

THE EFFECTIVENESS OF WORDWALL MEDIA TO LEARNING OUTCOMES OF JOURNAL ENTRIES FOR MERCHANDISING COMPANY CLASS XII IPS SMA NEGERI 1 KARANGANOM

Yovi Annang Setiyawan¹, Titik Ulfatun², Sengaloun Xaphakdy³

^{1,2} Accounting Education Study Program, Universitas Muhammadiyah Surakarta,

³The National University Of Laos

¹a210180211@student.ums.ac.id, ²Titik.ulfatun@ums.ac.id, ³s.xaphakdy@nuol.edu.la

Abstract

Technological developments make activities easy, effective, efficient and fast. This effectiveness is also felt in the world of education, namely the learning media used. One of the effective and easy-to-use learning media in the assessment of learning outcomes is wordwall. This study aims to determine the effectiveness of wordwall media to learning outcomes of merchandising company class XII IPS SMA Negeri 1 Karanganom. This research is a type of quantitative research with a quasi-experimental research method (quasi-experimental). The sampling technique used was non-probability sampling with purposive sampling. The results showed the average value of N-gain percent for the experimental class (wordwall media) was 68.3985 or 68% including quite effective category when compared to the average value of N-gain percent for the control class (conventional media) of 30.9269 or 31% included in the ineffective category. The result of the eta squared calculation is 0.91 which is interpreted as having a moderate effect. The significance value (2-tailed) in the paired t-test is 0.000. It can be interpreted that the value is less than 0.05, which means that there is an effectiveness of wordwall media to learning outcomes of journal entries for merchandising company class XII IPS SMA Negeri 1 Karanganom.

Keywords : effectiveness, wordwall media , accounting, learning outcomes

1. Introduction

The development of technology today cannot be separated from people's lives. All aspects of people's lives are affected by technological developments. The use of technology has no age limit and social status of the community. Many people believe that with advances in technology work can become easy, effective, efficient, and fast.

Technological developments also occur in the world of education, resulting in many new innovations, especially in terms of learning media. The role of technology in education, apart from helping students in learning, also has a fairly influential role for teachers, especially the use of learning media facilities in teaching and learning activities (Budiman, 2017). It is hoped that technological developments in education can improve effective learning.

Learning media are everything that can be used to deliver the sender's message to the recipient so that it can stimulate the thoughts, feelings, concerns, and interests of students to learn (Tafonao, 2018). Learning media is an important thing that must be considered by the teacher in carrying out teaching and learning activities in the classroom. Learning media is expected to support the effectiveness of teaching and learning so the educational goals can be achieved well. Learning media is an integral part of learning that cannot be separated (Jamilah, 2015).

Teaching and learning activities must create a comfortable, effective and efficient atmosphere between teachers and students through adequate facilities and infrastructure (Rohmah et al., 2019). The monotonous teaching and learning process makes students less enthusiastic so learning is less effective. The use of learning media can help the monotonous teaching and learning process (Pritandhari & Ratnawuri, 2015). Effective learning media include internet-based digital learning media that are widely available to measure student learning outcomes. This website-based application can usually be used to create learning media such as quizzes,



matchmaking, pairing, anagrams, word randomization, word search, grouping, and others (Nisaurasyidah et al., 2021).

One of the effective learning media that can be used in teaching and learning process is Wordwall. Wordwall is an e-learning-based learning media and can also be used to create fun quiz-based games for assessment (Sari & Yarza, 2021). This Wordwall media can be accessed by students easily without being guided by teachers or other people.

The use of learning media can also improve students learning outcomes. Good learning media can make students able to achieve the desired learning goals. As it has been mentioned by Audie (2019), the role of learning media can improve student learning outcomes more optimally than without using learning media.

Learning outcomes are abilities obtained by individuals after the learning process takes place, which can provide behavioral changes in both knowledge, understanding, attitudes and skills of students so that they become better than before (Sjukur, 2012). Learning outcomes can be seen from three aspects of the assessment, namely cognitive aspects, psychomotor aspects, and affective aspects. Djamarah in Rijal & Bachtiar (2015) suggested that learning outcomes are influenced by several factors, including: (a) environment (b) instrumental (c) physiological conditions (d) psychological conditions.

Based on the results of initial interviews conducted with Economics/Accounting teachers at SMA Negeri 1 Karanganom, the teachers did not optimize the existing digital learning media in their classroom, especially for the assessment. The conventional method was used. Teacher had to print out the questions and distributed them to students, then submitted to the teachers again. Furthermore, the results of interviews with students were that they observed that the assessment of journal entries for merchandising company so far still use the conventional way using printed paper. Through this method, students must provide writing tool such as a ruler and a calculator independently to complete them.

Savitri (2021) mentioned that Wordwall learning media is proven to be used as a medium for evaluating student learning in Indonesian language courses. Based on the above background, the purpose of this study was to determine the effectiveness of wordwall media to learning outcomes of journal entries for merchandising company class XII IPS SMA Negeri 1 Karanganom.

