

The potential of Batu Urip cultural heritage site for nature-based physical activities and learning assisted by digital media for children

El potencial del sitio del patrimonio cultural de Batu Urip para las actividades físicas basadas en la naturaleza y el aprendizaje asistido por medios digitales para los niños

Agus Susilo, Yohana Satinem, Sarkowi, Kamil, Krisnaldi Dwinanda
Universitas PGRI Silampari (Indonesia)

Abstract. Cultural heritage sites and nature-based environments offer significant potential for educational tourism and experiential physical learning, particularly for children. Batu Urip, as a Cultural Heritage Village, has extensive historical heritage and local traditions. The aim of this research is how to design the Batu Urip cultural heritage site as a historical digital media for nature-based physical activities and learning. The research method used is a descriptive method with a qualitative approach. Data sources supporting this research include interviews, field observations, and reference sources such as scientific journals and books. History digital media for nature-based physical activities and learning will increase children's enthusiasm for learning history through this digital history applied at the education level. In addition, local history will be elevated because it has been digitally modified. In addition, children's excitement is not only in learning but also in being able to take the good values contained therein. Based on data analysis, it is shown that Batu Urip Cultural Heritage Village has an excellent opportunity to become a means of learning local history at the educational level. The digitalization design of the Batu Urip site can be developed through nature-based physical learning on historical digital knowledge, which can add enormous knowledge and insight. Children will understand better and think more creatively with the presence of high-value local History in their environment.

Keywords: Batu Urip cultural, Heritage site, Nature-based outing class, Digital media

Resumen. Los sitios del patrimonio cultural y los entornos naturales ofrecen un gran potencial para el turismo educativo y el aprendizaje físico experimental, especialmente para los niños. Batu Urip, como pueblo patrimonio cultural, cuenta con un amplio patrimonio histórico y tradiciones locales. El objetivo de esta investigación es cómo diseñar el sitio del patrimonio cultural de Batu Urip como un medio digital histórico para actividades físicas y aprendizaje basados en la naturaleza. El método de investigación utilizado es un método descriptivo con un enfoque cualitativo. Las fuentes de datos que sustentan esta investigación incluyen entrevistas, observaciones de campo y fuentes de referencia como revistas y libros científicos. Los medios digitales de historia para actividades físicas y aprendizaje basados en la naturaleza aumentarán el entusiasmo de los niños por aprender historia a través de esta historia digital aplicada al nivel educativo. Además, la historia local se elevará porque se ha modificado digitalmente. Además, el entusiasmo de los niños no sólo radica en aprender, sino también en ser capaces de apropiarse de los buenos valores que contiene. A partir del análisis de los datos, se demuestra que la Aldea del Patrimonio Cultural de Batu Urip tiene una excelente oportunidad para convertirse en un medio de aprendizaje de la historia local a nivel educativo. El diseño de la digitalización del sitio de Batu Urip puede desarrollarse a través del aprendizaje físico basado en la naturaleza sobre el conocimiento histórico digital, que puede añadir un enorme conocimiento y perspicacia. Los niños comprenderán mejor y pensarán de forma más creativa con la presencia de Historia local de gran valor en su entorno.

Palabras clave: Batu Urip cultural, Sitio del patrimonio, Clase de excursión en la naturaleza, Medios digitales

Fecha recepción: 08-08-24. Fecha de aceptación: 12-09-24

Agus Susilo

agussusilo4590@gmail.com

Introduction

Education today has entered the era of modernisation with the development of the times that often become a priority in the development of humanity. Currently, the progress of the times oriented towards digital aspects has an impact on social and economic life, and the education sector is also affected (Dobrnicki et al., 2020; Treanor & Troncoso, 2022). The presence of technology has provided humanity with many conveniences. In terms of activities, most people become dependent on technology. The life of humanity will sometimes feel good if equipped with technology (Iwadi et al., 2024; Sollervall et al., 2012). As a result, this sense of dependence has made it a habit that must be fulfilled, like the internet-connected Smartphone that everyone currently owns. Most will not be able to escape this technology and feel strange if it disappears from their sight. Technology has made humanity so dependent that it is no longer a tertiary need but a primary need that must be fulfilled (Krasovska et al., 2020; Treanor & Troncoso, 2022). This is

called the age of globalisation, in which the system has moved towards a more modern direction than in previous times (Dame Adjin-Tetty, 2022; Tamayo et al., 2024).

The advancements of the present time impact education. Indeed, to improve personal abilities, you can access websites provided by the government. Most of the data needed in education can also be found there. The progress of this increasingly sophisticated era should indeed improve the abilities of humanity, especially educated people, the younger generation uses technology daily (Hidayat-Ur-Rehman, 2024; Treanor & Troncoso, 2022). For this reason, it is necessary to improve their abilities. The technology that is present and developing today must be relevant to their needs (Børte & Lillejord, 2024; Shi & Wan, 2024). Generally, young people who use technology are more into things that are fun for them without considering their appropriate needs.

