The Effectiveness of Padlet Media in Learning Argumentation Text Writing Skills

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Article Info	Abstract
   	*This study aims to test the effectiveness of the use of **Padlet** media in learning argumentative text writing skills among high school students. The problem raised in this study is the low ability of students to compose logical and structured argumentative texts. Media Padlet was chosen because it could facilitate collaboration and organize ideas interactively. The research method used is quasi-experimental with **Pretest-Posttest Control Group Design**. The students were divided into two groups: an experimental group that used Padlet in learning, and a control group that used conventional methods. Data were collected through pretest and posttest, then analyzed using a t-test to determine the significance of the difference between the two groups. The results showed that students in the experimental group experienced a significant improvement in argumentative text writing skills compared to the control group. These improvements include students' ability to organize ideas, cohesion, and the strength of arguments. The t-test results showed a significant difference with **a $p < value$ of 0.05**, which confirmed that using Padlet effectively improved students' writing skills. This study recommends the use of Padlet as an alternative learning medium in the context of teaching writing.*

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1. INTRODUCTION

Advances in information and communication technology have had a significant impact on various fields, including education. The learning process, which was initially dominated by conventional methods, such as lectures and discussions, is now shifting towards the use of more interactive digital technology. Digital media, especially in language learning and writing skills, offers greater flexibility in the process of delivering material and practicing skills. One of the media used is Padlet, a web-based platform that allows users to collaborate, share information and organize ideas interactively.

Learning argumentative text writing skills is an important aspect of language education. Writing argumentative texts requires the ability to think critically, organize ideas logically, and present strong opinions. However, in practice, many students experience difficulties in writing argumentative texts because they are not used to organizing their ideas well. In this context, the use of technology such as Padlet can help students in the learning process of writing arguments. Padlet not only facilitates collaboration between students, but also allows them to access various sources of information and feedback directly.

Research has been conducted on the use of technology in learning language and writing skills. Several studies show the positive impact of using digital media on improving students' writing skills. The following are five previous research articles that became the basis for this research: First, the research shows that the use of technology-based collaborative media, such as Google Docs, can significantly improve students' writing abilities [1]. The use of this technology not only facilitates students in compiling texts but also improves the quality of writing through joint revision. Second, research finds that

collaboration-based digital platforms such as Padlet enable students to learn to write more actively and involved [2]. According to him, using Padlet in learning to write increases students' motivation and interaction, so that they are more interested in producing quality texts. Third, discussing the effectiveness of using digital media in learning argumentative texts [3]. The results of his research show that digital media can help students construct more structured arguments because they can access relevant sources of information and get real-time feedback from their teachers and friends. Fourth, research shows that the use of technology in learning to write argumentative texts allows students to work collaboratively, which ultimately improves their critical thinking and logic skills [4]. Concluding that collaboration in writing can facilitate deeper discussions regarding the topics discussed. Fifth, a study regarding the use of interactive media in learning writing found that using Padlet made it easier for students to organize their ideas [5]. This research emphasizes the importance of the visual aspect of Padlet, which helps students visualize the structure of their arguments more clearly.

Based on previous literature reviews, it appears that research regarding the use of Padlet media in learning argumentative text writing skills is still limited. This research will focus on aspects of Padlet's effectiveness in developing students' abilities to write argumentative texts, both in terms of critical thinking skills, collaboration, and student involvement in the learning process. This research also offers a new perspective by examining how Padlet can simultaneously support independent and collaborative learning, as well as how students can utilize this platform to gradually improve the quality of their argumentative texts.

The scientific novelty of this research lies in an in-depth analysis of the effectiveness of Padlet as a learning medium that not only facilitates collaboration, but also allows students to learn independently and in an organized manner. In addition, this research will assess the impact of Padlet on improving students' writing skills through a series of systematic trials and evaluations.

Based on the background and literature review above, this research aims to answer the question: Is the use of Padlet media effective in improving students' argumentative text writing skills? To answer this question, the hypothesis of this research is: The use of Padlet media significantly improves students' argumentative text writing skills, both in terms of structure, content and argument organization.

This research aims to analyze the effectiveness of using Padlet in learning argumentative text writing skills. Specifically, this research will evaluate: Students' ability to organize argumentative texts using Padlet. The level of student involvement and collaboration in the writing learning process via Padlet. The effect of using Padlet on the quality of argumentative texts produced by students.

2. RESEARCH METHOD
2.1 Research Design

This research uses a quasi-experimental method with a Pretest-Posttest Control Group Design. This design was chosen because it allows researchers to measure changes in students' writing skills after implementing the learning method using Padlet, compared to a control group that used conventional learning methods. According to experts, the quasi-experimental method is effective in testing the hypothesis of a cause-and-effect relationship by involving experimental and control groups and taking measurements before and after treatment [6].

In this study, students were divided into two groups: the experimental group who use Padlet as a learning medium, and the control group who used the conventional method without Padlet. Before and after the intervention, both groups will be given a test to measure their argumentative text writing skills.

