

Transforming Local History Learning Through Wordwall Media in The Digital Era 4.0

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Abstract: This study aims to explore the use of Wordwall in transforming local history learning, particularly the topic of Muara Takus Temple into a more interactive and contextual experience. Employing a qualitative approach with a case study design, the research was conducted at SMA Negeri 3 Bukit Batu, Bengkalis, Riau. Data were collected through classroom observations, open-ended interviews, and documentation, and analyzed using source triangulation. The findings indicate that the use of Wordwall enhanced students' understanding, fostered a more interactive classroom atmosphere, and increased learners' interest in history. These results suggest that digital tools such as Wordwall can serve as effective strategies for making local history learning more engaging, relevant, and aligned with the demands of the digital era.

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Introduction

Education is the primary foundation for character formation and national progress. Beyond serving as a means of knowledge transfer, education plays a crucial role in shaping students' values, attitudes, and cultural identity. With the advancement of the digital era, the education system is required to increase its innovation capacity to meet the challenges of the times (Liana et al., 2023). This is particularly true in the face of Education 4.0, characterized by the use of digital technology in learning processes that are more interactive, efficient, and open to changes in methods, evaluation systems, and accessibility. On the other hand, digital education also presents new challenges, such as the demand for technological skills for educators and the issue of equal access (Syerlita & Siagian, 2024).

In the context of learning, methods and media have a mutually supportive relationship. Methods determine the type of media used, while media serves as a tool to achieve learning effectiveness (Muhtarom et al., 2020; Rahmawati et al., 2024). This is particularly relevant in history learning, which aims not only to convey narratives of the past but also to foster empathy and understanding in students of their socio-cultural context (Asmara, 2019). Local history is an important instrument in instilling identity and pride in one's region of origin. Through local history, students can understand that each region has its own strengths, struggles, and contributions in shaping Indonesia (Mbura & Wiyanarti, 2024). Furthermore, local history plays a role in developing students' personal, cultural, and social identities, thereby fostering pride in their surroundings and strengthening emotional bonds (Romadi & Kurniawan, 2017).

One representation of local history that has the potential to be utilized in learning is the Muara Takus Temple in Riau Province. It is located in Muara Takus Village, XIII Koto Kampar District, Kampar Regency, Riau Province. According to Soedewo et al. (2015), this

temple is the oldest archaeological site in Sumatra and the only historical relic in the form of a temple in Riau. In the past, the Muara Takus Temple functioned as an ancient worship center, built as Hindu-Buddhist culture developed along the Kampar River. This temple was first discovered in 1860 by the Dutch archaeologist, Cornet de Groot (T. Hidayat et al., 2021). Utilizing this temple in history learning opens up opportunities for students to see concrete historical evidence in their surroundings, thus making learning more contextual and not merely imaginative.

However, based on interviews with history teachers, several obstacles were identified in history learning in schools, including: 1) limited history learning resources that rely solely on school library collections; 2) the dominance of lecture methods without media exploration; and 3) a lack of interactivity in the learning process. In the initial study, the questionnaire results indicated the following obstacles faced by students in learning history:

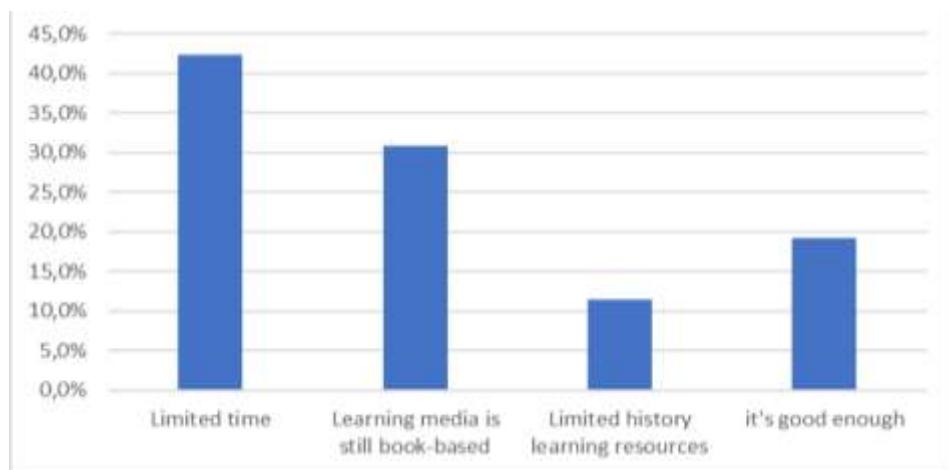


Figure 1. Student Obstacles in History Learning

Figure 1 shows that the main obstacle faced by students in learning history is limited time. This certainly makes it difficult for students to understand historical material and learning becomes suboptimal. Another obstacle is the still-textbook-based learning media, indicating a lack of variety in delivery methods, thus making students less interested in learning history. Furthermore, limited learning resources are a barrier for students, indicating that they still have limited access to diverse learning materials. However, according to several students, the learning is quite good, so it can serve as a reference for approaches that need to be maintained or improved.

