

The Potential of Developing Interactive Media Based on Local Wisdom in Improving Reading Skills

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Abstract

Reading skills and literacy comprehension are the most important competencies in the digital era, so the development of interactive media based on local wisdom is a potential strategy to improve it. This study aims to analyze the potential for the development of interactive media based on local wisdom in improving reading skills. The method used is Systematic Literature Review (SLR) with the PRISMA approach, using randomly taken articles from Q1-Q4 journals indexed in the publisher Elsevier (ScienceDirect). The results showed that reading skills, better engagement in learning, and positive responses of students to culturally relevant materials. The use of digital storytelling and e-comics based on local wisdom in particular shows promising results in increasing students' understanding and interest in reading. However, the implementation of this media still faces significant challenges, especially related to the lack of understanding and skills of teachers in integrating local wisdom into learning, limited resources and infrastructure, and difficulties in maintaining the relevance of local wisdom in the midst of cultural change. To address these challenges, a comprehensive approach is needed that includes intensive teacher training, adequate infrastructure support, and the development of a holistic approach in integrating local wisdom into modern curricula. The implications of this study show that all stakeholders must be aware of the importance of integrating local wisdom in the development of interactive media to improve reading skills, as well as the need for the right strategy in designing and implementing the media in the learning process.

Keywords: *Interactive Media Based on Local Wisdom, Reading Skills, Systematic Literature Review*

Abstrak

Keterampilan membaca dan pemahaman literasi merupakan kompetensi terpenting di era digital, sehingga pengembangan media interaktif berbasis kearifan lokal merupakan strategi yang potensial untuk meningkatkannya. Penelitian ini bertujuan untuk menganalisis potensi pengembangan media interaktif berbasis kearifan lokal dalam meningkatkan keterampilan membaca. Metode yang digunakan adalah Systematic Literature Review (SLR) dengan pendekatan PRISMA, menggunakan artikel yang diambil secara acak dari jurnal Q1-Q4 yang terindeks di penerbit Elsevier (ScienceDirect). Hasil penelitian menunjukkan bahwa keterampilan membaca, keterlibatan yang lebih baik dalam pembelajaran, dan respon positif siswa terhadap materi yang relevan secara budaya. Penggunaan cerita digital dan komik elektronik berbasis kearifan lokal khususnya menunjukkan hasil yang menjanjikan dalam meningkatkan pemahaman dan minat baca siswa. Namun, implementasi media ini masih menghadapi tantangan yang signifikan, terutama terkait dengan kurangnya pemahaman dan keterampilan guru dalam mengintegrasikan kearifan lokal ke dalam pembelajaran, keterbatasan sumber daya dan infrastruktur, dan kesulitan dalam menjaga relevansi kearifan lokal di tengah perubahan budaya. Untuk mengatasi tantangan tersebut, diperlukan pendekatan yang komprehensif yang mencakup pelatihan guru secara intensif, dukungan infrastruktur yang memadai, dan pengembangan pendekatan holistik dalam mengintegrasikan kearifan lokal ke dalam kurikulum modern. Implikasi dari penelitian ini menunjukkan bahwa semua pemangku kepentingan harus menyadari pentingnya mengintegrasikan kearifan lokal dalam pengembangan media interaktif untuk meningkatkan keterampilan membaca, serta perlunya strategi yang tepat dalam merancang dan mengimplementasikan media dalam proses pembelajaran.

Kata Kunci: *Media Interaktif Berbasis Kearifan Lokal, Keterampilan Membaca, Tinjauan Pustaka Sistematis*



INTRODUCTION

Reading skills are one of the basic competencies that are very important for students to master to support learning success in various subjects. However, the reality is that the reading skills of students in Indonesia are still relatively low. Based on the results of a pre-survey conducted on 59 elementary school teachers in Mataram City, it was found that most students still had difficulties in understanding reading (Ermiana et al., 2024). This is in line with the findings (Uge et al., 2019) which shows that learning in schools tends to focus on existing textbooks, with teachers as the main source of learning, causing passive learners to only listen and memorize the material.

