatment to students, researchers gave a posttest as the last step in this study. The reason the researcher chose this research design was because the researcher wanted to see more accurate results through the tests that would be given.

Tabel 1 One Group Pretest-Posttest Design

Pretest	Perlakuan	Posttest
O_1	X	O_2

b. Research Location

The research location that will be used in this research is at SMKN 1 Darul Kamal Aceh Besar. The reason the researchers chose the school as the research location is because in this school educators still rarely use media as a tool in the learning process so that there are still many students who are less interested in participating in the learning process.

c. Population and Sample

The population in this study were students in the Electrical Power Installation Engineering department at SMKN 1 Darul Kamal Aceh Besar, totaling 27 people. The sample can be used if the researcher is not possible to conduct research on a large population due to limited funds, energy, and time. The sample used in this study was class X students majoring in Electrical Power Installation Engineering at SMKN 1 Darul Kamal Aceh Besar totaling 10 people.

d. Data Collection Instruments

Data collection instrument is one of the devices used in finding an answer to a study. The instruments used in this study are pretest, posttest and questionnaire questions given to students.

Table 2 Research Instruments

No	Problem formulation	Instrument used	Analysis
1	How is the use of Wordwall media in increasing students' interest in learning in electrical engineering drawing subjects for class X students of electrical power installation engineering at SMKN 1 Darul Kamal Aceh Besar?	Questionnaire Data Sheet	Percentage score
2	How are the results obtained by students before and after the application of Wordwall learning media in electrical engineering drawing subjects?	Pretest & posttest display sheet	<ul style="list-style-type: none">• Normality test• Homogeneity test• T test

e. Data Collection Technique

Data collection technique is a process for collecting data when conducting research in the field objectively. The data collection techniques in this study are as follows.

1. Observation

Observation is one of the data collection techniques carried out by making direct observations of events that occur in the field. In this study, researchers made direct observations at the research school, namely SMKN 1 Darul Kamal Aceh Besar.

2. Test

Test is one of the techniques used to measure a person's ability level. The tests carried out in this study are tests given to students before and after being given treatment using Wordwall media.

3. Distribution of questionnaires

The data collection technique used in the study was to use a questionnaire. Questionnaire is a data collection technique that is done by giving a set of questions or written statements to respondents to answer.

f. Data Analysis Technique

1. Data Analysis Technique

a. Validity Test

Validity is a measure that shows the level of validity or validity of an instrument [15]. A measurement instrument can be said to be valid if it is able to measure what is desired and can explain the data from a variable under study precisely. The level of validity of the instrument

shows the extent to which the data collected is in accordance with the description of the variable under study.

The validation data from all validators can be calculated using the following formula:

$$V_{\text{total}} = \frac{\sum xi}{\text{Maximum Score}} \times 100\%$$

Description:

V_{total} = Total validity

$\sum xi$ = Total score of all validators

Maximum Score = total maximum score of all validators

The question package presented is said to be valid if the interpretation of the magnitude of the validity coefficient is more than or equal to 0.6. However, if the value is less than 0.6, then the question package presented is invalid. [16].

The value of the question package coefficient (rcount) will be compared with rtable where the value of $\alpha = 0.05$ and the degree of freedom is $n - 2$. The instrument is said to be valid if $r_{\text{count}} \geq r_{\text{table}}$ [17].

b. Reliability Test

Reliability shows that an instrument can be trusted to be used as a data collector because the instrument is good and good to use. [15]. A question is said to be reliable if when the question is tested many times, the results obtained are relatively the same. The formula for finding reliability is as follows:

$$\beta = \left(\frac{M}{M-1} \right) \left(1 - \frac{\sum_{i=1}^m s^2}{s^2} \right)$$

Description:

β = Reliability coefficient

M = Number of items

$\sum_{i=1}^m s^2$ = Number of item variants

s^2 = Total Variance

The formula for calculating the score variance of each question is :

$$\beta i^2 = \frac{\sum Xi^2 - \left(\frac{\sum Xi}{N} \right)^2}{N}$$

Description :

βi^2 = Variant score of each question

N = Number of test takers

Xi = Item score

2. Analysis Requirement Test

a. Normality Test

Normality test is a test used to test the data distribution of the research variables tested. The normality test in this study used the Kolmogroff Smirnov test with the help of SPSS software. The test criteria for the normality test are if the significance value $> \alpha = 0.05$, then the data is normally distributed, while if the significance value $< \alpha = 0.05$, then the data is not normally distributed. [18].

b. Homogeneity Test

The homogeneity test is a test carried out with the aim of knowing whether the research data obtained is homogeneous or not. The homogeneity test is also referred to as one of the prerequisite tests for parametric statistical data analysis in comparational techniques (comparing). The formula used to conduct the homogeneity test is as follows [19].

$$F = \frac{\text{largest variance}}{\text{smallest variance}}$$

Description :

F = Homogeneity of variance

3. Hypothesis Test

The hypothesis test carried out in this study is the t-test. The formula used is as follows.

$$t = \frac{Md}{\sqrt{\frac{\sum x^2 d}{N(N-1)}}}$$

Description :