As a solution, this study utilizes the interactive media Wordwall as a strategic alternative. Wordwall is a gamification-based digital platform that allows teachers to design educational games such as "matching pairs," "group sort," and "quiz show." These games can be accessed online or offline, making them flexible for use in various learning environments. With a game-based approach, Wordwall transforms narrative historical material into a fun, competitive, and easily understood activity for students. In the context of educational technology, interactive media like Wordwall support digital learning principles that emphasize personalization, interactivity, and active student engagement. This aligns with Papert's constructionist approach, which emphasizes the importance of building tangible artifacts as a means of thinking and learning (Papavlasopoulou et al., 2019). Digital technology serves not only as a tool but also as a learning environment that allows students to explore, understand, and relate knowledge to their personal experiences.

Furthermore, the constructivist approach supports interactive Wordwall media, as evidenced by previous research, namely that Wordwall effectively increases learning motivation, creates a pleasant learning atmosphere, and has a significant impact on student achievement (Pahlevi & Apriliyani, 2023; Hasanah et al., 2023; Prasetyo et al., 2024). This study aims to examine how the use of Wordwall can transform local history learning, particularly on the Muara Takus Temple material, to be more interactive and contextual. It is hoped that the results of this study can contribute to the development of technology-based history learning methods that are relevant to the local context and current needs.

Research Method

This research uses a qualitative method with a case study approach, because it aims to understand in depth the process of transforming local history learning into an interactive one through the use of Wordwall media on the Muara Takus Temple material. According to Creswell & John (2017), a case study is a research that explores a particular phenomenon in a time and activity (program, event, process, institution or social group), and collects detailed and in-depth information using various data collection procedures over a certain period (Septiana et al., 2024). This approach allows researchers to explore the dynamics of learning in a natural and specific context, as well as capture the direct experiences of teachers and students as the main subjects.

The research was conducted at SMA Negeri 3 Bukit Batu, Bengkalis Regency, Riau Province. The research subjects consisted of one history teacher as a key informant and 26 10th-grade students as the main participants. Student selection was carried out using a probability sampling technique, namely simple random sampling, where every student who has participated in the entire learning series has an equal chance of being selected as a respondent (Sugiyono, 2022). The selection process was carried out using a random draw based on class attendance lists, thereby minimizing the potential for selection bias and ensuring fair representation. Data collection was carried out using direct observation techniques during three learning sessions, each lasting 90 minutes, which used Wordwall as an interactive quiz medium. The focus of the observations included student participation, responses to the media, and the dynamics of interactions during the activities. Furthermore, the researcher conducted semi-structured interviews with the history teacher as a key informant to explore perceptions, experiences, and reflections on the use of Wordwall in local history learning. Finally, documentation in the form of screenshots of student quiz results and learning archives served as supporting data to strengthen the findings of the observations and interviews.

Data analysis techniques are carried out in several stages: 1) Data reduction, namely data from observations, interviews, triangulation of sources through comparison of data from teachers, students, and documentation are selected and simplified to identify information relevant to the focus of the research; 2) Categorization and coding, researchers determine initial codes based on themes such as interactivity, interactive media, understanding of material, and contextuality; 3) Theme extraction, from the coding results, researchers compile main themes that reflect learning transformation, such as increasing student participation, changes in learning methods, and strengthening local ties; 4) Source triangulation, data validity is strengthened by comparing information from teachers, students, and documentation to ensure consistency and validity of the findings.