2. Method

This research is a type of quantitative research with a quasi-experimental research method (quasi-experimental). This study uses a nonequivalent control group design with the aim of testing the effectiveness of wordwall media to learning outcomes of journal entries for merchandising company class XII IPS SMA Negeri 1 Karanganom. The population in this study were all students of class XII IPS at SMA Negeri 1 Karanganom. The sampling technique used was non-probability sampling in the form of purposive sampling. The samples in this study were students of class XII IPS 2 which consisted of 36 students who were assigned to the experimental class (wordwall media) and class XII IPS 3 students which consisted of 36 students who were assigned to the control class (conventional media).

This research was conducted in 4 meetings with a duration of 1 meeting of 60 minutes. This research was carried out in 1 month in every 1 week there was 1 meeting. Meeting 1 begins with giving an initial test (pretest) to both class groups with question instruments that have been declared valid and reliable. The pretest in both test groups used conventional media in the form of printed paper. This pretest aims to determine students' prior knowledge of accounting journal material in trading companies without using internet-based learning media. Meeting 2 was given material on accounting journals for trading companies in both class groups. Meeting 3 was given treatment in the experimental class in the form of wordwall media by being given practice questions and an explanation of the use of wordwall media.

The test instrument was made by consulting the economics/accounting teacher of SMA Negeri 1 Karanganom with reference to the 2013 curriculum. The test instrument was made based on the Learning Implementation Plan for the economics/accounting teacher of SMA Negeri 1 Karanganom which refers to KI KD 3.5 and 4.5 which reads analyze the preparation of the accounting cycle in trading companies (3.5) and make

financial reports on trading companies (4.5). This nonequivalent control group experimental research design can be illustrated as follows (Sugiyono, 2019) :

Table 1 Experimental Design of Nonequivalent Control Group

| Class | Pretest | Treatment | Posttest |
|------------|---------|-----------|----------|
| Experiment | O1 | X | O2 |
| Control | O3 | - | O4 |

Information :

O1 and O3 = Class before being treated with wordwall media

O2 and O4 = Class after being treated with wordwall media

X = Wordwall media treatment

The data collection technique used conventional media for both the pretest class and the test using wordwall media for the experimental class posttest. The instruments in this study were multiple choice questions consisting of 25 questions which were then tested in both class groups. The results of the study were then analyzed using the n-gain score test and paired t-test with the SPSS program (Statistical Program for Social Science) version 22. The effectiveness of wordwall media to learning outcomes of journal entries for merchandising company class XII IPS SMA Negeri 1 Karanganyam can be calculated using the n-gain test which is calculated using the SPSS version 22 program. The results of the n-gain percent test calculation are then interpreted based on the results of the SPSS output. The interpretation of the N-gain percent calculation is based on table 2 (Lestari & Nasution, 2019) .

Table 2 Category of N-gain Effectiveness Interpretation

| No | Percentage | Interpretation |
|----|------------|------------------|
| 1 | < 40 | Ineffective |
| 2 | 40 - 55 | Less effective |
| 3 | 56 - 75 | Effective enough |
| 4 | > 76 | Effective |

Eta squared was used to find out the effect of Wordwall media on students' learning outcomes scores of journal entries for merchandising company topic. Pallant (2011) mentioned that the formula to obtain eta squared is:

$$\text{Eta squared} = \frac{t^2}{t^2 + (N - 1)}$$

Notes:

t = value t

N = number of samples

The results of the eta squared are then interpreted according to the interpretation proposed by Cohen (in Pallant, 2011):

Table 3 Interpretation of Eta Squared

| No | Value | Interpretation |
|----|-------|----------------|
| 1 | .01 | Small effect |
| 2 | .06 | Medium effect |
| 3 | .14 | Large effect |

3. Results and Discussion

The results of the study obtained data on the effectiveness of students' learning outcomes of trade accounting journals in the control class and the experiment class, both pretest and posttest. The data is then given a value for the correct answer is worth 4 and 0 for the wrong answer. The maximum score that can be obtained from 25 questions is 100. Before entering the SPSS program the data were grouped by class, group 1 for the

experimental class and group 2 for the control class. The grouping aims to simplify the input process in the SPSS program version 22.

Table 4. N-gain Test Results Using SPSS

| Class | | Statistics | Std. Error | |
|----------------|------------|------------|------------|---------|
| N_gain_Percent | Experiment | mean | 68.3985 | 2.60850 |
| | | Median | 70.7143 | |
| | | Minimum | 33.33 | |
| | | Maximum | 93.33 | |
| | | Range | 60.00 | |
| | Control | Mean | 30.9269 | 3.86734 |
| | | Median | 27.5253 | |
| | | Minimum | 20.00 | |
| | | Maximum | 80.00 | |
| | | Range | 80.00 | |

The number of respondents of the two research class groups were 36 students each. Based on the results of the N-gain percent test above, it shows that the average value of the N-gain percent for the experiment class (wordwall media) is 68.3985 or 68% is included in the quite effective category interpretation. The average value of n-gain percent for the control class (conventional media) is 30.9269 or 31% is included in the ineffective category interpretation. The interpretation is based on table 2 categories of n-gain effectiveness interpretation.