T = Test t

Md = Mean of the difference between pretest and posttest

$\sum x^2 d$ = Sum of squared deviations

N = Subjects in the sample

a. Determining the t-value

The formula used to find the t value is as follows :

$$t = \frac{Md}{\sqrt{\frac{\sum x^2 d}{N(N-1)}}}$$

Description :

Md = Mean of the difference between pretest and posttest

d = deviation of each subject

$\sum x^2 d$ = Sum of squared deviations

N = Subjects in the sample

b. Determining Decision Rules

The decision-making rules in the study are if $t_{count} > t_{table}$, then H_0 is rejected and H_1 is accepted, which means that the use of Wordwall media can increase students' learning interest in electrical engineering drawing subjects of class X students of SMKN 1 Darul Kamal Aceh Besar.

Meanwhile, if $t_{count} < t_{table}$, then H_0 is accepted and H_1 is rejected, which means that the use of Wordwall media cannot increase students' interest in learning in the subject of electrical engineering drawings of class X Electrical Power Installation Engineering students of SMKN 1 Darul Kamal Aceh Besar.

c. Determining α and t_{table} values

Nilai t_{table} ditentukan dengan menggunakan tabel distribusi t dengan taraf signifikan $\alpha = 0,05$ dan $db = N - 2$.

Result

This research was conducted at SMKN 1 Darul Kamal where researchers began the research by giving pretests to students then continued by providing learning materials using Wordwall media until the end of class hours. Furthermore, on the second day, researchers continued to provide material using Wordwall media, then gave a posttest and closed by giving a questionnaire of learning interest to students.

The pretest aims to determine the initial value of students before being given learning using Wordwall media, while the posttest aims to determine the value of students after being given learning using Wordwall media. The questionnaire was given with the aim of knowing the students' interest in learning at SMKN 1 Darul Kamal.

Based on the questionnaire given to students of SMKN 1 Darul Kamal, it was found that students had a high interest in learning after the application of the Wordwall learning model. As for the percentage of scores obtained, the average interpretation obtained is very high. Thus, it can be concluded that the highest average is in the strongly agree option, thus it can be said that the students have a high interest in learning after the application of the Wordwall learning model. bahwa pembelajaran menggunakan media Wordwall dapat meningkatkan minat belajar peserta didik SMKN 1 Darul Kamal.

The pretest and posttest questions given to students with the aim of seeing differences before and after the application of Wordwall learning media, are calculated using the normality test, homogeneity test, and t test. The normality test is carried out to determine whether the data is normally distributed or not. If the data is normally distributed, then the test can proceed to the homogeneity test stage to find out whether the data has the same variance or not. If the data has the same variance, then the research can proceed to the t-test stage.

The data contained in this study are normally distributed and homogeneous. This is characterized by a significance value that is more than $\alpha = 0.05$. As for the normality test, the pretest data significance value is 0.051 while the posttest data significance value is 0.067. Both significance values are more than $\alpha = 0.05$, therefore it can be concluded that the pretest and posttest data in this study are normally distributed. Selain itu, kedua data tersebut juga memiliki varians yang sama atau bersifat homogen. Hal ini ditandai dengan nilai signifikansi yang juga lebih dari $\alpha = 0,05$. Adapun nilai signifikansi yang diperoleh pada uji homogenitas ini yaitu 0,699. Nilai signifikansi tersebut lebih dari $\alpha = 0,05$. Untuk itu, dapat diambil kesimpulan bahwa kedua data dalam penelitian ini memiliki varian yang sama atau bersifat homogen.

The t test used in this study is the paired sample t test. This t test is used for two different data but obtained from the same sample. Researchers used this t test because the data used in this study were pretest and posttest data obtained from the same sample, namely students of class X SMKN 1 Darul Kamal. The results obtained after conducting the t test are the significance value obtained is 0.000. This significance value is less than $\alpha = 0.05$. For this reason, it can be decided that there is a significant change between pretest data and posttest data. Thus, it can also be said that there is an increase in learning outcomes after the application of Wordwall media.

Conclusion

Wordwall learning media is considered a very suitable media given to students so that students have more interest in learning and become more active during the learning process. Dividing the response questionnaire that has been distributed to students with 16 questions obtained an average interpretation of very high results can use Wordwall media to answer the first research objective is to determine the use of Wordwall media in increasing students' interest in learning in electrical engineering drawing subjects for class X students of electrical power installation engineering SMKN 1 Darul Kamal Aceh Besar.

By using the research method is a quantitative approach with a quasi-experimental type of research. Experimental research is a type of research that aims to determine the effect of variable X on Y and the research design that will be used in this study is one group pretest-posttest design. The use of Wordwall media can be said that by using Wordwall media can increase the learning interest of students of SMKN 1 Darul Kamal to answer the first research objective. Thus, it can also be said that there is an increase in learning outcomes after the application of Wordwall media with pretest-posttest, answering the second research objective is to determine the results obtained by students before and after the application of Wordwall learning media in electrical engineering drawing subjects.

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