

Digital Innovation in Preserving Local Culture: Android-Based History Learning in Lubuklinggau City

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Abstract

Keywords:

Digital Innovation,
Local Culture,
History Learning.

The development of digital innovation has provided new opportunities for the preservation of local culture, particularly in the context of history education. This study aims to explore the role of Android-based history education in preserving local culture in Lubuklinggau and to reveal students' experiences in using it. The study uses a qualitative approach with data collection techniques through open questionnaires, interviews, and observations of high school students in Lubuklinggau City. The data were analyzed descriptively with an emphasis on interpreting students' experiences, perceptions, and responses to digital learning media. The results showed that the use of Android-based applications not only increased students' interest and motivation in learning history but also strengthened their understanding of local cultural values. Students felt that the learning was more contextual, interactive, and in line with the technological developments they use in their daily lives. In conclusion, Android-based digital innovation plays an important role in bridging the preservation of local culture with the needs of 21st-century education. The contribution of this study is to provide a new perspective on the integration of digital technology in local history learning that is relevant, meaningful, and supports the formation of students' cultural identity.

Abstrak

Kata kunci:

Inovasi Digital,
Budaya Lokal,
Pembelajaran Sejarah

Perkembangan inovasi digital telah memberikan ruang baru bagi pelestarian budaya lokal, khususnya dalam konteks pembelajaran sejarah. Penelitian ini bertujuan untuk mengeksplorasi peran pembelajaran sejarah berbasis Android dalam melestarikan budaya lokal di Lubuklinggau serta mengungkap pengalaman siswa dalam penggunaannya. Penelitian menggunakan pendekatan kualitatif dengan teknik pengumpulan data melalui angket terbuka, wawancara, dan observasi terhadap siswa SMA di Kota Lubuklinggau. Data dianalisis secara deskriptif dengan menekankan interpretasi pengalaman, persepsi, dan respon siswa terhadap media pembelajaran digital. Hasil penelitian menunjukkan bahwa pemanfaatan aplikasi berbasis Android tidak hanya meningkatkan ketertarikan dan motivasi siswa dalam mempelajari sejarah, tetapi juga memperkuat pemahaman mereka tentang nilai-nilai budaya lokal. Siswa merasakan pembelajaran lebih kontekstual, interaktif, dan sesuai dengan perkembangan teknologi yang mereka gunakan sehari-hari. Kesimpulannya, inovasi digital berbasis Android berperan penting dalam menjembatani pelestarian budaya lokal dengan kebutuhan pendidikan abad 21. Kontribusi penelitian ini adalah memberikan perspektif baru mengenai integrasi teknologi digital dalam pembelajaran sejarah lokal yang relevan, bermakna, dan mendukung pembentukan identitas budaya siswa.

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INTRODUCTION

In an era of digital acceleration that dominates the lives of the younger generation, cultural heritage and local history face increasingly complex existential challenges (Ali et al., 2024). Massive globalization and the rapid flow of digital information have created a distance between the younger generation and their own cultural roots (Bakar et al., 2023; Kamel Muhammad Kamel, 2024; Rofiudin et al., 2025). High school students, as digital natives, are more familiar with social media applications, games, and visual-based entertainment content than with historical learning resources in the form of long, static texts (Borchers et al., 2024). This condition also occurs in Lubuklinggau City, an area with an important historical narrative spanning from the Palembang sultanate era, the colonial period, to the dynamics of regional expansion. This historical narrative should be an important asset in building the local cultural identity of the younger generation. However, in practice, the transmission of local historical knowledge to students faces serious obstacles (Carrión Candel et al., 2025) ;(Susilo et al., 2024). This is evident from the students' lack of knowledge about important historical figures and events in the region, which indicates a disconnect between technological development and the sustainability of local cultural heritage (Abdi et al., 2024; Fiftiyansyah & Ali, 2024; Mumtahana et al., 2025).

The history teaching methods that are still dominated by lectures and memorization have proven to be ineffective for a generation accustomed to interactive and immersive digital content (Muhalli, 2023; Sukabdi et al., 2025; Sumintho, 2023). This situation creates a paradox: on the one hand, digital technology is developing rapidly and has become an integral part of students' daily lives, but on the other hand, methods of cultural preservation and history learning are still stuck in conventional approaches that are less appealing (Nagy, 2021) ;(Muhammad et al., 2022). This condition is exacerbated by the lack of digital literacy among educators (Cai & Su, 2022). Many history teachers still view technology as a supplement rather than a primary medium for learning (Butsch, 2023). Meanwhile, students have high digital literacy, but this potential is more often used for entertainment activities than for substantive matters such as studying local history (Murillo et al., 2025) ;(Achmad et al., 2023).