So, the role of education in providing knowledge and moral education is very much needed. In the era of globalisation, young people should indeed become projects that

can enjoy the progress of the times. However, with the progress of the times that are increasingly developing, sometimes the progress of the times even makes young people complacent with this situation. Actually, in the world of education, technology from technological advances is often used in everyday life (Khalil et al., 2024; Ou, 2024). Even with the existence of technology, activities can be made more accessible. However, what needs to be understood is how humans can see the most important aspects. This is because technology does not all have a positive impact, but the existence of technology can also harm humanity, especially young people. So, productive young people must utilize time for the best activities. Technology is not just for fun but rather for self-development and careers in life (Muktiarni et al., 2025; Shafieek et al., 2024).

The role of the world of education is huge in supporting the progress of this sophisticated era, which is necessary so that young people can adjust to the circumstances of the era (Kenedi et al., 2024). Through these aspects of the world of education, the positive side should be taken. The learning system taught at the current level of education may refer to more modern habits (Machado et al., 2024; Shi & Wan, 2024). The way children learn is not only by listening to input from the teacher but has been supported by digitalization in the world of education. The sense that children's self-development can increase with access to digitalization in the school environment (Jian & Abu Bakar, 2024; Ly et al., 2024). On the other hand, teachers as teaching staff can continue to improve their abilities by strengthening themselves by increasing their abilities. The era of modernization indeed demands the role of teachers as agents of changing times who can contribute significantly to the progress of education in the millennial era as it is today. It is not surprising that teachers are referred to as generators of enthusiasm for children to navigate life that includes aspects of future change (Krasovska et al., 2020; Muktiarni et al., 2025).

The technology that is currently developing can also be designed to learn local history. In local history itself, many values should be given to children as the nation's next generation in the future (Grenby, 2024; I'Anson Gutiérrez et al., 2023). This is very important because learning local history will be good if the younger generation is not only limited to listening but also able to digest what the teacher teaches as a provider of knowledge for their children (Treanor & Troncoso, 2022). Local history in each region is unique. Local history in society has elements of local wisdom values that can shape children's character. However, developing history learning to become interesting requires a big struggle. This is because developing technology has influenced the mindset of young people. Morale in learning will become a complex problem. On the other hand, the teacher's hard work in managing learning is essential so children can absorb it. Enjoyable History learning will have an impact on improving the learning ability of the children themselves. Historical sites are important for geological research, education, tourism and conservation (Haibt, 2024; Ruban, 2023).

Heritage sites offer valuable opportunities such as learning media and enhancing educational experiences and cultural awareness. Research shows that interactive digital based on local cultural heritage can effectively engage students in history learning; Geoheritage sites can serve as educational tools for disaster risk reduction; mobile augmented reality applications at cultural heritage sites can facilitate enjoyable informal learning experiences for visitors; the connection with the local community via revitalization projects, cultural activities, and participation networks contribute to the long-term sustainability (Abuhay et al., 2023; Cimadomo & Varagnoli, 2023; Pentescu, 2023). Additionally, historical sites like temples can be utilized as learning media to build students' character and foster appreciation for historical buildings. Integrating cultural values into the education curriculum can increase engagement and learning effectiveness (Budiman et al., 2024; Wibowo et al., 2024).

Local history learning design can be developed by studying Batu Urip's local history of Lubuklinggau City. Batu Urip, as part of the area in Lubuklinggau City, has many historical relics. In addition, the culture is reflected in the activities of its people. The character values in the Batu Urip environment are still maintained to this day. Of course, this is a consideration for researchers when designing local history material that emphasizes Batu Urip as local history material at the education level. Local history learning design with the theme of Batu Urip can be developed with the help of technology, such as through digital media and websites. These studies highlight the potential of Batu Urip heritage sites as multifaceted learning resources, offering opportunities for interactive, technology-enhanced, and character-building educational experiences across various disciplines, including history, disaster preparedness, and cultural.

Method

Research design

The method used in this research is descriptive qualitative. The descriptive method is used because it can explain in detail how Batu Urip can be designed as historical digital media for nature-based physical activities and learning. These studies highlight the potential of Batu Urip heritage sites as multifaceted learning resources, offering opportunities for interactive, technology-enhanced, and character-building educational experiences across various disciplines, including history, disaster preparedness, and cultural.

Data collection

Data collection techniques include observation, interviews, and scientific references. Then, the data obtained is analyzed interpretatively to explain and compare the selected theory with relevant data to become a clear sentence.

Analysis data

The data analysis technique includes three activities: (1) Data Reduction, (2) Data Presentation, and (3) Conclud-

ing. The process carried out in this data analysis, the researcher did it in a way that was obtained after the researcher collected data using the observation, interview, and documentation methods. The procedure used in the research is descriptive-analytical, where in this research study, the data is grouped, which then provides a description or explanation of the phenomenon and finally makes conclusions from the problems that have been analyzed. Then carried out with the thinking approach that the author uses in summarizing the data from the results of this study is an inductive thinking approach.

