The Effect of Digital Storytelling on Student Engagement and Literacy Skills

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ARTICLE INFO	ABSTRACT
	This study aims to determine the influence of digital storytelling on student engagement and their literacy skills. Digital storytelling, which combines narrative elements with multimedia technology, is expected to improve students' learning experience and enrich literacy skills, both in reading, writing, and critical thinking. In the context of education that is increasingly connected to technology, this approach is considered relevant to increase student motivation and participation in learning. This study uses a quantitative method with a pseudo-experimental design. The research sample consisted of students from several high schools divided into two groups: an experimental group that used digital storytelling in learning and a control group that used traditional methods. Data was collected through student engagement questionnaires and literacy skills tests adapted from the applicable curriculum. The data analysis technique uses a t-test to see the difference between the experimental group and the control group. The results showed that there was a significant increase in student engagement and literacy skills in the experimental group that used digital storytelling. Students who are involved in digital storytelling-based learning show higher motivation in following the learning process and better literacy skills, especially in the aspects of text comprehension and writing creativity. In contrast, the control group that used conventional methods did not show significant changes in both aspects. Based on these results, it can be concluded that digital storytelling has a positive influence on student engagement and their literacy skills. Therefore, the application of digital storytelling in learning can be one of the innovative alternatives to improve the quality of education in this digital era.
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INTRODUCTION

In today's digital era, technology has changed various aspects of life, including the way education is delivered. Digital storytelling, which combines elements of multimedia, interactivity, and narrative, offers a new approach to learning that appeals to students (A. Fathoni, 2023). In the context of education, student involvement is one of the important educators to determine the success of the learning process. High engagement can increase motivation and interest in learning, which in turn has a positive effect on students' literacy skills.

Literacy skills, which include the ability to read, write, and comprehend information, are essential in equipping students to face the challenges of the modern world. However, many students experience difficulties in developing these skills, often due to conventional teaching methods and a lack of innovation in the delivery of materials. In this case, digital storytelling can be an effective tool to stimulate student engagement and improve their literacy skills.

Several previous studies have shown that the use of technology in education, including digital storytelling, can increase student motivation and support more active learning (A. Zahra, 2017). However, there are still limitations in understanding how digital storytelling specifically affects engagement and literacy skills. Therefore, this study aims to investigate the influence of digital

storytelling on student engagement and literacy skills, as well as the factors that affect its effectiveness.

By understanding the influence of digital storytelling, it is hoped that more effective strategies can be found to improve the quality of education and help students develop the skills necessary to succeed in the 21st century.

Previous studies have addressed the impact of technology in education, but the focus on digital storytelling is still limited. This study seeks to fill this gap by investigating the impact of digital storytelling specifically on student engagement and literacy skills. How digital storytelling can affect student engagement and their literacy skills. The authors will assert that this research is important to broaden understanding of the relationship between technology, education, and literacy skills development among students.

METHOD

This study uses a quantitative approach with an experimental design. This study aims to measure the influence of digital storytelling on student engagement and literacy skills. Quantitative research is used to measure the relationship between certain variables studied, in this case the influence of digital storytelling on two main variables, namely student engagement and literacy skills. This study is categorized as experimental research because the researcher will manipulate the independent variable (digital storytelling) to see the impact on the dependent variable (student involvement and literacy skills). The researcher seeks to control other variables that can affect the results of the study, so that the causal relationship found is more valid.

The experimental research design in this study aims to explore the influence of digital storytelling applied in the context of learning on student engagement and literacy skills. This experimental research will use a pre-test and post-test approach with a control group, which allows researchers to compare differences in results before and after the intervention in the form of digital storytelling.

In this study, data will be collected using instruments that have been tested for validity and reliability. The main instruments used are questionnaires to measure student involvement in learning, as well as literacy tests to measure students' literacy skills.

Once the data is collected, data analysis will be carried out using appropriate statistical techniques. One of the possible analyses is the paired sample t-test to determine the difference in the average pre-test and post-test scores in the experimental group and the control group. If the data show significant differences between the two groups after the digital storytelling intervention, then it can be concluded that digital storytelling has an influence on student engagement and their literacy skills. In addition, regression analysis can also be used to determine how much the digital storytelling variable influences student engagement and overall literacy skills, taking into account other variables that may have an impact.

The data collected in this study is quantitative data, which consists of scores obtained from student engagement questionnaires and literacy tests. This quantitative data will be analyzed using relevant statistical techniques to test the hypothesis that has been proposed. The data generated will be in the form of numbers that can be further processed to see the relationship between digital storytelling and student engagement and literacy skills.