The fundamental problems that arise can be analyzed from three dimensions of the local history learning crisis. First, a crisis of interest, namely students' low interest in monotonous history lessons. A preliminary survey of 50 high school students in Lubuklinggau showed that 78% of them considered history lessons boring because they focused only on memorizing facts and dates. Second, there is a crisis of accessibility, marked by limited resources for learning local history. Lubuklinggau history materials are only available in conventional textbooks with minimal visualizations or in physical archives that are difficult to access. The existing teaching materials fail to touch on the emotional aspects of students, thus failing to build a connection with local history. Third, a crisis of regeneration, which is evident in the low awareness of the younger generation regarding the value of local history and culture. Only 25% of the students surveyed were able to name three important historical figures from Lubuklinggau. These three

dimensions of crisis are intertwined and reinforce the disconnect between the younger generation and their region's historical heritage.

This research is important because it has dual implications. From a theoretical perspective, this study contributes to the development of digital humanities studies that emphasize the integration of technology in preserving culture (Saragih et al., 2023). This study enriches the literature on digital innovation in history education, particularly in the context of secondary schools in rural areas (Fajri et al., 2025; Hiasa et al., 2023; R & Thohir, 2024; Sugiono et al., 2024). This research is also relevant to constructivism theory, which emphasizes the importance of active and contextual learning experiences (Ohlsson et al., 2024). Android-based media can facilitate students to explore historical material at their own learning pace, build understanding through digital interaction, and connect knowledge with everyday experiences (Ali et al., 2024). From a practical perspective, this research offers a solution to the low interest in learning history while also serving as a strategy for preserving local culture (Banihashem et al., 2025; Desmiati et al., 2023; Silahuddin et al., 2025). By shifting history learning to a digital platform that is familiar to students, this research addresses the challenge of educational relevance in the digital age (Pasaribu et al., 2025) (Nguyen et al., 2024).

Several previous studies have demonstrated the effectiveness of digital technology in learning. According to Esmat Abdou Solaiman Awad et al. (Esmat Abdou Solaiman Awad et al., 2024), augmented reality is effective in increasing visitor engagement in digital museums. Furthermore, Mirriahi et al. (Mirriahi et al., 2025) found that gamification can strengthen memory retention in history learning. Barbulet (Barbulet, 2023) proved that flipbook-based e-modules can significantly improve student learning outcomes. Meanwhile, Alano et al. (Alano et al., 2025) show that 3D virtual tour applications can enrich users' spatial and contextual understanding. These findings confirm that digital technology has great potential in increasing interest and learning effectiveness. However, most of these studies focus on the context of museums, global culture, or simple digital media that are not yet fully interactive.

An analysis of the gaps in previous studies reveals four important points. First, there is still a lack of studies focusing on the use of Android media for local history learning in Indonesia, even though smartphone penetration among students is very high. Second, there has been no study specifically examining the local historical context of Lubuklinggau, which is rich in cultural narratives but underrepresented in digital learning materials. Third, no learning model has been found that integrates visual storytelling, interactivity, and content personalization to increase student engagement. Fourth, research that reveals the direct experiences of students as users of digital media in history learning is still limited, even though this subjective aspect is important for understanding the effectiveness of media from the students' perspective.

Based on this gap, this study was designed to explore the experiences of high school students in Lubuklinggau in using Android-based history learning, with a focus on how digital media can increase their interest, motivation, and understanding of local history. This study used a qualitative approach with questionnaires, interviews, and

observations as instruments, enabling it to collect descriptive and reflective data. Thus, this study not only contributes to the development of digital-based history learning theory but also offers a practical application model that educators can adapt to deliver history learning that is more relevant to the characteristics of the digital generation. The ultimate goal is to present innovative learning strategies that bridge the gap between digital technology development and the need to preserve local culture, while strengthening the identity of the young generation in Lubuklinggau.