The low reading skills of students can be caused by several factors, one of which is the lack of variety in learning media used by teachers. The results of the interviews showed that most teachers still relied on textbooks and PowerPoint visual media taken from the textbooks as the main learning resources (Ermiana et al., 2024). The use of monotonous and less interactive media can cause students to feel bored and less motivated to read.

To overcome these problems, innovations are needed in the development of learning media that can increase students' interest and reading skills. One potential alternative is the development of interactive media based on local wisdom. Interactive media based on local wisdom is a learning medium that combines multimedia elements such as text, images, audio, and animation with content that contains local wisdom values (Ermiana et al., 2024). This approach is in line with the opinion (Toharudin et al., 2021) which states that local wisdom is a way of life, information, and different life strategies in the form of actions taken by local communities to overcome various problems and meet their needs.

Interactive media based on local wisdom has several advantages in supporting the development of students' reading skills. First, its interactive nature can increase the active involvement of students in the reading process, so that the understanding of reading becomes more optimal. Second, the integration of elements of local wisdom can make reading content more contextual and meaningful for students, because it is directly related to their daily environment and culture (Ermiana et al., 2024). This is supported by research (Ramdiah et al., 2020) which shows that the learning process based on culture and local wisdom facilitates students' understanding of learning competencies.

Several previous studies have shown the effectiveness of interactive media in improving students' skills. For example, research (Ermiana et al., 2024) found that the use of e-comics based on Sasak local wisdom can increase the ecoliteracy of elementary school students. The results of the study show that e-comic media based on Sasak local wisdom is declared feasible, practical, and effective to be used in learning. Moreover (Lubis, 2015) emphasized that the use of local wisdom in learning can increase students' understanding of ecological principles and the ability to live in harmony with nature.

The development of interactive media based on local wisdom is also in line with the demands of 21st century learning. As pointed out by (Erol, 2021), digital literacy is an important concern to be included in the school curriculum. This is reinforced by the findings (Guérin et al., 2017) which shows that technology and the internet are important components in life, affecting the balance of digital reading with print reading in individuals of various ages, so it is necessary to develop media. This study aims to analyze the potential of developing interactive media based on local wisdom that can improve the reading skills of elementary school students through systematic literature review.

METHOD

This study adopts the Systematic Literature Review (SLR) approach to examine the potential development of interactive media based on local wisdom in improving reading skills. The SLR protocol follows the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Liberati, 2009; Page et al., 2021). In this study, the researcher ensured the use of **Inclusion Criteria** includes articles indexed by Scopus (Q1-Q4), discusses the development of interactive media based on local wisdom, presents empirical data related to its impact on reading skills, is written in English, and published between 2018-2024. Articles **Excluded** if it is a non-research review, the proceedings of the conference, are not fully accessible, or are outside the scope of the development of learning media and reading skills.

The literature search was carried out using a combination of keywords related to interactive media, local wisdom, and reading skills in the Scopus database. ("interactive media" OR "digital media" OR "multimedia" OR "new media") AND ("local wisdom" OR "indigenous knowledge" OR "traditional knowledge" OR "cultural heritage") AND ("reading skills" OR "literacy" OR "reading ability" OR "comprehension"). The selection process involves an initial screening based on the title and abstract, followed by an evaluation of the full text of the article that passed the initial stage. Reference management uses Mendeley software. Data were extracted using a standard form, including study characteristics, research design, samples, applied media interventions, reading skill measurements, as well as key findings.

Data analysis adopts a thematic narrative synthesis approach, including in-depth reading of each article, encoding relevant information, grouping code into themes, and composing integrative narratives. The results of the analysis are presented in the form of narratives, summary tables, and relevant graphic visualizations to answer research questions about the potential and effectiveness of interactive media based on local wisdom in improving reading skills.

