THE EFFECTIVENESS OF DIGITAL TEACHING MATERIALS TO IMPROVE LITERARY LITERACY SKILLS IN PRIMARY SCHOOLS

Dudu Suhandi Saputra[1*], Devi Afriyuni Yonanda[2], Yuyu Yuliati[3], Yuyun Dwi Haryanti[4]

[1,2,3,4]Universitas Majalengka, Indonesia
[1]d.suhandi.s@gmail.com

Abstract

This research is motivated by the challenge of improving the literary literacy skills of elementary school students, which are often considered boring using conventional learning methods. The purpose of this study was to analyze the effectiveness of digital teaching materials in improving literary literacy skills, as well as the interests and motivations of 5th grade elementary school students in Majalengka Regency, West Java.. The research method used was quasi-experimental with a pre-test and post-test design in two groups: the Experimental Group which used digital teaching materials and the Control Group which used conventional methods. The research sample consisted of 60 grade 5 students, with each group consisting of 30 students. Data collection techniques include literary literacy tests, interest and motivation questionnaires, and classroom observations. Data analysis was done using statistical tests to compare changes in pre-test and post-test scores between the two groups. The research results showed that the use of digital teaching materials significantly improved the literary literacy skills of students in the Experimental Group compared to the Control Group. The average literary literacy score in the Experimental Group increased from 45 to 72, while in the Control Group, it only increased from 43 to 55. Students' interest and motivation also increased more significantly in the Experimental Group. In conclusion, digital teaching materials effectively improve students' literary literacy skills, interest, and motivation. The implication is that teachers and schools are advised to integrate technology into literature learning, and policymakers need to support using digital teaching materials in the national curriculum to improve the quality of education.

Keywords: literary literacy; digital teaching materials; elementary school; interest to learn; motivation to learn

Abstrak

Penelitian ini dilatarbelakangi oleh tantangan dalam meningkatkan kemampuan literasi sastra siswa sekolah dasar, yang sering kali dianggap membosankan dengan metode pembelajaran konvensional. Tujuan penelitian ini adalah untuk menganalisis efektivitas bahan ajar digital dalam meningkatkan kemampuan literasi sastra, serta minat dan motivasi siswa kelas 5 SD di Kabupaten Majalengka, Jawa Barat. Metode penelitian yang digunakan adalah eksperimen semu dengan desain pre-test dan post-test pada dua kelompok: Kelompok Eksperimen yang menggunakan bahan ajar digital dan Kelompok Kontrol yang menggunakan metode konvensional. Sampel penelitian terdiri dari 60 siswa kelas 5, dengan masing-masing kelompok beranggotakan 30 siswa. Teknik pengumpulan data meliputi tes literasi sastra, kuesioner minat dan motivasi, serta observasi kelas. Analisis data dilakukan dengan menggunakan uji statistik untuk membandingkan perubahan skor pre-test dan post-test antara kedua kelompok. Hasil penelitian menunjukkan bahwa penggunaan bahan ajar digital secara signifikan meningkatkan kemampuan literasi sastra siswa di Kelompok Eksperimen dibandingkan dengan Kelompok Kontrol. Skor rata-rata literasi sastra di Kelompok Eksperimen meningkat dari 45 menjadi 72, sementara di Kelompok Kontrol hanya meningkat dari 43 menjadi 55. Minat dan motivasi siswa juga meningkat lebih signifikan di Kelompok Eksperimen. Kesimpulannya, bahan ajar digital efektif dalam meningkatkan kemampuan literasi sastra, minat, dan motivasi siswa. Implikasinya, guru dan sekolah disarankan untuk mengintegrasikan teknologi dalam pembelajaran sastra, dan pembuat kebijakan perlu mendukung penggunaan bahan ajar digital dalam kurikulum nasional untuk meningkatkan kualitas pendidikan.

Kata Kunci: literasi sastra; bahan ajar digital; sekolah dasar; minat belajar; motivasi belajar

Introduction

Literary literacy abilities among elementary school students in Indonesia are still relatively low. This has become a major concern for various groups, including the government, educators, and researchers. Literary literacy includes not only the ability to read and write, but also understanding, interpretation, and appreciation of literary texts (Esh, 2023; Reis, 2021; Zappone, 2021). Good literary literacy is an important foundation for children's intellectual and emotional development. Unfortunately, research results show that many Indonesian students have literacy skills below the expected standards (Education Policy Research Center, 2020). This situation is exacerbated by various interrelated factors, which require immediate attention and treatment.