RESEARCH METHOD

This study uses a qualitative approach with the aim of gaining an in-depth understanding of how students experience, feel, and respond to the application of Android-based history learning in the context of local cultural preservation in Lubuklinggau City (Farias & Meneses, 2022). The qualitative approach was chosen because this study emphasizes meaning and interpretation rather than statistical figures, thereby enabling a more comprehensive exploration of students' understanding (Nasution, 2023). The focus of the research was directed at 10th grade high school students, because at this level, local history material begins to be introduced more intensively and is in line with the cognitive development and cultural identity formation needs of students.

The research location was at a high school in Lubuklinggau City, which was selected purposively, considering the availability of Android devices owned by students and the support of teachers in facilitating the digital-based learning process. The research subjects consisted of one class, namely 10th grade students, which was considered representative enough to describe the experience of learning history using Android technology. By limiting the focus to one class, this study was able to examine in greater depth the individual and group experiences in interpreting local history learning combined with digital innovation.

Data collection was conducted using several main techniques, namely open questionnaires, in-depth interviews, and classroom observations. Open questionnaires were given to all 10th grade students who were the subjects of the study (Agustini dkk, 2023). The questions in the questionnaire were designed to explore their perceptions, motivations, experiences, and obstacles they encountered while participating in Android-based history learning (Rizal et al., 2022). The questionnaire questions were designed to be open-ended so that students could provide answers freely according to their individual experiences. To reinforce the questionnaire results, in-depth interviews were also conducted with several students who were selected purposively based on the uniqueness or diversity of their questionnaire answers (Rivki, M., Bachtiar, 2021). These interviews allowed the researchers to explore more deeply the experiences of students that were not fully revealed in the questionnaire. In addition, observations were made during the learning process in the classroom to directly observe student interactions with the Android application, their responses to local history material, and their active involvement in learning activities (Zen et al., 2025).

The research instruments consisted of questionnaires, interview guidelines, and observation notes. The questionnaire contained a series of open-ended questions focused on how students assessed the effectiveness of using Android in understanding local history, the level of learning motivation that arose, and how the learning experience contributed to the preservation of local culture (Aloys et al., 2025). The interview guidelines were semi-structured, allowing flexibility in developing questions based on students' responses (Deda et al., 2023). Observation notes were used to document students' behavior, expressions, and interactions related to the use of digital media during learning (Tsiuniak et al., 2022).

The data analysis process was conducted interactively in accordance with Miles and Huberman's analysis model (Miles dan Huberman, 2014), which includes data reduction, data presentation, and conclusion drawing. Data reduction was carried out by selecting, focusing, and simplifying the data obtained from questionnaires, interviews, and observations. The reduced data was then presented in the form of descriptive narratives, matrices, and direct quotations from student responses that were considered representative. The final stage was drawing conclusions by interpreting the meaning of the collected data, comparing the findings from various data collection techniques, and formulating implications for digital-based history learning.

To ensure data validity, this study uses source triangulation techniques. Triangulation is carried out by comparing data from questionnaires, interviews, and observations, thereby obtaining a more complete and in-depth understanding of the phenomenon being studied (Wang, C., Zhang, Y., Ding, H., 2023). In addition, data checking was also carried out by requesting confirmation from history teachers regarding the initial findings of the study, so that the information obtained was more credible. With this clear, detailed, and systematic research method, the study can be replicated by other researchers in a similar context. The focus of the research on 10th grade high school students is expected to provide a specific picture of how Android-based history learning can be an effective means of preserving local culture, as well as an important contribution to the development of history learning strategies in the digital age.

RESEARCH RESULTS AND DISCUSSION

Result

This study aims to explore the experiences of tenth-grade high school students in using Android applications as a medium for learning local history in Lubuklinggau City. The results of the study were obtained through open questionnaires, in-depth interviews, and classroom observations. Overall, the findings show that Android-based learning media has a positive impact on increasing students' interest, motivation, and understanding of local history material. Students who were previously passive and considered history to be a monotonous subject began to show enthusiasm when the material was presented visually, interactively, and easily accessible through Android devices. Learning became more lively because the application provided text, images,

short videos, and interactive quizzes that made students feel as if they were "interacting directly" with historical events and figures. Observations also showed changes in classroom behavior: students were more focused, engaged in discussions, and actively asked questions when the material was presented with the help of digital applications.

The results of the questionnaire distributed to all tenth grade students show that the majority of students believe that using Android applications helps them understand local history better.