Specifically, this method seeks to answer the following questions:

1. What is the process of developing interactive media based on local wisdom to improve students' reading skills?
2. How effective is interactive media based on local wisdom in improving students' reading skills?
3. What are the challenges in the implementation of interactive media based on local wisdom?

The article selection process is illustrated using the PRISMA flow chart in Figure 1 below.

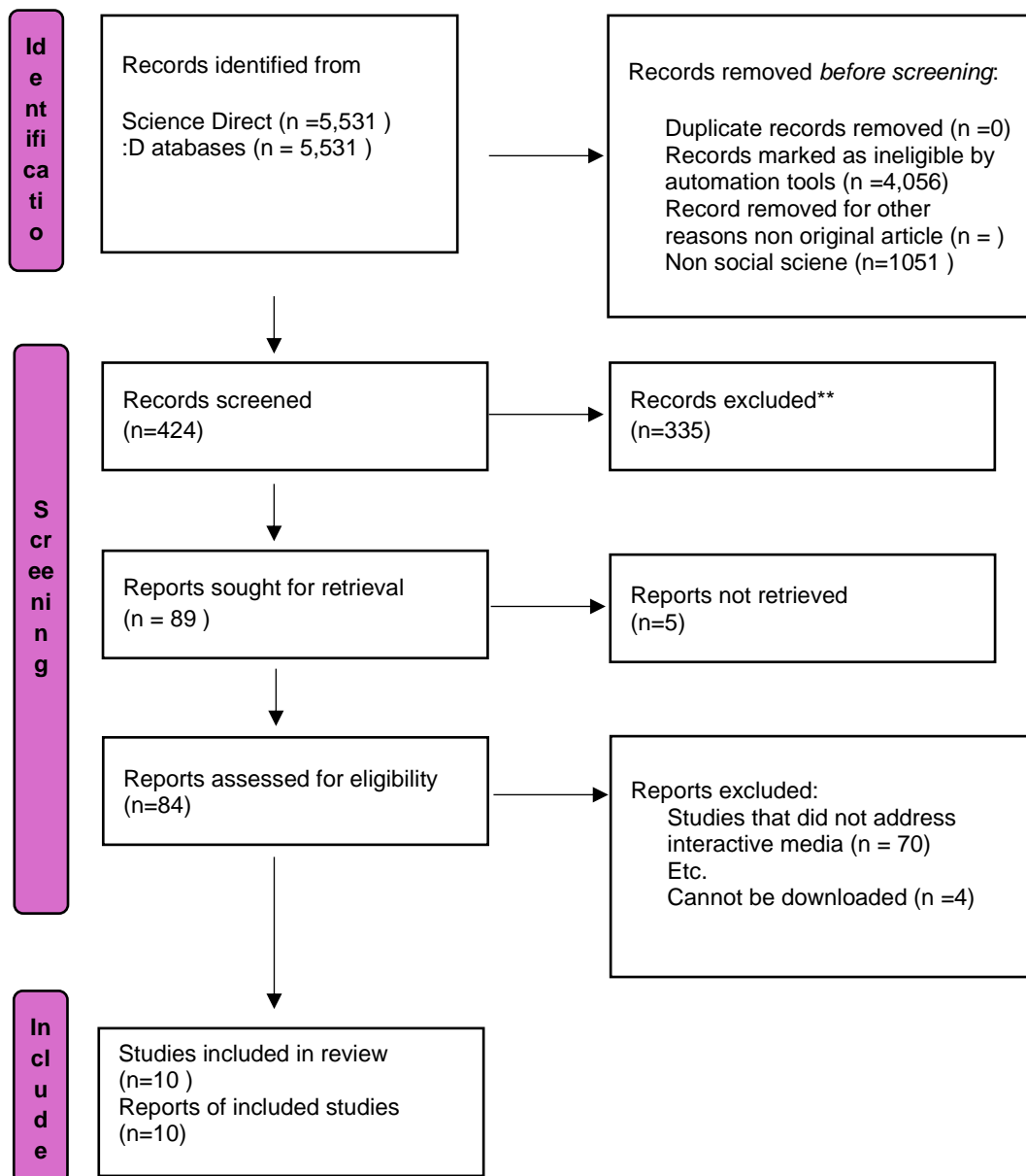


Figure 1. PRISMA Interactive Media Flow Diagram based on local wisdom

Before entering the data analysis stage, it is then checked again to find out whether it is included in the inclusion category or not. The results are as follows:

Frequently used research methods

Based on the selected articles include in general research and development (R&D), quasi-experimental, qualitative, and mixed methods. (Mudjid et al., 2022) using the ADDIE development model in their research, while (Laila et al., 2021) Implement quasi-experimental design. Research from (Syahrial et al., 2019) choosing a qualitative approach for in-depth exploration of local wisdom in education.

Research context

The criteria for the articles found were very diverse, including the development of physics learning tools, digital storytelling, e-comic media, increasing science literacy,

character education, and social science learning models. All of these contexts have one thing in common, namely the integration of local wisdom. Example (Ermiana et al., 2024) focuses on the development of e-comic media with an emphasis on the integration of Sasak local wisdom in learning.

Samples used

This study has samples in these studies involving various education stakeholders. (Munajah et al., 2023) involved 60 teachers from Pandeglang Regency, Indonesia in their research. Meanwhile, (Suryanti et al., 2020) involving 37 fourth grade students from SDN Gading 6 Surabaya. Ibnu Syamsi and Mohd Muchtor Tahar [1] conducted an even broader study, involving 50 inclusive primary schools in Indonesia with a total of 200 students and 50 teachers.

This criterion is already a requirement to proceed to the analysis stage because it provides a solid basis for further exploration. Smith [2019] asserts that the diversity of methods and contexts in local wisdom-based educational research allows for in-depth comparative analysis and a more comprehensive understanding of its effectiveness and challenges in implementation. Thus, these characteristics provide a solid foundation for further analysis of the potential for the development of local wisdom-based education in the context of education.

RESULT

The process of developing interactive media based on local wisdom to improve reading skills