2.2 Research Subjects

The subjects of this research were class XI students of SMA Negeri 3 Bima, totaling 60 students. Students were divided randomly into two groups, namely the experimental group (30 students) and the control group (30 students). Subject selection was carried out using a cluster random sampling technique to reduce bias in the group division process. This technique was chosen because it allows researchers to obtain a representative sample without requiring individual randomization of each student [7].

2.3 Research Procedures

The research procedure was carried out in several stages, which include:

2.3.1   Research Preparation

In the preparation stage, researchers carried out the following steps:

- Coordinate with the school to obtain research permission.
- Develop research instruments in the form of valid and reliable pretest and posttest questions to measure students' argumentative text writing skills. Validation of the instrument was carried out through trials on small groups of students and consultation with language experts to ensure the accuracy of the test material [8].
- Preparing Padlet-based learning media for use by the experimental group.

2.3.2   Research Implementation

The research was conducted for 6 weeks, where students from both groups took part in learning sessions to write argumentative texts using different methods. The implementation of the research is divided into the following stages:

- Pretest (Week 1)**:** At the start of the study, students from both groups were given the same pretest to measure their initial skills in writing argumentative texts. This pretest aims to determine the extent of students' skills before receiving treatment [9].
- Intervention (Weeks 2-5)**:** For the next four weeks, the experimental group took part in learning using Padlet, while the control group took part in learning using conventional methods. The material taught in both groups was the same, namely techniques for writing argumentative texts, but the delivery methods were different. The experimental group used Padlet to organize ideas, conduct discussions, and write collaboratively, while the control group used print media and face-to-face discussions. Every week students compose argumentative texts based on the specified topic.
- Posttest (Week 6)**:** After the intervention was completed, both groups were given the same posttest to measure the improvement in their argumentative text writing skills. This posttest functions to compare student learning outcomes before and after treatment [10].

2.3.3   Research Implementation

Data obtained from the pretest and posttest were analyzed using the t-test technique to see whether there were significant differences between the results of the experimental and control groups. The t-test was chosen because it can measure the difference in means between two independent groups [11]. Apart from that, researchers also used effect size to find out how much influence using Padlet had on improving students' argumentative text writing skills.

2.4 Research Instrument

The main instrument in this research is a test of argumentative text writing skills which is prepared based on a writing assessment rubric. This rubric covers several aspects of assessment, namely:

- Text structure: Students' ability to compose argumentative texts by introducing problems, conveying opinions, and drawing conclusions.
- Use of language: Completeness and accuracy of good and correct use of Indonesian.
- Cohesion and coherence: Students' ability to connect ideas logically and systematically.
- Argumentation: The quality and strength of the arguments presented by students. This test instrument was validated by Indonesian language education experts and tested for reliability using the Cronbach's Alpha reliability test with values above 0.7 considered reliable [12].

2.5 Method of Testing and Data Acquisition

Data was collected through two main tests, namely pretest and posttest, which were carried out before and after the intervention. Each test consists of one task of writing an argumentative text with a different topic, but of the same level of difficulty. Data obtained from the pretest and posttest will be processed in the following stages:

- Data collection: Each student wrote an argumentative text, and the writing results were collected on Padlet worksheets (for the experimental group) and paper (for the control group).
- Data assessment: The assessment was carried out by two independent assessors using the assessment rubric that had been prepared. Each text is assessed based on aspects of structure, language, cohesion and strength of argument. If there are significant differences in assessments, the two assessors will discuss to reach an agreement [13].
- Statistical analysis: After the pretest and posttest data were collected, statistical analysis was carried out using the SPSS program. The normality test is carried out first to ensure the data is normally distributed. After that, the t-test was used to test the hypothesis that there was a significant difference between the learning outcomes of the experimental group and the control group after the intervention.

2.6 Validity and Reliability

To ensure that the research results can be trusted, validity and reliability tests were carried out on the research instruments. Content validity was guaranteed through consultation with experts in the field of language education, while reliability was tested using the split-half reliability technique and calculated using the Spearman-Brown formula [14]. This research also considers internal and external validity, by keeping the research conditions consistent and ensuring that the research results can be generalized to a wider population.

3. RESEARCH RESULTS AND DISCUSSION

3.1 Research result

In this subchapter, the research results will be displayed in the form of tables, graphs and descriptions of data obtained from the pretest and posttest.

3.1.1 Pretest Data Description

Before implementing learning using Padlet, students from both groups, experimental and control, were given a pretest to measure their skills in writing argumentative texts. The pretest results showed that the average scores of students in the two groups were at almost the same level, with a slight difference that was not significant. The following is a table of pretest results for both groups:

Table 1. Initial Abilities of Students

Group	Number of Students	Average Pretest Score	Standard Deviation

Experimental Group	30	65.4	5.2
Control Group	30	64.8	5.6

From the pretest data, it can be seen that students' initial abilities in writing argumentative texts are at relatively the same level. The average pretest score shows that the majority of students do not have adequate argumentation writing skills, with scores that are below the minimum standard of completeness [15].