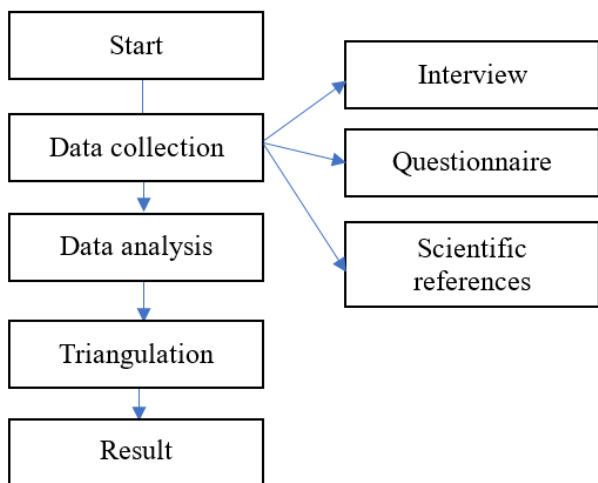


Figure 1. Research procedure

Result And Discussion

Design of Batu Urip Heritage Site as Learning Media

The development of the mindset of today's society has led to the progress of an increasingly diverse era. Society can be said to be getting smarter in various ways because of the help of technology. Almost all levels of society understand and can make technology a necessity that must be fully fulfilled. The progress of the times has changed everything in terms of behaviour and the needs of modern society. Even technology in the broader community, previously considered a tertiary need, is now identified as a primary need that must be met as soon as possible (Kusuma & Mardiana, 2023). The need for technology also affects the modern education sector. The development of education towards modernity is also adjusted to the development of the applicable curriculum. Learning needs are also increasingly being improved, leading to digitization-based education. The spirit in the development of learning at the school level is basically to improve the ability in the mindset of children (Asmayawati, et al, 2024).

History learning in the digitalization era can be introduced to the progress of the times. In the current era, History learning can be designed with the help of technology that develops in the broader community. Digitization, such as Computer-based visualization and reconstruction in a virtual reproduction of heritage, has had a significant impact on how cultural heritage assets are handled, both online and

on-site (Pentescu, 2023; Tamayo et al., 2024). Moreover, conventional learning systems that mostly only rely on textbooks or teaching materials will be less attractive (Krasovska et al., 2020). However, in reality, teaching materials can support the learning system. The development of an increasingly advanced era has indicated that an existing civilization must be followed, not avoided. The prospect of digitalization must be attractive to a teacher to prioritize learning that is more optimized.

Teachers in Lubuklinggau City can also create an attractive local history learning design as a Civilized City; Lubuklinggau City has many historical relics of very high value. Various historical relics are not only limited to stories but can also influence the socio-economic life of the community until the modern era. Environmental and heritage sites can have heightened experiences through effective interpretation. Thus, providing effective environmental and heritage interpretation is important for visitors who explore those sites (Eck et al., 2023; Fan et al., 2024). As an area with a wealth of history and local traditions, if it is not preserved or introduced to young people, it will become the golden generation in the future. The ability to learn history for the younger generation must be improved, especially in understanding local history in their respective regions. The sites to conserve plants provide conservation education through cultural values as incorporated into beliefs that promote a harmonious relationship with nature (Darma et al., 2024; Schmäing & Grotjohann, 2024). Wealth does not only arise from earth resources but also the wealth of history, culture and local traditions that are still alive will make it pride that a small area such as Lubuklinggau City has relics whose uniqueness can make it a source of knowledge in learning local history.

Some historical relics in Lubuklinggau City that are interesting to be a source of knowledge for children are Kampung Batu Urip. However, we should remember other historical relics of Lubuklinggau City. This is because Batu Urip is known as a Cultural Heritage Village registered by the government. Various community activities are still fairly traditional, even in the middle of Lubuklinggau City. Activities to introduce history, culture, and local traditions have continued to develop until now. The community's creativity in maintaining and developing historical relics is still being carried out even though the times have brought enormous changes to the development of Lubuklinggau City. Even activities that reflect Batu Urip as a Cultural Heritage Village continue to be carried out yearly. Activities such as sedekah rami, carried out to protect Batu Urip from various possible dangers, are also often carried out.

The results of an interview show that the Batu Urip Site is a cultural heritage of very high value. Many local traditions shown at Batu Urip are an effort to introduce to the general public, especially the younger generation of Batu Urip Lubuklinggau City. However, the conservation community itself is in the Batu Urip inner area. While Batu Urip outside is more dominated by immigrant communities.

Batu Urip inside has many historical relics that are still preserved today. As for the local traditions and culture, they still exist and are often staged at various events in Batu Urip annually.

