

The Influence of Using *Mobile Learning "Wordwall"* on the Critical Thinking Ability of Social Sciences Education Students at UIN Malang in the World History Course

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Abstract : Implementing an active and interactive learning model is crucial in the classroom to foster creativity and innovation, as seen in Mobile Learning Wordwall-based instruction. This study seeks to evaluate the effect of Mobile Learning Wordwall on students' critical thinking abilities. The method used was quasi-experimental, involving an experimental group and a control group, with a randomized pre-test post-test design. The study population comprised 5th-semester students from the Social Sciences Education program at UIN Malang. The sample included students from class B (control group) and class D (experimental group). The data analysis involved the Shapiro-Wilk normality test, the Levene homogeneity test, and hypothesis testing using a paired sample t-test. The results indicated a significant difference, with a p-value of 0.033 (<0.05), showing a meaningful difference between the pre-test and post-test results. This suggests that there was a notable influence on students' critical thinking abilities after implementing the Mobile Learning Wordwall method, compared to before the treatment.

Keywords : Education Process ; Mobile Learning Wordwall

A. INTRODUCTION

Education is an individual's conscious effort to improve the quality of open knowledge and develop character in humans. The specific goal in education is to obtain *output* so that the individual can compete healthily in attitudes, knowledge and skills (Majid and Rochman 2015) . Therefore, the educational process necessitates the use of active and interactive learning systems and models in the classroom. Education also plays a crucial role in shaping better individuals and communities. This includes not only the transfer of knowledge, but also the formation of character and interpersonal skills. To achieve this goal, education must utilize active and interactive learning systems and models in the classroom. With this approach, students can be more active in participating in the learning process, more easily understand the material in depth , and can increase creativity and skills needed for future success. Therefore, the role of lecturers in directing, motivating and providing guidance to students is very important in creating an effective learning environment.

Technology and information are increasingly developing day by day, including in the field of education (Laksana 2021) . The current advancements in information technology are not coincidental; they are part of an evolving era that is continuously advancing and developing every day. In the field of education, advances in technology and information have made the learning process in the classroom easier so that learning can be carried out to be more enjoyable, effective and efficient (Widianto, 2021; Zahwa & Syafi'i, 2022) . Technology and information in its development have created many new innovations, one of which is *Mobile Learning-based learning*. *Mobile Learning* is a learning medium that utilizes technological advances such as PDAs, cell phones, PCs, and so on (Majid 2016) .

The choice of learning strategies in implementing lectures greatly influences students' critical thinking (Kusumah 2019) . Students are expected to engage actively in classroom lectures, where being active means that students serve as the focal point in the learning process. (Febriyana and Winarti 2021) . This is because lectures at universities are no longer the main and only source in the lecture process, but students are required to be able to search for learning materials independently. So students need critical thinking skills in carrying out lectures.

The Social Sciences Education program at UIN Maulana Malik Ibrahim Malang offers world history courses as part of its curriculum offerings. The world history course is a mandatory subject that every social studies student at UIN Malang must take . Based on researchers' observations, implementing world history lectures in class tends to make students bored and less active, because lectures still use the old-fashioned method , namely lectures, in delivering material to all students (Febriyana and Winarti 2021) .

Ranabumi et al., (2013) in his research explained that during the learning process using this method, students only listened and listened. There are even students who do other activities because learning is very boring. So that learning is not boring, new innovations are needed in the learning process. Research conducted (Ranabumi, Rohmadi, and Subiyantoro 2013) , explains that learning media can stimulate interest in learning in students (Tafonao 2018) . (Nur Nasution, Wahyuni Rozi Nasution, and Hidayat 2018) in his research, he added that learning media can also be used so that student learning outcomes can improve.

Building on the explanation above, the researcher aims to introduce improvements in the lecture process by utilizing Mobile Learning "*Wordwall*" as a tool to support instruction, encouraging students to think critically and actively participate in world history lectures. The use of *Mobile Learning "Wordwall"* in the implementation of the World History course at the Social Sciences Education Study Program at UIN Malang has not been widely used, it is from this statement that the author took research action to examine what the impact would be if the World History course at the Social Sciences Education Study Program at UIN Malang used *Mobile Learning* in the learning process.

B. METHODS

This study was carried out at the State Islamic University of Maulana Malik Ibrahim Malang, specifically within the Social Sciences Education program for semesters B and D, each with a population of 22 students, using experimental methods. To determine the influence of variables on controlled variables in research, quasi experiments are used (Sugiyono, 2019) . *Randomized pretest-posttest group p design* also used as a design in research . Look at the table of research design images below :

Table 1
Research Design

| 01 | X1 | 02 |
|-----------|-----------|-----------|
| 03 | X2 | 04 |

- 01 : critical thinking at the beginning of the experimental class.
- 02 : critical thinking at the end of the experimental class.
- 03 : initial critical thinking control class.
- 04 : critical thinking end of control class.
- X1 : Experimental class learning using wordwall media.
- X 2 : Control class learning using power point.