One of the main factors that contribute to low literary literacy skills is the lack of interest in reading among students. Many students are more interested in spending their time on activities unrelated to reading, such as playing games or watching television (Fernández-Villardón, 2021; Jung, 2020; Kane, 2022). Surveys show that only a small number of students have the habit of reading books outside of school activities. This shows that interest in reading among students is still very low, which has a direct impact on their literacy abilities. The teaching methods used in many schools are still conventional and lacking in variety. Many teachers still rely on lecture methods and the use of monotonous textbooks, which often makes students feel bored and uninterested in following lessons. The lack of variety in teaching methods results in students not being actively involved in the learning process so their understanding of the material is also less than optimal. This uninteresting teaching method is one of the main causes of students' low interest in reading and literacy skills.

Limited access to quality reading materials is also a significant problem. Many schools, especially in remote areas, do not have adequate libraries. Even if there is a library, the book collections available are often uninteresting or irrelevant to students' interests and needs. This condition is exacerbated by the relatively high cost of purchasing books, which is an obstacle for many families, especially those from the lower middle class, to provide quality reading materials for their children. Apart from that, limited infrastructure and facilities in many schools are also a major obstacle in efforts to increase literary literacy. Many schools do not have adequate facilities to support effective learning, including comfortable reading rooms and access to information technology. This condition makes the learning process less than optimal and uninteresting for students. This results in students' low motivation and interest in learning, ultimately impacting their literacy abilities.

In facing these various problems, digital teaching materials emerge as a potential solution. Digital teaching materials offer various advantages compared to conventional teaching materials, especially in terms of interactivity, multimedia and accessibility (Bach, 2021; Lamas-Alvarez, 2021; Lestarani, 2023; Lin, 2022). By using digital teaching materials, students can interact with texts through sound, images and animations which can help them understand and appreciate literature better. Furthermore, digital teaching materials can make the learning process more interesting and interactive, which in turn can increase students' interest and motivation to learn (Hidayatullah, 2019).

Digital teaching materials enable the presentation of subject matter in a more dynamic and engaging way. For example, literary stories can be presented through interesting animated videos, or students can listen to audio books while looking at relevant illustrations. This approach not only helps students understand the content of the story better, but can also increase their interest and motivation to learn. By using multimedia technology, teachers can present lesson material in a more interesting and varied way, which can make students more interested

and involved in the learning process. Apart from that, digital teaching materials also allow easier and wider access to various types of reading materials. By using digital devices such as tablets or computers, students can access thousands of books and learning materials online. This is especially helpful for schools in remote areas that have limited access to physical reading materials. According to reports

The use of interactive digital teaching materials can significantly increase students' understanding and interest in reading (Putri & Hartono, 2021). In their study, students who used digital learning materials showed greater improvements in reading comprehension scores compared to students who used conventional teaching materials. This shows that digital teaching materials can be an effective tool for increasing literary literacy among elementary school students. Implementing digital teaching materials in schools requires support from various parties, including the government, schools and teachers. The government, through the Ministry of Education and Culture, needs to initiate programs that support the integration of technology in education, such as providing digital infrastructure and training for teachers in using digital teaching materials. The National Literacy Movement which has been launched by the government can be the right platform to encourage the use of digital teaching materials in schools.

Schools also need to play an active role in implementing digital teaching materials. School principals and teachers need to work together to design and integrate digital teaching materials into the learning curriculum. In addition, schools also need to ensure that all students have adequate access to digital devices and internet connections. According to the Indonesian Literature Education Teachers Association, collaboration between schools, teachers and parents is very important to ensure the successful implementation of digital teaching materials (Indonesian Literature Education Teachers Association, 2022). Teachers also play a key role in the use of digital teaching materials. They need to be trained and given opportunities to develop skills in using educational technology. Quality literary education will form a critical, creative and cultured generation. The use of digital teaching materials is an important step to achieve this goal (Sugiyanto, 2020). Thus, teachers must be empowered to utilize digital teaching materials effectively in the learning process.