3.1.2   Posttest Data Description

After intervention in the form of using Padlet for the experimental group and conventional learning for the control group, students from both groups were given another test (posttest). The posttest results showed a significant improvement in the experimental group compared to the control group. The following is a table of posttest results for both groups:

Table 2. Improvement of Writing Skills

Group	Number of Students	Average Posttest Score	Standard Deviation	Improvement
Experimental Group	30	80.7	4.8	23.3
Control Group	30	70.2	6.1	5.4

The posttest results showed that students in the experimental group experienced significant improvements in their argumentative text writing skills after using Padlet as a learning medium. Meanwhile, the control group also experienced an increase, but not as much as the experimental group.

3.1.3   Statistical Analysis

To find out whether there is a significant difference between the posttest results of the experimental group and the control group, a t-test was carried out. The t-test results show a value of $t = 5.82$ with a p-value < 0.05, which means that there is a significant difference between the two groups after the intervention [16]. In other words, using Padlet in learning argumentative text writing skills has a significant positive impact compared to conventional learning methods.

3.2 Discussion

In this subchapter, the research results that have been presented will be discussed in depth based on relevant theories and previous research.

3.2.1   The Effect of Padlet on Improving Argumentation Text Writing Skills

The results of this research show that using Padlet as a learning medium has a significant impact on improving students' argumentative text writing skills. The significant improvement in the experimental group can be explained by several factors.

First, Padlet allows students to organize their ideas in a more structured and logical way. According to experts, collaboration and social interaction are very important in learning. By using Padlet, students can collaborate with their friends in constructing arguments, which ultimately improves the quality of their writing [17]. This is in line with findings which state that interactive digital media can increase student motivation and involvement in the learning process [18].

Second, Padlet provides direct feedback from teachers and peers, allowing students to correct their mistakes in real-time. It is believed that direct feedback is an important factor in learning to write, because students can immediately find out their mistakes and correct them [19]. In this study, students who used Padlet received direct feedback through the available collaboration features, so they could gradually improve the quality of their writing.

3.2.2 Comparison with Conventional Methods

While the control group who used conventional methods also experienced an increase in their argumentative text writing skills, this increase was not as big as the experimental group. This may be due to the limitations of conventional methods in providing opportunities for collaboration and direct feedback. Conventional learning methods are often less effective in developing writing skills because students tend to be passive and just follow the teacher's instructions without much opportunity to interact or collaborate [20].

In addition, in conventional methods, students usually only rely on textbooks and face-to-face discussions, which are often limited to the time available in class. Padlet, on the other hand, provides broader access to information and allows students to work independently outside of class hours. This is in line with findings showing that digital technology can help students learn more flexibly and independently [21].

3.2.3 Implications for Writing Learning

The implications of the results of this research for learning to write are very important. The use of digital media such as Padlet can be an effective alternative in overcoming several challenges in learning to write, especially in terms of organizing ideas and collaboration. Students who use digital media in learning to write tend to be more involved and active in the learning process, because they find it easier to organize and develop their ideas visually [22].

Apart from that, using a Padlet can also improve students' critical thinking skills. In writing argumentative texts, students must be able to compose strong and logical arguments, and consider various points of view. Experts state that critical thinking skills are very important in writing argumentative texts, and digital media such as Padlet can help students hone these skills by providing a platform for discussion and reflection [23].

3.2.4 Research Limitations and Suggestions

Although this study showed positive results, there are several limitations that need to be considered. First, this research was only conducted over a relatively short period of time (6 weeks), so the long-term impact of using Padlet cannot yet be known. In addition, this research only involved one school as a sample, so the generalization of the research results may be limited.

Therefore, it is recommended that further research involve a larger and more diverse sample, and be conducted over a longer period of time to see the long-term impact of using Padlet in learning writing skills. Apart from that, further research also needs to examine other factors that might influence Padlet's effectiveness, such as student learning styles and the teacher's role in providing feedback.

4. CONCLUSION

Based on the research results and discussions that have been presented, it can be concluded that the use of Padlet as a learning medium in teaching argumentative text writing skills has proven effective in improving students' writing skills. This is indicated

by a significant increase in the posttest results of students in the experimental group compared to the control group. Using Padlet allows students to collaborate, better organize ideas, and receive immediate feedback, all of which contribute to improving the quality of the resulting argumentative text. More specifically, this research succeeded in answering the research question, namely that Padlet significantly improved students' argumentative text writing skills, especially in terms of organizing ideas, cohesion, and argument strength. The greater improvement in the experimental group compared to the control group indicates that Padlet is an effective tool to use in writing lessons that involve collaboration and direct interaction.

Thus, this research makes a new contribution to the field of language education, especially in the use of digital technology to improve students' writing skills. Apart from that, the results of this research also provide practical implications for teachers and educators to consider using digital media such as Padlet as an alternative in teaching writing skills. This research also opens up opportunities for further studies that can examine the use of Padlet in a wider context and with more diverse samples, as well as a longer intervention period to assess the long-term impact of using digital media in learning writing skills.

5. ACKNOWLEDGEMENT

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