The table shows that the experimental class utilized Wordwall media, while the control class used PowerPoint. Pre-tests and post-tests were conducted to assess students' critical thinking skills in both the experimental and control classes, using initial and final questionnaires.

Population is a number of objects or subjects that have advantages and characteristics that have been determined and then studied and conclusions drawn (Sujarweni 2015) . The study's population included all students enrolled in the Social Sciences Education Study Program at UIN Maulana Malik Ibrahim Malang. Furthermore, a sample is a portion of a population that comes from

the number and characteristics of that population (Anshori and Iswati 2009) . In this study, class B served as the control group, while class D was designated as the experimental group. Some of the variables used are *Wordwall* media as the independent variable and students' critical thinking as the dependent variable.

A questionnaire that underwent validity and reliability testing was employed to evaluate the research instruments. This was followed by normality and homogeneity tests, concluding with a partial t-test. In the null hypothesis (H_0), no significant difference was observed between the pretest and posttest scores on critical thinking, indicating that *wordwall* media did not affect the critical thinking skills of social studies students in world history courses. Conversely, the alternative hypothesis (H_a) revealed a significant average difference between the pre-test and post-test scores in critical thinking, suggesting that *wordwall* learning media has an impact on the critical thinking abilities of social studies students in world history courses.

C. RESULTS & DISCUSSION

Questionnaires or questionnaires are used to test validity at the beginning of research activities. To calculate the validity of the instrument, you can use the *product moment* formula and make comparisons on *the r-table*. In carrying out the validity test , 12 question points were used and they were declared valid. Then the 12 points are valid questions using *the t-table* as a basis for decision making , namely 0.482 which corresponds to the number of respondents in the test question class.

Table 2
Reliability Statistics

| Cronbach's | |
|------------|------------|
| Alpha | N of Items |
| ,752 | 13 |

Furthermore, the 12 point statements that have been declared valid are tested for reliability using available test benchmarks . Data is considered reliable if *Cronbach Alpha* > 0.70 , on the other hand, if the *Cronbach Alpha coefficient* is < 0.70 (*r-count* < 0.70), then it can be said to be unreliable and needs to be revised. Based on the reliability test , the resulting data value is $0.752 > 0.70$, meaning that the data value obtained shows that it is reliable and can be used for research.

The next stage was the implementation of research by researchers in the control class and experimental class in the Social Sciences Education Department at UIN Malang to collect data which will be used in the Shapiro Wilk normality test .

Table 3
Tests of Normality

| | Shapiro-Wilk | | |
|------------------|--------------|----|------|
| | Statistic | df | Sig. |
| Kelas Experiment | ,956 | 22 | ,418 |
| Kelas Kontrol | ,941 | 22 | ,213 |

The Normality Test results indicate a significance value of 0.418 for the experimental class and 0.213 for the control class. This decision was taken based on the provision that if the significance level (Sig) is > 0.05 then the data is normally distributed and if the significance level (Sig) is < 0.05 then the data is not normally distributed. So it can be concluded that the research data is normally distributed. Next, proceed with the homogenitis test using *Levane* (Usmadi 2020) .

| Table 4 | | | |
|----------------------------------|-----|-----|------|
| Test of Homogeneity of Variances | | | |
| Levene | | | |
| Statistic | df1 | df2 | Sig. |
| ,268 | 1 | 42 | ,607 |

In table 4 it can be concluded that the homogeneity test carried out in the experimental class and control class was homogeneous. This can happen because the significance value produced in the homogeneity test is Sig 0.607 > 0.05. Homogeneity can be taken using existing criteria, namely if the significance level (Sig) is >0.05 , then the research data is homogeneous and if the significance level (Sig) is <0.05 , then the research data is not homogeneous. The next test is the *t-test* (partial).

| Table 5 | | | | | | |
|--------------------------|-----------------------------|---|------|-------|--------|-----------------|
| Independent Samples Test | | | | | | |
| | | Levene's Test for Equality of Variances | | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) |
| Hasil | Equal variances assumed | ,532 | ,470 | 2,204 | 42 | ,033 |
| | Equal variances not assumed | | | 2,204 | 41,248 | ,033 |

The table above shows that there are significant differences between the *pre-test* and *post-test* in paired samples t-test significance (2 tailed) 0.033<0.05 . This shows that it exists The influence that occurs before the treatment is carried out and after the treatment is carried out is based on the *t- value* criteria. If the *t-count value* > *t-table* , then there is no influence of *pre-test* and *post-test* . On the other hand, if the *t-count value* < *t-table* , then there is an influence of the *pre-test* and *post-test* .

this research show that there is an influence of using *Mobile Learning "Wordwall"* on students' critical thinking abilities. This is proven when students are given learning media in the form of *Mobile Learning "Wordwall"*, there are many influences on students' critical thinking abilities, one of which is when students are given a question via the *Mobile Learning media "Wordwall"*, students think more critically by showing analysis and identification of the questions given.