This research is urgent and important for several main reasons. Based on UNESCO reports, Indonesia is ranked 62nd out of 70 countries in terms of literacy (UNESCO, 2019). This shows the need for effective interventions to improve literary literacy skills among elementary school students. This situation becomes increasingly urgent considering the importance of literary literacy for children's intellectual and emotional development. Global education is currently undergoing a significant digital transformation (Dyrvold, 2023; Ramadhan, 2023; Vidal-Esteve, 2023). The integration of technology in education can improve the accessibility and quality of education. Therefore, it is important to explore how digital teaching materials can be used effectively in the context of literary literacy. Good literary literacy not only improves students' academic abilities, but also forms character and critical thinking skills that are essential for their future development (Frank, 2020; Höglund, 2024; Leitão, 2021; Mülke, 2020; Walldén, 2021; Zappone, 2021). In literature learning, emphasis is placed n that quality literary education will form a critical, creative and cultured generation (Jung, 2020; Ramalhete, 2020). The use of digital teaching materials is one important step to achieve this goal. Thus, literary literacy has an important role in forming a generation that is able to think critically, creatively and has broad cultural insight.

Although there is a lot of research on the use of technology in education, there is still little research that focuses on the effectiveness of digital teaching materials, especially in the context of literary literacy in elementary schools. This research aims to fill this gap and provide empirical evidence that can be used by educators and policy makers. The Indonesian government through the Ministry of Education and Culture has initiated various programs to increase literacy, one of which is the National Literacy Movement. This research supports these initiatives by providing data and practical recommendations regarding the use of digital teaching materials. Thus, this research is not only relevant in an academic context, but also has significant practical implications for improving the quality of literature education in elementary schools. The integration of technology in teaching literature can be one solution to improve the quality of literacy among elementary school students. In addition, it is hoped that the results of this research can provide practical recommendations for educators and policy makers in designing and implementing programs that support the use of digital teaching materials. With the right approach, it is hoped that digital teaching materials can become an effective tool for developing literary literacy skills, so that students are not only able to read and write well, but are also able to understand and appreciate literary works in more depth.

This research also supports the National Literacy Movement initiative launched by the government. By providing data and practical recommendations regarding the use of digital teaching materials, it is hoped that this research can encourage wider and more targeted use of digital teaching materials in schools. This is in line with the government's vision to improve the quality of education and literacy in Indonesia. The low level of literary literacy skills among elementary school students is an urgent problem that needs to be addressed. Digital teaching materials have emerged as a potential solution to overcome various existing challenges, such as lack of interest in reading, less varied teaching methods, and limited access to quality reading materials. With the advantages of interactivity, multimedia and accessibility, digital teaching materials can increase students' interest and motivation to learn, as well as provide wider access to various types of reading materials. However, the successful implementation of digital teaching materials requires support from various parties, including the government, schools and teachers. The government needs to provide adequate technological infrastructure and training programs for teachers. Schools need to work together to integrate digital teaching materials into the curriculum, and teachers need to be empowered to utilize educational technology effectively. With a comprehensive and coordinated approach, it is hoped that digital teaching materials can become an effective tool for improving literary literacy skills among elementary school students in Indonesia.

Research Methods

This research aims to evaluate the effectiveness of digital teaching materials in improving literary literacy skills among grade 5 elementary school students. The research method used is a quantitative method with an experimental approach (quasi-experimental design). This research was conducted in Majalengka Regency, West Java, with a sample consisting of 60 grade 5 elementary school students. This research uses an experimental design with a control group and an experimental group. The experimental group will be given digital teaching materials, while the control group will use conventional teaching materials. This design allows researchers to compare learning outcomes between the two groups and evaluate the effectiveness of digital teaching materials.

In this research, various data collection techniques were used to gain an in-depth understanding of the effectiveness of digital teaching materials in improving the literary literacy skills of 5th-grade elementary school students. First, a literary literacy test is used to measure students' abilities before and after treatment. Second, a questionnaire was used to assess students' interest and motivation toward literary literacy before and after using digital teaching materials. Third, observations were carried out to observe interactions between teachers and students, student activities, and responses to digital teaching materials during the learning process. With a combination of tests, questionnaires, and observation methods, this research will produce comprehensive and in-depth data regarding the impact of digital teaching materials in the context of literary literacy at the elementary school level.