The population in this study consists of students who are about 12 to 18 years old. This criterion was chosen because in this age range, students begin to have more developed literacy skills and can engage in learning activities that integrate technology, such as digital storytelling. In addition, students at the junior high or high school level generally already have basic skills in reading and writing, which is the main focus of the literacy skills that are to be developed in this

study. Another characteristic of the population is students who take Indonesian subjects or other subjects that require literacy skills, because digital storytelling will be applied in a learning context that supports the development of this literacy. Therefore, the population in this study is not limited to one school only, but can involve several schools in the relevant region.

The sampling technique used is cluster random sampling. In this study sample, it was taken using a simple random sampling technique. A total of 100 students were selected as a sample, consisting of two groups: an experimental group that used digital storytelling and a control group that used conventional methods. Each group will consist of 30 to 50 students, so the total research sample can reach about 60 to 100 students, depending on the number of classes involved in the research.

The independent variable in this study is digital storytelling which is used as a treatment or intervention in the learning process. Student engagement is the first dependent variable in this study. Literacy skills are the second dependent variable. By comparing the results between the experimental group (who received digital storytelling) and the control group (who followed traditional learning), researchers were able to identify whether there was a significant difference in students' engagement levels and literacy skills, as well as whether digital storytelling had a positive impact on the learning process.

This procedure includes a systematic sequence of activities from planning to data collection and analysis, in this research procedure is designed to be able to test the hypothesis proposed, about how digital storytelling affects student engagement and their literacy skills.

RESULTS AND DISCUSSION

Result

Student Engagement Outcomes:

a. Pre-test: The average score of student involvement in the experimental and control groups before treatment was relatively the same, namely 60.2 (experiment) and 60.0 (control).

b. Post-test: The experimental group experienced an increase in the average score to 85.4, while the control group only increased to 70.3.

Literacy Skills Results:

a. Pre-test: The average score of students' literacy skills in the experimental group was 62.4 and in the control group was 62.0.

b. Post-test: The average score of the experimental group increased significantly to 88.6, while the control group only reached 74.5.

Table 1. Data Description

Group	Student Engagement	Literacy Skills
Pre-Test		
Eksperiment	60,2	62,4
Kontrol	60,0	62,0
Post-Test		
Eksperiment	85,4	88,6
Control	70,3	74,5

The T-test was carried out to determine the significant difference between the pre-test and post-test scores in each group.

a. The experimental group showed a p-value of < 0.05, which means there was a significant increase in student engagement and literacy skills after using digital storytelling.

b. The control group also showed improvement, but with a higher p-value, so the effect was not as strong as that of the experimental group.

The comparison of post-test scores between the experimental and control groups showed a p-value < 0.05, indicating that digital storytelling was significantly more effective than conventional methods. The relationship between student engagement and literacy skills was tested using Pearson correlations. The results showed a strong positive correlation (r = 0.72) in the experimental group, indicating that increased student engagement correlated with improved literacy skills.

The following graph shows the average score of student engagement in the experimental and control groups.
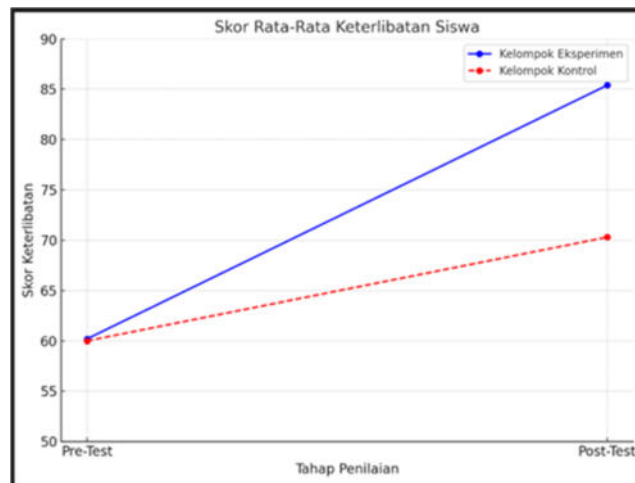