Table 1. Grade X Students' Perceptions of Android-Based History Learning

Aspects Assessed	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Android media makes learning interesting	40	45	10	5	0
The app helps users understand local history	35	50	10	5	0
Motivated to learn about Lubuklinggau culture	38	42	15	5	0
Easier to remember figures and events	30	48	15	7	0

The table shows that most students fall into the "Agree" and "Strongly Agree" categories regarding the benefits of Android-based learning. Only a small number of students are undecided, while none of the students strongly disagree. This reinforces the finding that digital innovation has a positive impact on the experience of learning local history. To provide a clearer picture, the level of student motivation after using Android media is shown in the following pie chart:

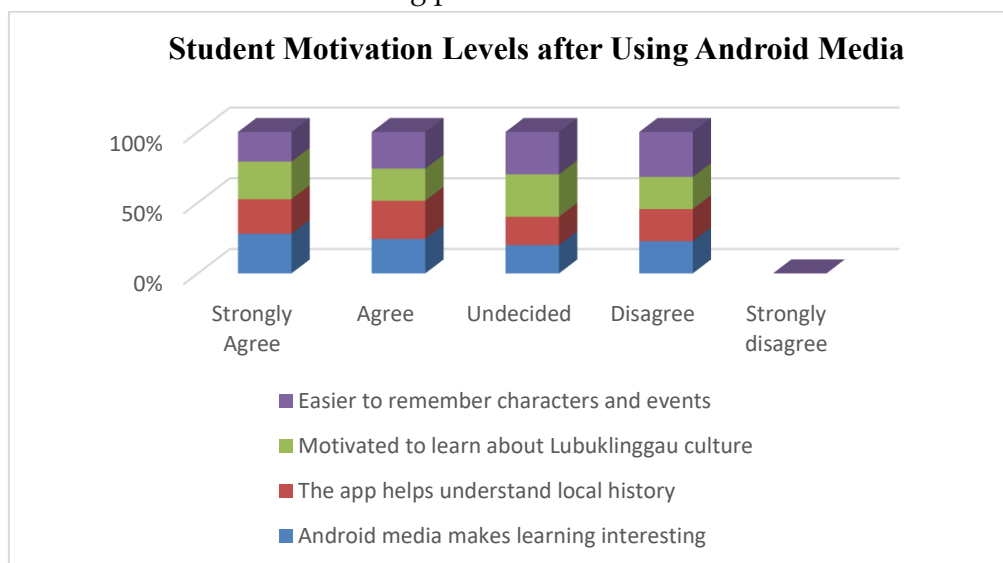


Figure 1. Student Motivation Levels after Using Android Media

The results of in-depth interviews confirmed the findings of the questionnaire. One student stated: "*Learning history through an app on my phone is more interesting, especially since there are pictures and short stories about figures from Lubuklinggau. I remember it better because it looks like social media.*"

Student comments indicate that the application's design, which resembles a format popular with Generation Z, bridges the gap between their interests and historical learning content, while interactive quiz features help measure understanding directly and short video clips facilitate the memorization of historical events. However, interviews also revealed obstacles in the form of limited internet quotas and unfamiliarity with interactive map navigation, which underscores the importance of infrastructure support and training in usage. While classroom observations show changes in learning dynamics when teachers use Android applications as the main medium because students become more active in discussing, sharing experiences, seeking additional information, and connecting the content with their prior knowledge. even at certain moments, such as when the teacher presented the story of a local hero's struggle, students were able to relate it to the names of streets around their homes, proving that Android-based digital media can create a more meaningful connection between local history and everyday life than textbook-based learning alone.

Discussion

The results of this study indicate a paradigm shift in local history learning from a passive approach to a more active, contextual, and meaningful approach through the use of Android-based digital media. The findings of Jonathan & Wasito (Jonathan & Wasito, 2023) reinforce this by showing that Android-based learning media can overcome the challenges of preserving local literacy, which have been hampered by the complexity of the material and the limitations of innovative methods. The application of quasi-experimental design proves a significant increase in academic achievement, learning independence, and students' ability to set goals and monitor their learning progress. Similarly, the study by Trianingrum et al. (Trianingrum et al., 2024) during the Covid-19 pandemic successfully developed an Android-based digital module for English learning in vocational schools (Johari et al., 2024; Muslih et al., 2024; Ritonga et al., 2024). This module proved to be effective, of very good quality, and provided ample opportunity for students to practice and achieve learning objectives despite the limitations of online learning (Mahalle & Zailani, 2025; Susilawati et al., 2023; Yakubu et al., 2025). Overall, these studies emphasize the importance of developing adaptive, contextual, and locally integrated digital learning media as an effort to enhance student engagement, learning outcomes, and independence in the modern education era.