Result and Discussion

The results of the data obtained and the distribution of the questionnaire (Google Form) can be seen in the table below:

Table 1. Utilization of Wordwall in Learning History

No	Aspect	Indicator	Percentage
1	Use of wordwall in learning history	Material is easier to understand	37,8
		Learn while playing games	27
		Compete with friends	5,4
		Everything is fun	28,7
2	Wordwall games are most helpful in learning history	Ordinary quiz	35,1
		Random sequence/timeline	32,4
		Match the picture	13,5
		Everything is the same	18,9
3	Wordwall helps in understanding historical events	Wordwall really helps understand historical material	2,8
		Wordwall makes the material shorter and easier	43,2
		Wordwall makes it more active in thinking and looking for answers	18,9
		Wordwall makes the material more interesting	35,1
4	Wordwall makes history learning interactive	Class becomes more active	81,1
		Class remains boring	0
		Not good, there are still inactive students	10,8
		Just normal	8,1
5	Wordwall makes students more interested in history lessons	A little interested	64,9
		Very interested	29,7
		Less interested	5,4
		No changes	0

Based on the table above, the following conclusions can be drawn:

1. Material Understanding and Emotional Engagement
 - 37.8% of students felt the material was easier to understand using Wordwall, and 28.7% stated that it was enjoyable.
 - This indicates that Wordwall supports not only cognition but also students' affective development.
 - Only 5.4% highlighted the competitive aspect, indicating that Wordwall is more effective as a collaborative tool than a competitive one.
2. Most Helpful Game Types
 - Regular quizzes (35.1%) and random order/timeline (32.4%) dominated, indicating that formats that emphasize chronology and testing factual knowledge are most effective in a historical context.
 - Matching pictures (13.5%) was less popular, perhaps because history is more narrative- and chronological-based than purely visual.
3. Effectiveness in Understanding Historical Events
 - 43.2% stated that Wordwall made the material shorter and easier, and 35.1% found it more engaging.

- Only 2.8% found the Wordwall “very helpful,” indicating that while it simplifies and enhances the material, its profound impact on historical understanding is still limited.

4. Classroom Interactivity

- 81.1% reported that the class became more active, and 0% said the class remained boring.
- This is a strong indicator that the Wordwall successfully changed the classroom dynamic to be more participatory.

5. Interest in History Lessons

- 64.9% became “slightly interested,” and 29.7% were “very interested.”
- This means that the Wordwall was able to increase interest, but it did not completely change the perception of history as an engaging subject in depth..

In short, the use of word walls has a positive impact on improving student understanding, classroom interactivity, and fostering interest in history learning. Although not yet fully optimal, these results can serve as a strong foundation for developing contextual and engaging digital media-based learning strategies. A review of 30 articles (2020-2024) showed that word walls increase student motivation, engagement, interest in learning, activeness and participation, and make learning enjoyable and engaging. Furthermore, word walls support active and interactive learning in accordance with the principles of the Independent Curriculum, making them suitable for the digital generation, which requires a game-based approach (Aulia & Indrapangastuti, 2025; Putri et al., 2024). Another positive impact is that they can help students become aware of the local history around them, which, without realizing it, fosters a sense of historical awareness within them. Awareness of local history is a positive signal for the future, promoting the preservation of historical buildings and cultural heritage sites, and uncovering obscure histories.

Discussion

The digital era 4.0 has revolutionized the educational paradigm by demanding a learning system that is adaptive and relevant to information technology. In this context, learning is no longer solely oriented towards knowledge transfer, but also towards the development of 21st-century skills such as creativity, critical thinking, collaboration, communication, digital literacy, and character. Furthermore, in history teaching, teachers are also required not only to master historical facts but also to be able to integrate technology into learning strategies so that historical material can be understood more dynamically and contextually (Arsyad, 2021; Khaeruddin, 2024). According to Putriani & Hudaidah (2021), there are four learning principles relevant to educational transformation in the digital era:

1. Student-Centered Learning

Students play an active role in the learning process, exploring their own potential and interests. In this case, the teacher acts as a facilitator, connecting students' prior knowledge with new, contextual information. Utilizing word walls enables this approach, as students interact directly with the material through accessible educational games.

2. Collaborative Learning

Students are encouraged to collaborate on projects and team-based assignments. Learning history through word walls, such as quizzes and chronological events, encourages interaction between students, both in healthy competition and discussion, thus strengthening their social skills.

3. Learning should have context

Learning material needs to be connected to students' real lives to be meaningful and applicable. Utilizing local history, such as the Muara Takus Temple, is a strategy to connect learning to students' environments. Through word walls, students can explore material relevant to their hometowns in a fun and meaningful way.

4. School Integration with Society

Schools need to create spaces for students to engage in social activities. Learning local history has the potential to encourage student involvement in cultural preservation through exploration of historical sites, digital content creation, and strengthening local identity.