Figure 1. Student Engagement Graph

The graph above shows that the experimental group that used digital storytelling experienced a significant increase in student engagement compared to the control group
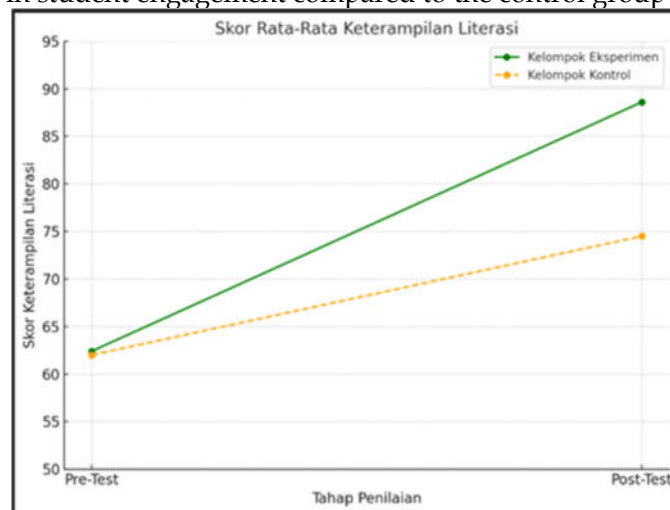

Figure 2. Literacy Skills Graph

The graph above shows that the experimental group showed a greater improvement in literacy skills than the control group after the use of digital storytelling.

Discussion

The results of this study show that the use of digital storytelling has a significant positive impact on student engagement and literacy skills. The significant increase in the experimental group was due to several factors:

a. Interactivity and Visualization: Digital storytelling offers interactive and visual elements that increase students' interest and motivation to learn.
b. Flexibility in Text Comprehension: Digital media allows students to re-access the material, which helps them understand the structure of the story better.
c. Literacy Skills Improvement: The use of technology supports students to develop critical reading and creative writing skills through more engaging methods.

In contrast, the control group showed a moderate improvement, which indicates that conventional methods still have benefits, but are less effective compared to technology-based methods. This result is in line with previous research which states that digital technology can improve student learning outcomes, especially in reading and writing skills. The implications of these findings underscore the importance of integrating technology in education to create a more engaging and effective learning experience.

Research Implications
Implications for Learning Practice

Digital storytelling has been shown to significantly increase student engagement, which shows that this method is effective in creating an engaging and interactive learning atmosphere. The implications for teachers are:

a. Active Use of Technology: Teachers can integrate digital storytelling as part of their teaching strategy to encourage student engagement, especially in language learning and literacy.
b. Increased Learning Motivation: Digital stories with interesting visual and audio elements can increase students' interest in the material being taught. Teachers are advised to use applications or digital platforms to make the material more dynamic.

Implications for Curriculum Development

This research shows that digital storytelling not only increases student engagement, but also significantly improves their literacy skills. Therefore, the curriculum can be adapted to:

a. Integration of Technology and Literacy: The curriculum may include digital storytelling as part of project-based learning or interactive literacy assignments.
b. Teacher Training: Educational institutions need to provide training to teachers so that they can effectively utilize digital technology to support learning.

Implications for Students

Students who engage in digital storytelling-based learning not only show higher motivation, but also better critical and creative thinking skills.

a. Digital Literacy Improvement: Through this learning experience, students not only improve traditional literacy skills (reading and writing), but also digital literacy, which is important for the future.
b. Self-Study Ability: Access to digital stories allows students to learn independently and more flexibly, according to their learning pace.

Implications for Education Policy

This study provides empirical evidence that technology can improve learning outcomes, so governments or education policymakers can consider the following:

a. Investment in Educational Technology: Ensure the availability of technological devices, such as computers or tablets, to support digital-based learning in schools.
b. Digital Platform Development: The government can work with technology developers to provide a digital story platform that suits the needs of students and the national curriculum.

Overall, this study shows that digital storytelling can be an innovative solution to improve the quality of learning. By making optimal use of technology, educational institutions can create experiences

CONCLUSION

Based on the results of the research that has been conducted, it can be concluded that digital storytelling has a positive effect on student engagement and literacy skills. The application of digital storytelling in the learning process significantly increased the level of student engagement, which was reflected in the increase in engagement questionnaire scores before and after the intervention. In addition, students' literacy skills also showed significant improvement, with the experimental group obtaining higher scores than the control group. The application of digital storytelling in education offers new opportunities to improve student engagement and literacy skills. By adopting more innovative learning methods, it is hoped that it can create a more meaningful and relevant learning experience in this digital era. Hopefully this research can make a positive contribution to the world of education and pave the way for further research in this field. In this conclusion, it is emphasized that digital storytelling is an effective learning innovation in improving student engagement and literacy skills, as well as providing a strong foundation for research development and further implementation in the education system.

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