Then, it can be concluded that the use of wordwall media is quite effective in improving the learning outcomes of trading company accounting journals for the XII grade social studies students of SMA Negeri 1 Karanganom. The use of conventional media is not effective in improving the learning outcomes of trading company accounting journals in class XII social studies at SMA Negeri 1 Karanganom. This shows that wordwall media is more effective than conventional media on learning outcomes of accounting journals for trading companies for class XII IPS SMA Negeri 1 Karanganom.

Wordwall media has a significant difference with conventional media, so a paired t-test is needed with the SPSS program version 22. The paired t-test requires a prerequisite test, namely the normality test to find out the data is normally distributed. The normality test uses the Kolmogorov Smirnov test and the test results are in table 5 the results of the Kolmogorov Smirnov normality test.

Table 5 Kolmogorov Smirnov Normality Test Results

| Class | Kolmogorov-Smirnov |
|-------|--------------------|
| | |

| | | Statistics | df | Sig. |
|----------------|------------|------------|----|-------|
| N_gain_Percent | Experiment | .105 | 36 | .200* |
| | Control | .125 | 36 | .166 |

The results of the Kolmogorov Smirnov normality test in table 5 show that the significance value (sig) for the experiment class is 0.200. This shows that the significance value (sig) is more than 0.05 or 5%, so it can be concluded that the data is normally distributed. The significance value (sig) for the control class shows 0.166, meaning that the value is more than 0.05, so it can be concluded that the control class data is normally distributed. Normal distributed data can be used for paired t-test.

Table 6 Test Results Paired T-Test

| | | Paired Differences | | | | t | df | Sig. (2-tailed) | |
|--------|----------------------------------|--------------------|----------------|-----------------|---|---------|---------|-----------------|-------|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | | | | Upper |
| Pair 1 | Pre_Eksperimen - Post_Eksperimen | -32.444 | 10.377 | 1.730 | -35.956 | -28.933 | -18.759 | 35 | .000 |
| Pair 2 | Pre_Kontrol - Post_Kontrol | -17.000 | 13.089 | 2.181 | -21.429 | -12.571 | -7.793 | 35 | .000 |

Based on the results of the paired t-test in table 6, it is known that the t value in pair 1 is -18,759. Then the t value is used to calculate the eta squared value which aims to determine the effect of the treatment. The eta squared formula is:

$$\text{Eta squared} = \frac{-18.759^2}{-18.759^2 + (36 - 1)}$$

$$\text{Eta squared} = .91$$

The result of eta squared calculation is 0.91. These results can be interpreted that the eta squared value of 0.91 is a medium effect. It can be concluded that there is a big influence on the scores obtained by students before and after wordwall media treatment. In addition, if viewed from the significance value (2-tailed) which is 0.000, it can be interpreted that the value is less than 0.05, which means that there is an effectiveness of wordwall media on learning outcomes of accounting journals for trading companies for class XII IPS SMA Negeri 1 Karanganom.

Discussion

The results of data analysis show the results of the n-gain test using SPSS version 22 that the use of wordwall media is quite effective in improving the learning outcomes of trade accounting journals in class XII social studies at SMA Negeri 1 Karanganom compared to conventional media. The results of calculations using the paired t-test show that there is an effectiveness of wordwall media on the learning outcomes of accounting journals for trading companies for class XII IPS SMA Negeri 1 Karanganom.

The results of this study are in line with A'isyah's research (2019) which proves that the use of wordwall learning media is effective and successful in improving learning outcomes. Furthermore, learning using technology-based media such as weblogs in accounting is more effective than using the lecture method (Khozanah et al., 2019).

4. Conclusion

Based on the results of the data analysis that has been described, it can be concluded that the use of wordwall media is more effective than conventional media on the learning outcomes of accounting journals for trading companies for class XII IPS SMA Negeri 1 Karanganom. This is shown in the average value of n-gain percent for the experimental class (wordwall media) which is 68.3985 or 68% is included in the quite effective category interpretation when compared to the average value of n-gain percent for the control class (conventional media) of 30.9269 or 31% is included in the interpretation of the ineffective category

The result of eta squared calculation is 0.91. These results can be interpreted that the eta squared value of 0.91 is a medium effect. It can be concluded that there is a big influence on the scores obtained by students before and after wordwall media treatment. The paired t-test showed a significance value (2-tailed) of 0.000. It can be interpreted that the value is less than 0.05, which means that there is an effectiveness of wordwall media on learning outcomes of accounting journals for trading companies for class XII IPS SMA Negeri 1 Karanganom. The conclusion of the test calculation is that there is an effectiveness of wordwall media on learning outcomes of accounting journals for trading companies class XII IPS SMA Negeri 1 Karanganom. The study shows that if economics/accounting teachers use wordwall media as a daily assessment tool for trading company accounting journal materials, student learning outcomes will increase.

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