Other findings show that the success of digital learning is not only determined by technological sophistication, but also by the role of teachers as facilitators. Teachers who are able to integrate applications into active learning strategies are more successful in fostering student motivation and curiosity (Hermansson & Olin-Scheller, 2022). This is in line with the principle of constructivism, which emphasizes that effective learning

occurs when students actively interact with the material and their environment (Nurpriatna et al., 2021); (Cut Eka Fitriana, Maimunah, 2021). With teacher guidance, students find it easier to connect the app's content with their existing knowledge, so the learning process does not stop at the stage of technology use alone but develops into a deeper learning experience (Syarofatin et al., 2022).

This study has important implications in two complementary aspects. From an academic perspective, the integration of Android-based digital innovation in history education can be an effective strategy to overcome the problems of low interest, limited accessibility, and weak cultural knowledge regeneration, which have been major challenges in preserving local culture. From a practical perspective, the results of this study can be used as a model for history teachers in other regions to develop digital learning media in accordance with their respective local wisdom. This study opens up new opportunities for the adaptation of educational technology that is not only modern but also relevant to the local identity of students.

Furthermore, this study emphasizes the importance of collaboration between teachers, students, and application developers in creating learning media that suits the needs of the digital generation (Setiawan & Nurhajati, 2025). This kind of collaboration can ensure that the resulting applications are not only visually appealing, but also rich in educational and contextual value (Hakim et al., 2022; Sholihah et al., 2025, 2025). If developed more extensively, similar applications have the potential to become important instruments in cultural preservation efforts. In this way, digital innovation can serve a dual purpose, namely as a learning medium and a means of preserving the nation's culture (Puteri et al., 2025).

This study proves that digital innovation in the form of Android applications can play a strategic role in preserving local culture through history learning. Students not only become more motivated, but are also able to connect historical material with their identity and everyday reality. This condition indicates a great opportunity to make history learning no longer just memorization, but an interactive, contextual, and meaningful learning experience. With these results, this study not only succeeded in answering the initial objectives, but also opened up new opportunities for the development of local history learning media in an increasingly advanced digital era.

CONCLUSION

The results of this study indicate that Android-based history learning has a greater impact than expected in promoting the preservation of local culture while increasing students' active involvement in the learning process. The implementation of digital media in history learning is able to change the learning paradigm from one that was originally passive and teacher-centered to one that is active, contextual, and student-centered. Through this approach, students not only gain a conceptual understanding of historical events, but are also able to relate historical values and material to their self-identity and daily experiences in their local environment. This creates a more meaningful learning process, as students can see the relevance between the history they are learning and the socio-cultural reality in which they live.

From a scientific contribution perspective, this study enriches the knowledge base in the field of digital history education by emphasizing the importance of integrating local culture into technology-based learning processes. These findings reinforce previous studies that highlight the effectiveness of digital media in increasing student motivation and participation, but add a new dimension in the form of a contextual approach based on local wisdom. This approach shows that technology not only functions as a learning aid, but can also be a means of preserving cultural values and regional identity. Thus, this study not only expands the application of digital innovation in history learning, but also opens up space for the development of educational models that are more rooted in local culture and relevant to the needs of the 21st century.

However, this study has several limitations that need to be considered. The research sample is still limited to 10th grade students in Lubuklinggau City, so the results cannot be generalized widely. In addition, data variations based on factors such as gender, age, and students' social backgrounds have not been fully accommodated. Technical limitations such as internet access and adaptation to application features are also challenges in the implementation of Android-based learning. Therefore, it is recommended that further research be conducted with a larger, more diverse, and cross-regional sample to obtain a more comprehensive understanding of the effectiveness of Android-based history learning. Further research can also explore the integration of similar technologies in other cultural contexts, so that the results can contribute more broadly to the development of digital history learning strategies that support cultural preservation and strengthen national identity in the era of digital transformation.

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