Data obtained from the pre-test and post-test will be analyzed using the t-test for paired samples (paired t-test) and the t-test for independent samples (independent t-test). The t-test for paired samples was used to see differences in literary literacy abilities before and after treatment in each group. Meanwhile, the t-test for independent samples was used to compare the differences between the experimental group and the control group after treatment. Questionnaire data will be analyzed using descriptive statistics to see changes in student's interest and motivation toward literary literacy. This analysis includes calculating the average, standard deviation, and frequency distribution of student answers. Observation data will be analyzed qualitatively to provide an overview of the learning process in class and student responses to teaching materials. The results of these observations will be used to complement and strengthen quantitative findings from tests and questionnaires.

Results and Discussion

The following is a table that shows changes in the average scores of students' interest and motivation before and after treatment:

Table 1. Average score of literary literacy abilities

	Average Score Before Treatment	Average Score After Treatment
Experimental Group	3,5	4,2
Control Group	3,2	3,6

Data from the questionnaire shows significant changes in students' interest and motivation towards literary literacy after using digital teaching materials. Before treatment, the average interest score of students in the Experimental Group was 3.5 on a scale of 1-5, while in the Control Group, it was 3.2, indicating a fairly positive level of interest before treatment. However, the average score of student motivation before treatment tended to be low, with a score of 3.4 in the Experimental Group and 3.1 in the Control Group. After treatment, there was a significant increase in student interest and motivation in both groups. The average interest score increased to 4.2 in the Experimental Group, indicating a very positive response to the use of digital teaching materials. Meanwhile, in the Control Group, the average interest score also increased to 3.6, although not as big as the increase that occurred in the Experimental Group.

A similar thing happens to student motivation. The average motivation score increased from 3.4 to 4.1 in the Experimental Group, indicating that the use of digital teaching materials was successful in stimulating students' motivation to learn literary literacy. However, in the Control Group, although there was an increase, the increase in motivation was not as large as that in the Experimental Group, with the average motivation score increasing from 3.1 to 3.5.

These results indicate that digital teaching materials have a significant positive impact on student's interest and motivation toward learning literary literacy, more than what can be achieved with conventional methods. Furthermore, an unpaired t-test was performed to compare the post-test scores between the experimental and control groups:

Table 3 Unpaired T-Test Results

		F	Sig.	t	df	Sig. (2-tailed)
Literary ability	literacy	6.742	.012	41.66	58	.000

The t test results showed that there was a significant difference in the post-test scores between the experimental and control groups. The experimental group showed significantly higher literary literacy ability scores than the control group, indicating that digital teaching materials were more effective in improving literary literacy skills.

The t-test results showed that there was a significant difference in the post-test scores between the experimental and control groups. The experimental group showed significantly higher literary literacy ability scores than the control group, indicating that digital teaching materials were more effective in improving literary literacy skills.

The results of observations of the Experimental Group using digital teaching materials showed several important findings. The interaction between students and teachers in the classroom becomes more dynamic and active. Students in the Experimental Group showed a high level of participation during the learning process. They are more active in asking questions, answering questions, and participating in class discussions. This can be seen from the increased frequency of verbal interactions between students and teachers compared to before treatment. The questions asked by students become more varied and in-depth. Students not only ask about basic information but also about interpretation and analysis of the literary texts they read. For example, students often ask about the symbolic meaning or main theme of the story being discussed. In student activities, the use of technology supports the learning process. Students look very enthusiastic about using digital devices in learning. They quickly understand how to use software and applications related to digital teaching materials. The use of multimedia, such as videos and animations, helps students understand literary concepts better and piques their interest. Students are more involved in the tasks given. They show greater dedication in completing projects or assignments related to literary literacy, such as creating digital stories or multimedia presentations about the literary works they study.