Meanwhile, according to the second correspondent, where he is a community leader married to a Batu Urip person, he said that his house is often used for event activities that reflect local history and traditions such as sedekah rami. Sedekah rami event is carried out to clean Batu Urip Village so that it is not exposed to danger. Several historical relics will be released during certain events. Traditional clothing, keris, and various historical relics full of local wisdom are still well preserved. Almost every year, when activities are held to introduce the history, traditions and local culture of Batu Urip, it becomes very crowded. It introduces local history and traditions and serves as a vehicle to introduce cultural elements to the broader community in Lubuklinggau City and other districts.

The historical relics in Batu Urip can be seen by modern people inside and outside of Batu Urip. The heritage in Batu Urip is also related to community activities such as celebrating flax alms and introducing local traditions to the broader community, especially the current younger generation. Historical heritage in the form of historical sites in Batu Urip is connected. Historical sites in the form of tombs are people who contributed to the development of Batu Urip until it developed rapidly today. These historical sites are located in different locations but are still in the Batu Urip area. There are seven historical sites, all of which are the founders of Batu Urip, who, for generations, have been able to make Batu Urip an area that still seems beautiful. In addition to historical sites, there are also heirlooms such as kris, spears, ancestral clothing, etc. Although modern houses have replaced some, Batu Urip's traditional houses still stand firm. All of these historical relics are significant historical treasures.

Nature-Based Physical Activities Learning through Digital History

The digital era has entered education and significantly influenced the teaching system. Heritage Sites Project, detailing the results of digitized documentation in a simple way that facilitates understanding the studied sites and preserves the visual and written record in a modern way (Gao & Lee, 2024; Jarrar, 2024). This digital era produces a new update in facilitating activities in education and other fields. Learning in the digital era can make someone more active and creative. Not only teachers who will be creative but also children who will open their minds and be more creative in designing the learning tasks given at school (Jurišević & Žerak, 2024; Machado et al., 2024). The superior creativity of the teacher will produce the desired learning for the children so that the learning system itself will be easy to understand and can add valuable insights. Learning using digitalization adds ideas and insights and provides an assessment of the knowledge that can be taken. In a sense, the learning resources that are taught can affect their mindset.

Children and teachers must possess knowledge and skills in the digitalization era. Knowledge and skills in applying technology must be possessed because it can help in learning with a broader range of online and face-to-face systems (Behera et al., 2024). Therefore, in the existence of technology, one must be competent in using it to avoid being left behind by others. Some things that appear in the digital era are associated with digital publications, online videos, recordings, and digital libraries. This is the key that can improve a person's ability and thinking. Digitalization will make it easier for teachers to carry out the teaching process (Ou, 2024). Children will not only depend on their teachers for learning. Children can freely access data sources needed to solve a problem being studied. However, this still requires the teacher to monitor the children's activities. Learning resources are found in textbooks and other relevant sources, including those accessed digitally and those around the school environment. Educational experiences that embrace experimental, transdisciplinary, and participative methodologies contribute to a holistic understanding of heritage (I'Anson Gutiérrez et al., 2023).

Learning that develops from year to year does move in a more advanced direction. On the other hand, the needs of the world of education continue to grow, and learning resources that children can easily understand are needed. Education can continue to develop because it follows the trend. So, in this digital era, a teacher must indeed be able to adapt to the educational environment. The learning that is created will have an impact on improving the ability of the children themselves (Ou, 2024). This will have an impact on improving intellectual abilities and emotional intelligence. It should be understood that many children with constantly updated trends have followed the digital era. So, a teacher must also work around it to follow the pattern of the times. Learning with the new system must be adapted to learning needs. A teacher must continue to improve his ability to quickly convey material in front of the class. Moreover, most children are already familiar with digital technology. A teacher must continue to think that improving his teaching skills is necessary. High awareness in improving his abilities will lead him to the progress children desire.

Over the years, digital technology has finally become integrated with school learning. It is clear that education indirectly continuously requires digital technology to update the progress. Digital technology in history learning involves the spirit of learning from children to be more advanced. Digital-based History learning is not only limited to increasing children's understanding but more than that. Learning history is expected to form a good character and an identity. The character formed through history learning that has been designed will benefit children, and children will be more involved in developing learning materials. The emotional feelings generated in the learning process will positively impact improving character education and increasing learning achievement (Daher & Baya'a, 2012). Suppose later children can become more active, of course. In that case, it will

impact children's ability to self-explore and their activeness and creativity in supporting the learning system.