In line with these principles, relevant history learning in the digital era needs to encompass three important stages: 1) Sense of intimacy, which increases students' familiarity with the social environment; 2) Sense of actuality, which introduces the meaning of time in real life; 3) Sense of history, which encourages an understanding of social history that can shape local creativity and prepare them for the future (Muis et al., 2023). To achieve this, the use of interactive learning media is necessary. Learning media are physical tools or software designed to support interactions between teachers and students in the learning process, making learning more communicative and easier to understand (Nurliasari et al., 2025). Meanwhile, interactive media is an alternative learning medium that can be used to help improve the quality of education, enabling students to learn independently, start and end lessons according to their wishes, and repeat material that is not yet clearly understood. Interactive media is oriented towards constructivism, meaning it allows students to learn more actively and construct their own knowledge through animated visualizations displayed, thus making learning more interactive and effective (Ainishifa et al., 2023).

The main benefits of digital technology in learning include: 1) Encouraging dialogic practices and emancipatory learning that make students more proactive in learning; 2) Linking classroom learning activities to students' real social environments; 3) Increasing student interest in learning and offering more engaging media alternatives; 4) Providing direct feedback for students and teachers in improving the quality of learning (N. Hidayat & Khotimah, 2019). In the context of history learning, interactive history learning media is adaptive and applicable media according to the needs of the times, where technology is the main instrument that must be mastered by teachers and students (Sumintho, 2023). One of them is the use of wordwalls in local history learning, especially Muara Takus Temple, which can be a strategic solution in realizing active, meaningful learning, and in accordance with the demands of the digital era. Wordwall is an interesting application media found in browsers, which is used to create fun quiz-based games. Wordwalls can be used to design and review learning assessments, improve student understanding and cognition. So that word walls support learning activities in the classroom (Suroyo, 2023).

The transformation of history learning through local history on the Muara Takus Temple topic by utilizing interactive media such as wordwalls has shown a significant impact on various aspects of learning, both in terms of student cognitive understanding, class interactivity, and learning interest in history subjects. These findings confirm that the use of wordwalls in local history learning not only improves the quality of understanding but also builds active student participation in the context of digital technology-based learning. This media has proven to be an effective transformational tool in breaking the stigma that history learning is monotonous and boring. Furthermore, the transformation of wordwall-based learning media is in line with the principles of constructivism. Constructivism is a theory that

builds abilities and understanding in the learning process, so that student activeness can increase their intelligence (Suparlan, 2019). Therefore, wordwalls allow students to explore historical material independently and collaboratively through games. Active student participation in answering historical questions not only helps students remember facts but also builds meaning and connections between historical concepts. On the other hand, this approach positions local history no longer as narrative memorization, but rather as a living and relevant learning experience. Wordwalls bridge historical content and the digital world familiar to students, making learning more interactive, enjoyable, and meaningful. Within a constructivist framework, wordwalls serve as a tool to strengthen the process of knowledge construction through challenging, reflective, and contextual activities.

Utilizing Wordwall as an educational game for local history can be an effective strategy for transforming learning from conventional to interactive and contextual. Previous studies have confirmed that Wordwall is not only a visual aid but also improves learning outcomes and historical thinking skills. Teachers can easily access Wordwall through a browser, create digital learning activities, and then integrate them into the classroom with the help of a projector. Here are the steps:

1. Open <https://wordwall.net>
2. Login using email.
3. Click Create Your Activity Now (now for your activities).
4. Select the appropriate template.
5. Enter the material/problem.
6. Show quizzes through student projectors and guides in direct interaction

Conclusion

The results of the study indicate that the use of Wordwall media in the local history of Muara Takus Temple has a positive impact on student understanding, increasing classroom interactivity, and building interest in history learning. Although not yet fully optimal, this media has proven effective in transforming previously monotonous history learning into a more contextual and engaging one through an educational game approach. Game formats such as quizzes and timelines are more suitable for history because they support narrative and chronological structures. These findings have important implications for the development of technology-based learning strategies that are adaptive to local needs and the challenges of the times. Teachers can utilize Wordwall to integrate local history into more interactive learning, while media developers and education policymakers can use it as a model in designing relevant curricula and digital learning media. Overall, Wordwall is considered effective and engaging for students, with the potential to be an instrument for transforming learning in the digital era.

Recommendation

Based on this research, Wordwall has been proven to increase classroom interactivity and learning interest, but its impact on in-depth understanding of history still needs further study. Teachers are advised to routinely integrate Wordwall in history lessons, especially local history, to create a more active and enjoyable classroom atmosphere. In addition, teachers can develop contextual Wordwalls, such as incorporating local historical figures, events, and sites so that students feel close to the material. For future researchers, it is hoped to conduct further studies on the impact of Wordwall on in-depth understanding of history, such as historical thinking skills, source analysis, and event interpretation. And explore the effectiveness of various types of Wordwall games such as picture matching, random wheels, or crossword puzzles, in the context of history learning.

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