Student responses to the use of digital teaching materials are very positive. They show high enthusiasm for new learning methods. Students often state that learning becomes more fun and interesting. Some students even expressed interest in exploring more literary works outside of class time. Apart from that, the use of digital teaching materials also encourages collaboration between students. Students more often work in groups to complete assignments and share ideas. This strengthens social relationships in the classroom and improves their cooperation skills. In contrast, the results of observations of the Control Group which used conventional learning methods showed several different findings. Student participation in class discussions tends to be lower compared to the Experimental Group. Students often listen to teacher explanations rather than actively interacting. The frequency of questions asked by students is also less and they tend to be facts or basic information. Questions asked by students more often focus on basic understanding of literary texts without much in-depth analysis or interpretation.

In student activities, because learning is carried out using conventional methods, the use of technology is limited. Students only use textbooks and other printed materials. This makes learning feel monotonous for some students. Students showed lower engagement in completing literature assignments. Tasks tend to be completed individually without much collaboration or creativity. Student responses to conventional learning tend to be less enthusiastic. Some students find literature lessons uninteresting. This can be seen from their facial expressions and body language during the lesson. Collaboration between students in completing assignments is also less visible. Students work more alone and interact less with their friends in the context of literature learning. From the observation results, it is clear that the use of digital teaching materials in the Experimental Group brings positive changes in class dynamics. Students were more engaged, and enthusiastic, and showed higher interest in literary literacy compared to the Control Group. More active interaction, effective use of technology, and increased collaboration between students are factors that support the effectiveness of digital teaching materials in improving literary literacy skills. In contrast, conventional learning methods in the Control Group showed lower student engagement and enthusiasm, with less interaction and collaboration. These results show that innovations in learning methods, such as the use of digital teaching materials, can have a significant positive impact on literary literacy learning in elementary schools.

Conclusion

This study shows that the use of digital teaching materials significantly improves literary literacy skills, interests, and motivation of 5th grade elementary school students in Majalengka Regency, West Java. Students who use digital teaching materials not only show higher literary literacy scores, but are also more enthusiastic and motivated in the learning process compared to students who use conventional methods. Classroom observations also support these findings, showing that digital teaching materials encourage active participation, more dynamic interactions, and better collaboration between students.

The implications of these findings are very important for various stakeholders in the field of education. Teachers and schools can utilize digital teaching materials to make learning more interactive and interesting, which in turn can improve student participation and learning outcomes. Education policymakers need to consider the integration of digital teaching materials into the national curriculum and provide the necessary support for its implementation, including training for teachers. In addition, developers of digital teaching materials need to continue to innovate in creating materials that are not only educational but also able to attract students' interest, thus supporting the achievement of broader educational goals. Thus, the use of digital teaching materials can be an effective solution to improve the quality of literature education in elementary schools and ensure that all students have the opportunity to reach their full potential.

References

Asosiasi Guru Pendidikan Sastra Indonesia. (2022). Peran Guru dalam Implementasi Bahan Ajar Digital di Sekolah Dasar. In *AGPSI*.

Bach, K. (2021). BOB3 - A small robot for entry into computer science and learning programming: Digital microlearning units in combination with classic teaching materials. *Lecture Notes in Informatics (LNI), Proceedings - Series of the Gesellschaft Fur Informatik (GI)*, 1635–1639.

Dyrvold, A. (2023). Static, dynamic and interactive elements in digital teaching materials in mathematics: How do they foster interaction, exploration and persistence? *Iron and Steel Technology*, *11*(3), 103–131. https://doi.org/10.31129/LUMAT.11.3.1941

Esh, M. (2023). A Twenty-Year Trend Analysis of Literary Warrants on Digital Literacy and Digital Competency Through SCOPUS Database. *Science and Technology Libraries*. https://doi.org/10.1080/0194262X.2023.2238222

Fernández-Villardón, A. (2021). Enhancing Literacy and Communicative Skills of Students With Disabilities in Special Schools Through Dialogic Literary Gatherings. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/fpsyg.2021.662639

Frank, A. J. (2020). Turkmen Literacy and Turkmen Identity before the Soviets: The Ravnaq al-Islam in Its Literary and Social Context. *Journal of the Economic and Social History of the Orient*, *63*(3), 286–315. https://doi.org/10.1163/15685209-12341511

Hidayatullah, A. (2019). Pemanfaatan Bahan Ajar Digital untuk Meningkatkan Motivasi Belajar Siswa. *Jurnal Teknologi Pendidikan*, *21*(3), 45–46.