History learning taught in the digitalization era is more comprehensive than materials in the context of storytelling. Using a range of printed, manuscript and visual sources, including educational treatises, memoirs, diaries, letters, and portraits, this essay establishes the unexpected extent of children's presence on the Tour and shows that it is possible to recapture the experiences (Grenby, 2024). History learning material must inspire children to take the values contained therein. Implementation in learning history must be accompanied by an understanding of history affiliated with positive values to build the historical competence needed to adjust to everyday problems. Environmental and heritage sites can have heightened experiences through effective interpretation. Thus, providing effective environmental and heritage interpretation is important for visitors who explore those sites. In parks, recreation, and tourism research, the addition of socio-cognitive mindfulness (Eck et al., 2023). Problems that exist in life today and in life in the future. History learning that contains local wisdom values can be held as one of the protectors of the younger generation in preparing themselves to go through the changing times that increasingly lead to progress in digitalization. Learning history that has been developed is not arbitrary despite entering the era of globalization. History learning developed in the digitalization era adapts to the needs of children. In addition, history learning also refers to the development of the curriculum. Outdoor learning method at Gua Suci sites has indirectly carried out environmentally friendly activities while maintaining historical and cultural value (Khakim et al., 2021).

The digital history learning system makes children more critical of history learning materials (Ningrum & Murti, 2023). This is the hope that more and more children will be able to think and behave critically. Moreover, the increasing number of Historical sources can enable children to sort out Historical learning sources that are appropriate and can be accounted for in their authenticity. Therefore, there is a point of view on the pattern of thinking in the 21st century to avoid leading to things considered less convincing. First, historical information is spread across various sources (Firdaus, 2020). This triggers children mindsets to be able to search for and select these sources so that their validity can be accounted for. Second, learning must be directed so that children can design, identify and analyze a problem, not just solve a problem that has been identified as the problem. Third, learning must be encouraged to train analytical thinking skills (decision-making) rather than mechanistic (routine) thinking that is rote. Fourth, learning must emphasise the importance of collaboration and cooperation in solving problems. Using digital space can improve children's ability to find references freely. Teachers and children who previously could only implement a face-to-face learning system where the teacher would explain the material, but in this digital history era, it can provide flexible

learning for children (Treanor & Troncoso, 2022). Teachers and children can utilize historical sources such as archives, historical documents, and other primary historical sources that history learners can utilize. Not only that, History learners can also access journal articles anytime and anywhere online without limitations. This makes it easier for children and teachers to improve their understanding and critical thinking about various materials in History learning (Corrales et al., 2024). In addition, sources of history-related information can also be redeveloped through various creative processes. This is related to the re-organization of historical information through historical documentation in the form of photos and videos that are developed digitally. The purpose of reorganizing historical information is to convey historical information to the broader community, especially the young generation. The purpose is that young people will not only understand History but also be proud to study and preserve History. Children will feel proud because their area has historical relics that can be studied and increase historical insight. Using a range of printed, manuscript and visual sources, including educational treatises, memoirs, diaries, letters, and portraits, this essay establishes the unexpected extent of children's presence in study heritage site (Grenby, 2024; Velepini, 2020).

History learning by utilizing digitalization is delightful. Teachers can teach children to use digital space to interact directly. One thing that can be utilized in the history learning system with digitalization is a local history website that can display local history studies around children in a virtual atmosphere. The limited space in the History learning system that children have faced can find solutions to their problems. The local history website is used to overcome the limited space in online learning and to understand how to find material through independent learning. The application will make it possible to extend the study to other educational levels, enrich the conclusions obtained and to evaluate the potential scope of using this combination of methods to develop historical competencies and improve heritage education (Corrales et al., 2024). Digitalization on the local History website is expected to be a solution that can lead children to study and develop critical thinking (Itani et al., 2024). This is because children can access it freely whenever and wherever they are related to History learning. Although digital history in learning can be accessed widely, children must also be wise and careful so that the data they obtain is not misguided. So, digital history-based learning has various characteristics, including, firstly, the development and knowledge of children, which must be adjusted. Second, there is involvement between the curriculum and learning objectives in digital-based learning resources. Therefore, not all learning resources that are registered digitally can be presented in History learning. Third, the rehabilitation, credibility, perspective and purpose of the source and the website or party that can publish the digital History sources that are obtained need to be criticized. Fourth, there is a tendency to read quickly (scanning) be-

cause of the large amount of information. The study of history, including digital history, requires accuracy and caution when reading Historical sources that are available digitally (Itani et al., 2024; Treanor & Troncoso, 2022).

In learning, the digitalization of History is developed with online-based access. Material related to digitalization in learning History, such as explanations in the Batu Urip Cultural Heritage Village in Lubuklinggau City. Learning the local History of Batu Urip is very well-designed digitally. As a cultural heritage village, Batu Urip has many historical relics and local traditions that still exist today. The Batu Urip community's habits, which carry out activities, are still traditional. Numerous historical elements developed in Batu Urip. This includes the historical sites that can be developed in the Batu Urip area, many of which include the Historical Sites in the form of tombs of the ancestors of the founders of Batu Urip in the past. This Historical Site in the past was the nobility who built Batu Urip until it became a civilized Cultural Heritage Village. Many teachings related to Character Education serve as guidelines for behaving in the local community. The Batu Urip Cultural Heritage Village also has other Historical relics, such as traditional houses, weapons and clothing. These historical relics were then introduced to the community when events related to local culture and traditions were held in Batu Urip. Batu Urip has a lot of historical relics, so the government awarded it as an area with a cultural heritage. Historical relics can be seen in traditional houses that are still preserved today.