Abdur Rasyid, Aden Arif, and M. Kurnia in their research explained that students' critical thinking abilities increased when learning in class used media assisted by *Android games* (Rasyid and Arif 2019) . This statement is shown by the difference in scores for each indicator of critical thinking abilities among students in the class. Apart from that, research by Rasyid, Gaffar and Utari shows that the effect of using mobile learning applications can improve students' critical thinking abilities (Rasyid, Gaffar, and Utari 2020) . Ngurahrai et al added that using the *Mobile Learning application* as a learning medium can improve students' critical thinking skills (Ngurahrai and Farmaryanti 2019) .

D. CONCLUSION

The research commenced with assessing the validity and reliability of the initial research instrument to determine its quality. The findings indicate that the instrument is both valid and reliable, confirming its suitability for collecting data. The research was then carried out in both the experimental and control classes within the Social Sciences Education Study Program at UIN Malang. Analysis using the t-test showed a significant difference between the pre-test and post-test results, suggesting that the implementation of Mobile Learning "Wordwall" significantly improves students' critical thinking skills. The overall conclusion of this research is that Mobile Learning "Wordwall" positively influences students' critical thinking abilities. These findings advocate for the integration of technology in educational practices and suggest a need for further research in this field.

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In connection with the conclusions above, the researcher provides suggestions for readers to carry out active and enjoyable learning regarding a more detailed description of how *Mobile Learning "Wordwall"* is used in history learning and how this platform helps student learning. In the context of history courses which are often considered boring, using this platform provides a more dynamic and interesting alternative to motivate students to study history. By combining these elements, it is hoped that history learning will become more active, effective and enjoyable for students.

REFERENCES

- Anshori, M., & Iswati, S. (2009). *Textbook of Quantitative Research Methodology* (1 Edition). Airlangga University Press.
- Febriyana, M., & Winarti. (2021). Effectiveness of Student Centered Learning Based Learning Models to Improve Student Learning Outcomes in Microteaching Courses. *EduTech Journal* , 7 (2), 231–235.
- Kusumah, RGT (2019). Increasing the Critical Thinking Ability of Tadris Science Students Through a Scientific Approach in Integrated Science Courses. *IJIS Edu : Indonesian Journal of Integrated Science Education* , 1 (1), 71. <https://doi.org/10.29300/ijisedu.v1i1.1762>
- Laksana, SD (2021). The Importance of Character Education in Facing Education Technology in the 21st Century. *Journal of Learning Technology* , 1 (01), 14–22.
- Majid, A. (2016). *MobileLearning* . 8 , 92–95.
- Majid, A., & Rochman, C. (2015). *Scientific Approach in Implementing the 2013 Curriculum* . PT Teen Rosdakarya.
- Ngurahrai, AH, & Farmaryanti, SD (2019). Momentum and Impulse Material Learning Media Based on Mobile Learning to Improve Students' Critical Thinking Abilities. *Scientific Periodicals in Physics Education* , 7 (1), 62–70. <https://doi.org/10.20527/bipf.v7i1.5440>
- Nur Nasution, H., Wahyuni Rozi Nasution, S., & Hidayat, T. (2018). Journal of Education and development, Institute for the Development of Android-Based Learning Media, Computer Application Courses to Increase Student Interest in Learning. *Journal of Education and Development* , 5 (1), 8–15.
- Ranabumi, R., Rohmadi, M., & Subiyantoro, S. (2013). *Using the Lecture Method in Learning to Write Expository Texts in Class VII-B Students of SMP Negeri 5 Kediri* . 664–668.
- Rasyid, A., & Arif, A. (2019). Development of Android Game Assisted Learning Media to improve students' critical thinking abilities. *2019 NATIONAL POSTGRADUATE SEMINAR* , 910–916.
- Rasyid, A., Gaffar, AA, & Utari, W. (2020). Effectiveness of the Mobile Learning Role Play Games (Rpg) Maker Mv Application for Improving Critical Thinking Abilities. *Mangifera Edu Journal* , 4 (2), 107–115.
- Sugiyono. (2019). *Quantitative, Qualitative, R&D Research Methods* . Alfabet.
- Sujarweni, W. (2015). *SPSS for Research* . New Library Press.
- Tafonao, T. (2018). The Role of Learning Media in Increasing Student Interest in Learning. *Journal of Educational Communication* , 2 (2), 103. <https://doi.org/10.32585/jkp.v2i2.113>
- Usmadi. (2020). Testing Analysis Requirements (Homogeneity Test and Normality Test. *Educational Innovation* , 7 (1).
- Widianto, E. (2021). Utilization of Information Technology Based Learning Media. *Journal of Education and Teaching* , 2 (2), 213. <https://doi.org/10.24014/jete.v2i2.11707>
- Zahwa, FA, & Syafi'i, I. (2022). Selection of Information Technology Based Learning Media Development. *Equilibrium: Journal of Educational and Economic Research* , 19 (01), 61–78. <https://doi.org/10.25134/equi.v19i01.3963>