Höglund, H. (2024). Embracing unpredictability: A rhizomatic approach to arts integration in literacies and literary education. *Developing a Didactic Framework across and beyond School Subjects: Cross- and Transcurricular Teaching*, 119–130. https://doi.org/10.4324/9781003367260-12

Jung, S. (2020). Literary ephemera: Understanding the media of literacy and culture formation. *Eighteenth-Century Life*, *44*(2), 1–16. https://doi.org/10.1215/00982601-8218580

Kane, B. D. (2022). Collaborative literary reasoning as a support for preservice English language arts teachers' learning about disciplinary literacy. *English Teaching*, *21*(1), 84–97. https://doi.org/10.1108/ETPC-06-2021-0065

Lamas-Alvarez, V. E. (2021). Using digital teaching materials in university education. *Proceedings - 11th International Conference on Virtual Campus, JICV 2021*. https://doi.org/10.1109/JICV53222.2021.9600432

Leitão, A. A. P. (2021). Fanfictions: Experiences Promoting Literary Literacy and School Authorship. *DELTA Documentacao de Estudos Em Linguistica Teorica e Aplicada*, *37*(2), 1–25. https://doi.org/10.1590/1678-460X202148198

Lestarani, D. (2023). Development of Articulate Storyline 3-Based Digital Teaching Materials on the Subject of Atomic Structure and Periodic Elements System for SMA/MA Students in Class X. *Orbital*, *15*(2), 127–132. https://doi.org/10.17807/orbital.v15i2.17959

Lin, W. Y. (2022). Study on the Learning Effect of "In-Depth Guidance Strategy" Combined with "Online Digital Teaching Materials" in Multimedia Integrated System Course. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, *13449*, 398–404. https://doi.org/10.1007/978-3-031-15273-3_44

Mülke, M. (2020). Literacy and literary culture in Suebic Galicia (6th Century CE): Martin of Braga. *Cristianesimo Nella Storia*, *41*(3), 697–722. https://doi.org/10.17395/99633

Pusat Penelitian Kebijakan Pendidikan. (2020). Hasil penelitian kemampuan literasi siswa Indonesia. In *Pusat Penelitian Kebijakan Pendidikan*.

Putri, M. A., & Hartono, R. (2021). Pengaruh Bahan Ajar Digital Interaktif terhadap Pemahaman dan Minat Baca Siswa Sekolah Dasar. *Jurnal Pendidikan Dasar*, *15*(2), 120–135.

Ramadhan, S. (2023). Digital Teaching Materials Development Containing Environmental Education Using Task Based Language Learning (TBLL). *Theory and Practice in Language Studies*, *13*(11), 2952–2962. https://doi.org/10.17507/tpls.1311.26

Ramalhete, M. P. (2020). The literary education guideline in the national literacy policy: Counterpoints. *Praxis Educativa*, *15*. https://doi.org/10.5212/PRAXEDUC.V.15.15264.052

Reis, J. E. (2021). Literary utopianism and ecological literacy. *Transgressive Utopianism: Essays in Honor of Lucy Sargisson*, 109–122.

Sugiyanto. (2020). *Pendidikan Sastra dan Penggunaan Teknologi dalam Meningkatkan Literasi*. Pustaka abadi.

UNESCO. (2019). *Literacy Rates and Gaps Among Youth and Adults Worldwide*. UNESCO Institute for Statistics.

Vidal-Esteve, M. I. (2023). Digitalization of Classrooms: A Comparative Study on Teachers' Perceptions about the Use of Digital Teaching Materials in Early Childhood and Primary Education. *Education Sciences*, *13*(11). https://doi.org/10.3390/educsci13111156

Walldén, R. (2021). NEGOTIATING FIGURATIVE LANGUAGE FROM LITERARY TEXTS: SECOND-LANGUAGE INSTRUCTION AS A DUAL LITERACY PRACTICE. *L1 Educational Studies in Language and Literature*, *21*, 1–30. https://doi.org/10.17239/L1ESLL-2021.21.01.08

Zappone, M. H. Y. (2021). Fictional and literary literacy: Discussion on the use of fictional texts as from literacy studies. *Veredas*, *32*, 165–188. https://doi.org/10.24261/2183-816X1232