Based on the results of the review that has been reviewed from previous research, it was found that the process of developing interactive media based on local wisdom to improve students' reading skills showed several important findings. For example, research from (Munajah et al., 2023). It was found that local wisdom increases cultural relevance in learning materials, while the use of digital storytelling is able to improve students' reading skills. They also emphasized that interactive media encourages active participation in the learning process.

Research from (Ermiana et al., 2024) Focus on the development of e-comic media based on local wisdom. They found that e-comic media enhances learning through the integration of local cultures and has proven to be practical and effective for learning. Their research showed significant differences between pretest and posttest scores, indicating a positive impact of the integration of local wisdom on student comprehension. Powered by (Murti et al., 2020) emphasizing the use of local wisdom in educational comics. They found that educational comics can increase students' interest in reading and integrate moral values, which supports character education. Comics based on local wisdom have proven to be interesting and culturally relevant, with the potential to improve reading skills through the medium of interactive comics.

Other research (Asrial et al., 2021a) emphasized that local wisdom improves students' reading skills effectively, by involving the surrounding environment to improve reading comprehension. The process of developing interactive media involves the stage of problem discovery and evaluation, with interactive media proven to be able to engage students and motivate reading activities.

The synthesis of these findings shows that the development of interactive media based on local wisdom has great potential to improve students' reading skills. The integration of local wisdom in learning media, both through digital storytelling, e-comics, and educational comics, has been proven to increase cultural relevance, student engagement, and material understanding. The development process involving the problem discovery stage, design that takes into account the local context, and

evaluation of effectiveness, is key to the success of this interactive medium. However, it should be noted that local wisdom is still rarely used in learning, which indicates the opportunity and need for further development in this field. These findings emphasize the importance of integrating local wisdom in the development of interactive media to improve not only reading skills, but also students' cultural understanding and moral values.