Then, local traditions such as sedekah rami and local Batu Urip dances, usually performed during events, still exist today. In addition, the historical sites of the founders of Batu Urip still exist and have remained strong until the modern era. In his speech, it is known that the Batu Urip Site is the tomb of the founders of Batu Urip, who were nobles and contributed to its development. There are seven Batu Urip sites spread throughout the Batu Urip area. This is located around the village and in the Batu Urip community plantation area. To get there, you can also go by motorbike or on foot. This is because access is limited even though it is located in an area close to the village. The tombs or historical sites are still maintained and become the Batu Urip community's spirit to preserve local traditions. Almost every year, the agenda of introducing local history and traditions is often staged to the broader community. This is unique to the wider community. This is unique to be introduced to the general public. A lot of knowledge and information about History and Character Education can be taken as a necessity in living in society. Digitalization in learning Batu Urip History is not only about providing knowledge for young people, especially children in schools, but also about character formation. The development of this moral ability is indeed very much needed when learning local history digitally. Learning local history related to Batu Urip, developed in learning, must be adjusted to learning needs. This innovation in learning history must be adjusted to schools' curriculum and learning strategies.

Conclusion

Digitalization design is an excellent step in introducing local history to the general public, especially the younger generation. Learning history that is designed digitally will be easier to convey to the younger generation than the old concept. Digitalization will make it easier for teachers to communicate positively and support the history learning system. Currently, History is more than just national History. Moreover, local history has positive values that must be conveyed to children in educational and non-educational environments. The Batu Urip Historical Site can be a destination for developing digital History learning. Videos about the history of the Batu Urip site that reinforce local history material are certainly very beneficial for learning history. The digitalization design of the Batu Urip site can be developed through nature-based physical learning on historical digital knowledge, which can add enormous knowledge and insight. Children will understand better and think more creatively with the presence of high-value local History in their environment.

References

- Abuhay, T., Teshome, E., & Mulu, G. (2023). A tale of duality: Community perceptions towards the ecotourism impacts on Simien Mountains National Park, Ethiopia. *Regional Sustainability*, 4(4), 453–464. <https://doi.org/10.1016/j.regsus.2023.11.007>
- Behera, S. K., Ibrahim, A. H., & Romdhani, F. (2024). Inclusive educational practices and technologies for promoting sustainability. In *Inclusive Educational Practices and Technologies for Promoting Sustainability*. <https://doi.org/10.4018/979-8-3693-6955-5>
- Børte, K., & Lillejord, S. (2024). Learning to teach: Aligning pedagogy and technology in a learning design tool. *Teaching and Teacher Education*, 148. <https://doi.org/10.1016/j.tate.2024.104693>
- Budiman, A., Nopembri, S., & Supriadi, D. (2024). Sundanese traditional sports: level of knowledge among 21 st century adolescents Deportes tradicionales sudaneses: nivel de conocimiento entre los adolescentes del siglo XXI. In *Retos* (Vol. 51). <https://recyt.fecyt.es/index.php/retos/index>
- Cimadomo, G., & Varagnoli, C. (2023). Industrial Heritage in Malaga (Spain): Research and Education via Four Key Design Concepts. *Heritage*, 6(12), 7624–7639. <https://doi.org/10.3390/heritage6120401>
- Corrales, M., Rodríguez, F., Merchán, M. J., Merchán, P., & Pérez, E. (2024). Comparative Analysis between Virtual Visits and Pedagogical Outings to Heritage Sites: An Application in the Teaching of History. *Heritage*, 7(1), 366–379. <https://doi.org/10.3390/heritage7010018>
- Daher, W., & Baya'a, N. (2012). Characteristics of middle

- school students learning actions in outdoor mathematical activities with the cellular phone. *Teaching Mathematics and Its Applications*, 31(3), 133–152. <https://doi.org/10.1093/teamat/hrr018>
- Dame Adjin-Tettey, T. (2022). Combating fake news, disinformation, and misinformation: Experimental evidence for media literacy education. *Cogent Arts & Humanities*, 9(1). <https://doi.org/10.1080/23311983.2022.2037229>
- Darma, I. D. P., Hanum, S. F., Lestari, W. S., Rahayu, A., Atmaja, M. B., & Undaharta, N. K. E. (2024). Integrating Ecological Landscape and Local Culture to Overview Potential Areas for Local Plant Conservation in Bali. *AIP Conference Proceedings*, 3001(1). <https://doi.org/10.1063/5.0183931>
- Dobricki, M., Evi-Colombo, A., & Cattaneo, A. (2020). Situating Vocational Learning and Teaching Using Digital Technologies - A Mapping Review of Current Research Literature. *International Journal for Research in Vocational Education and Training*, 7(3), 344–360. <https://doi.org/10.13152/IJRVET.7.3.5>
- Eck, T., An, S., & Choe, Y. (2023). Environmental interpretation and socio-cognitive mindfulness: A literature review. *Journal of Outdoor Recreation and Tourism*, 44. <https://doi.org/10.1016/j.jort.2023.100704>
- Fan, J., Qi, N., & Guo, Q. (2024). Architectural Preservation and Restoration: Exploring Methods to Preserve and Restore Mathematical Precision in Gothic Cathedrals. *Mediterranean Archaeology and Archaeometry*, 24(1), 123–139. <https://doi.org/10.5281/zenodo.10730507>
- Gao, K., & Lee, D.-Y. (2024). Exploring the Effect of Youth Cultural Heritage Education Using the Metaverse Platform: A Case Study of “Pingyao Ancient City.” *IEEE Access*, 12, 89234–89247. <https://doi.org/10.1109/ACCESS.2024.3417256>
- Grenby, M. O. (2024). Towards a History of Children and Heritage: Young People, Heritage Education and the Eighteenth-Century ‘Grand Tour.’ *Childhood in the Past*, 17(1), 4–21. <https://doi.org/10.1080/17585716.2024.2331989>
- Haibt, M. (2024). End-to-end digital twin creation of the archaeological landscape in Uruk-Warka (Iraq). *International Journal of Digital Earth*, 17(1). <https://doi.org/10.1080/17538947.2024.2324964>
- Hidayat-Ur-Rehman, I. (2024). Digital competence and students’ engagement: a comprehensive analysis of smartphone utilization, perceived autonomy and formal digital learning as mediators. *Interactive Technology and Smart Education*, 21(3), 461–488. <https://doi.org/10.1108/ITSE-09-2023-0189>
- I’Anson Gutiérrez, S., Suárez Suárez, M. Á., & Calaf Masachs, R. (2023). Local History and the Development of Heritage Bonds: A Primary Education Intervention. *Heritage*, 6(11), 7215–7229. <https://doi.org/10.3390/heritage6110378>
- Itani, M., Palmer, K., & El-Sabbagh, R. (2024). Transforming education through digital technology: Shifting the role of innovation and critical thinking to students. In *Transformative Leadership and Sustainable Innovation in Education: Interdisciplinary Perspectives* (pp. 191–198). <https://doi.org/10.1108/978-1-83753-536-120241012>
- Iwadi, I., Ali, D., Jabari, M., & Sukic, E. (2024). The Relation of Artificial Intelligence Technology Application with Administrative Performance: A Case Study of Staff in Directorates of Education in the Hebron Governorate in Palestine. *TEM Journal*, 13(2), 1502–1512. <https://doi.org/10.18421/TEM132-64>
- Jarrar, N. (2024). Developing digital Islamic heritage sites in Jordan: The case of al-Mafraq. *Digital Applications in Archaeology and Cultural Heritage*, 32. <https://doi.org/10.1016/j.daach.2024.e00316>
- Jian, Y., & Abu Bakar, J. A. (2024). Comparing cognitive load in learning spatial ability: immersive learning environment vs. digital learning media. *Discover Sustainability*, 5(1). <https://doi.org/10.1007/s43621-024-00310-6>
- Jurišević, M., & Žerak, U. (2024). Creative potential profiles of primary school students. *Learning and Individual Differences*, 113. <https://doi.org/10.1016/j.lindif.2024.102496>
- Kenedi, A. K., Anita, Y., Handrianto, C., & Zainil, M. (2024). STEM-based digital disaster learning model for disaster adaptation ability of elementary school students. *International Journal of Evaluation and Research in Education*, 13(5), 3248–3258. <https://doi.org/10.11591/ijere.v13i5.29616>
- Khakim, M. N. L., Sulisty, W. D., Yuliati, Hudiyanto, R. R., & Afhimma, I. (2021). Historical learning based on outdoor learning and environmental insight as implementation of the utilization of Gua Suci sites in Tuban. *IOP Conference Series: Earth and Environmental Science*, 747(1), 012050. <https://doi.org/10.1088/1755-1315/747/1/012050>
- Khalil, M., Wong, J., Wasson, B., & Paas, F. (2024). Adaptive support for self-regulated learning in digital learning environments. *British Journal of Educational Technology*, 55(4), 1281–1289. <https://doi.org/10.1111/bjet.13479>
- Krasovska, O., Miskova, N., & Veremchuk, A. (2020). Professional Training of Future Preschool Teachers in the Field of Artistic and Aesthetic Education by Means of Contextual Learning Technologies. *Behavioral Sciences*, 10(2), 50. <https://doi.org/10.3390/bs10020050>
- Ly, B., Doeur, B., & nat, S. (2024). Key factors influencing digital learning adoption among cambodian university students: An integrated theoretical approach. *Computers in Human Behavior Reports*, 15. <https://doi.org/10.1016/j.chbr.2024.100460>
- Machado, A. D. B., Sousa, M. J., & Domingos, L. (2024).