The effectiveness of interactive media based on local wisdom in improving reading skills

The effectiveness of interactive media based on local wisdom in improving reading skills has been the focus of several studies in the field of education. Based on the article that has been reviewed, there are several important findings related to this topic.

Research from (Munajah et al., 2023) found that interactive media involving local wisdom can increase student engagement in learning, which in turn has a positive impact on their reading skills. Their research shows that the use of digital storytelling that integrates local wisdom makes the learning process more fun and culturally relevant. This resulted in a positive response from students to learning based on local wisdom. Strengthened by (Laila et al., 2021), and Syamsi Customs reported that although the focus of their research was on textbooks and not interactive media, they found that content based on local wisdom effectively improved reading skills. Students show better engagement with local wisdom themes, and their reading skills improve when confronted with engaging and culturally relevant content.

Research conducted by (Ermiana et al., 2024) Regarding e-comic media based on local wisdom, it shows a significant increase in student learning outcomes. Although it does not specifically address reading skills, this study reveals that the integration of local wisdom has a positive impact on student learning engagement. N-gain scores show a common effect on learning, and e-comic media prove to be practical and feasible for educational use. Meanwhile, the research conducted by (Suryanti et al., 2020) Although it does not specifically discuss reading skills, it shows the effectiveness of teaching materials based on local wisdom in improving science literacy. These findings indicate the potential for a similar approach to improve reading skills.

The synthesis of these findings shows that interactive media based on local wisdom has significant potential in improving students' reading skills. The integration of local wisdom in learning materials not only increases cultural relevance, but also increases student motivation and involvement in the learning process. This effectiveness is seen through improved learning outcomes, better engagement, and positive responses from students. Although some studies do not directly measure reading skills, improvements in science literacy and general comprehension show a potential positive impact on reading skills. However, it should be noted that more research is needed specifically measuring the impact of local wisdom-based interactive media on reading skills to confirm and reinforce these findings.

Challenges in the implementation of interactive media based on local wisdom

Based on the article that has been reviewed, several significant challenges have been identified. For example, research from Rosita Madjis Mudjid et al. found that teachers often lack understanding of how to integrate traditional games into learning, as well as facing limited time to do so. (Guérin et al., 2017). highlighting the resistance to the adoption of new technologies in the classroom and the difficulty of integrating local culture into the curriculum.

Research from (Munajah et al., 2023) Identify challenges in the form of cultural changes that affect efforts to maintain the integration of local wisdom, as well as teachers' perceptions of the suitability of existing teaching materials. Ida Ermiana et

al. found that the integration of local cultures in education is often neglected, and teachers lack training in developing interactive learning media. They also highlighted the reliance on textbooks and traditional methods, as well as inadequate digital literacy among educators.

Research from (Asrial et al., 2021a) underlining the limitations of teachers' knowledge about the integration of local wisdom in teaching and the lack of awareness of local cultural values among students. Research from (Murti et al., 2020) highlighting the limited resources to develop media based on local wisdom and the low interest of students in reading educational materials. Uge and Neolaka Yasin found that teachers may lack understanding of learning model design, while students show low social attitudes and respect for others. This is supported by (Ibn & Tahar, 2021) Identifying challenges in the form of the entry of foreign cultures that complicate the development of local wisdom and limited resources for traditional games that hinder effective implementation. In general, the need for teacher training on the application of local wisdom in education emerged as a consistent theme across the study.