- Creating a metaverse-based innovative digital learning environment. In *Transformative Leadership and Sustainable Innovation in Education: Interdisciplinary Perspectives* (pp. 59–72). <https://doi.org/10.1108/978-1-83753-536-120241005>
- Muktiarni, M., Rahayu, N. I., Suwandi, A., Rahayu, S., Ismail, A., & Mupita, J. (2025). Shifting to Digital Education: An Analysis of Teacher Knowledge and Its Implementation of Open Educational Resources in Vocational Schools. *Journal of Advanced Research in Applied Sciences and Engineering Technology*, 45(2), 240–257. <https://doi.org/10.37934/araset.45.2.240257>
- Ningrum, A. W., & Murti, R. C. (2023). Contextual Learning Models in Improving Elementary School Critical Thinking Skills. *Jurnal Penelitian Pendidikan IPA*, 9(5), 48–53. <https://doi.org/10.29303/jppipa.v9i5.2360>
- Ou, C. (2024). Designing socially dynamic digital learning: Technologies and strategies for student engagement. In *Designing Socially Dynamic Digital Learning: Technologies and Strategies for Student Engagement*. <https://doi.org/10.4324/9781003368076>
- Pentescu, A. (2023). Cultural Heritage and New Technologies: Exploring Opportunities for Cultural Heritage Sites from Gen Z's Perspective. *Studies in Business and Economics*, 18(3), 230–243. <https://doi.org/10.2478/sbe-2023-0056>
- Ruban, D. A. (2023). Ancient carbonate reefs as geological heritage: state of knowledge and case example. *Carbonates and Evaporites*, 38(4). <https://doi.org/10.1007/s13146-023-00903-8>
- Schmäing, T., & Grotjohann, N. (2024). Exploring the Wadden Sea Ecosystem Through an Educational Intervention to Promote Connectedness with Nature. *Ecopyschology*, 16(1), 32–40. <https://doi.org/10.1089/eco.2022.0100>
- Shafieek, M. S. M., Ismail, A., & Razali, S. S. (2024). Impact of Digitalization on Automotive Technology Curriculum Concerning Student Psychomotor Achievement. *Journal of Advanced Research in Applied Sciences and Engineering Technology*, 37(2), 141–155. <https://doi.org/10.37934/araset.37.2.141155>
- Shi, R., & Wan, X. (2024). A bibliometric analysis of knowledge mapping in Chinese education digitalization research from 2012 to 2022. *Humanities and Social Sciences Communications*, 11(1). <https://doi.org/10.1057/s41599-024-03010-8>
- Sollervall, H., Otero, N., Milrad, M., Johansson, D., & Vogel, B. (2012). Outdoor Activities for the Learning of Mathematics: Designing with Mobile Technologies for Transitions across Learning Contexts. *2012 IEEE Seventh International Conference on Wireless, Mobile and Ubiquitous Technology in Education*, 33–40. <https://doi.org/10.1109/WMUTE.2012.13>
- Tamayo, J. L. R., Wuebben, D., & Barrio, M. G. (2024). Standards for science communication in extended and virtual reality: a model for XR/VR based on London Charter and Seville Principles. *Journal of Science Communication*, 23(3). <https://doi.org/10.22323/2.23030203>
- Treanor, M., & Troncoso, P. (2022). Digitally excluded: Inequalities in the access and use of online learning technologies in Scottish secondary schools. *International Journal of Population Data Science*, 7(3). <https://doi.org/10.23889/ijpds.v7i3.1819>
- Velempini, K. (2020). Environmental Education in Botswana: Successes and Constraints Towards the 2030 Agenda. In *Sustainability in Developing Countries: Case Studies from Botswana's journey towards 2030 Agenda* (pp. 225–240). https://doi.org/10.1007/978-3-030-48351-7_11
- Wibowo, C., Eko Nopiyanto, Y., Lydia Sulistyawati Pulungan, P., Christovel Dese, D., Kinasih, A., Sari Kardi, I., Aryanti, S., & Insanisty, B. (2024). Dynamics of inland Papuan students integrating local culture and contemporary physical education curriculum. *Retos*, 60, 156–165. <https://recyt.fecyt.es/index.php/retos/index>

Datos de los/as autores/as:

Agus Susilo	agussusilo4590@gmail.com	Autor/a
Yohana Satinem	satinemyohana@gmail.com	Autor/a
Sarkowi	sarkowisulaiman@gmail.com	Autor/a
Kamil	kamilarray@gmail.com	Autor /a
Krisnaldi Dwinanda	krisnaldi2206@gmail.com	Autor /a