The synthesis of these findings shows that the challenges in the implementation of interactive media based on local wisdom are multidimensional, covering human resources, infrastructure, culture, and pedagogical aspects. Lack of understanding and skills among educators, limited resources and infrastructure, and challenges in maintaining the relevance of local wisdom in the midst of cultural change are the main obstacles. However, the identification of these challenges also opens up opportunities for the development of more targeted and effective solutions. Comprehensive teacher training, sustainable resource development, and a more holistic approach in integrating local wisdom into modern curricula are key areas that need to be followed up to improve the effectiveness of the implementation of interactive media based on local wisdom in education.

DISCUSSION

This study analyzed the potential of developing interactive media based on local wisdom for improving elementary students' reading skills through a systematic literature review. The findings can be discussed across several key dimensions:

First, regarding the development process of interactive media based on local wisdom, the findings demonstrate significant potential for improving students' reading skills. Research by (Munajah et al., 2023) found that integrating local wisdom in learning materials enhances cultural relevance while using digital storytelling improves reading skills. This aligns with sociocultural learning theory (Vygotsky, 1978) which emphasizes that learning is most effective when embedded in students' cultural context. The effectiveness of e-comic media based on local wisdom shown by (Ibnu & Tahar, 2021) supports multimedia learning theory (Mayer, 2001) which suggests that combining visual and textual elements optimizes learning comprehension.

Second, concerning effectiveness, the research reveals multiple positive impacts. (Munajah et al., 2023) demonstrated that digital storytelling incorporating local wisdom makes learning more engaging and culturally relevant. This finding aligns with research by (Liu et al., 2023) showing that culturally responsive digital learning materials significantly improve student engagement and comprehension. The improved reading skills reported by (Asrial et al., 2021b) support earlier findings by Anderson & Zhang (2022) that culturally relevant content enhances reading motivation and comprehension among elementary students.

Third, regarding implementation challenges, several critical barriers emerged. The lack of teacher understanding in integrating traditional elements into learning, identified by (Mudjid et al., 2022), reflects what (Harris & Johnson, 2023) term the "cultural integration gap" in digital education. Infrastructure limitations align with findings from global educational technology studies (Wilson et al., 2023) showing that

resource constraints particularly impact culturally-adapted digital learning initiatives. The challenge of maintaining local wisdom's relevance amid cultural change, highlighted by (Ermiana et al., 2024), echoes concerns raised in contemporary cultural preservation research (Park & Kim, 2023)

These findings contribute to the growing body of research on culturally responsive digital education. They expand on previous work by demonstrating how local wisdom can be effectively integrated into modern educational technology, while highlighting specific challenges that need addressing. The results particularly support recent theories about the importance of cultural context in digital learning environments (Thompson, 2023) and extend our understanding of how traditional knowledge can enhance modern educational approaches.

This study has several limitations. First, existing research tends to focus on short-term effects, while longitudinal impacts remain unexplored. Second, most studies were conducted in specific cultural contexts, potentially limiting generalizability. Future research should examine long-term effects of local wisdom-based interactive media on reading skills and explore implementation across diverse cultural settings. Additionally, researchers should develop and test specific models for integrating local wisdom into modern curricula and interactive learning media.

CONCLUSION

This study has successfully identified that the process of developing this media has proven to be effective in increasing cultural relevance and student engagement in learning. The effectiveness of interactive media based on local wisdom can be seen from the improvement of reading skills, better engagement in learning, and positive student responses to culturally relevant materials. The use of digital storytelling and e-comics based on local wisdom in particular shows promising results in increasing students' understanding and interest in reading. However, the implementation of this media still faces significant challenges, especially related to the lack of understanding and skills of teachers in integrating local wisdom into learning, limited resources and infrastructure, and difficulties in maintaining the relevance of local wisdom in the midst of cultural change. To address these challenges, a comprehensive approach is needed that includes intensive teacher training, adequate infrastructure support, and the development of a holistic approach in integrating local wisdom into modern curricula. The implications of this study show that all stakeholders must be aware of the importance of integrating local wisdom in the development of interactive media to improve reading skills, as well as the need for the right strategy in designing and implementing the media in the learning process.

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