

# Use of Digital Platforms in 21st Century History Learning: Case Study of Website Use in Senior High Schools

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## Penggunaan Platform Digital dalam Pembelajaran Sejarah Abad 21: Studi Kasus Penggunaan Website pada Sekolah Menengah Atas

**Abstract:** *The use of technology in education has undergone a significant transformation, especially in the context of 21st century history learning. History learning today demands the application of technology to facilitate a more interactive and interesting learning experience. This research aims to explore the use of digital platforms in history learning, with a special focus on the application of websites as learning media in high schools. This study uses qualitative research methods to analyze the effectiveness, resistance, and benefits of using websites in the context of history learning. Data was collected through literature study related to relevant literature. The research results show that the use of websites as a digital platform in history learning increases student engagement, improves historical and critical thinking skills, facilitates access to more diverse learning resources, and enriches the learning experience through interactive multimedia content. However, this research also identified several challenges, such as limited internet access and the need to increase digital competence among teachers. In conclusion, the integration of digital platforms, especially websites, in history learning has great potential to increase learning effectiveness, as long as it is supported by adequate infrastructure. These findings provide important insights for the development of web-based learning media and learning strategies in the digital era and provide support for the integration of technology in history learning. This shows that the use of websites can be an effective tool in facilitating the history learning process in high schools. This research also provides a basis for further research in the development and implementation of other digital platforms in history learning. Further research could be carried out to explore various aspects of the use of digital technology in the broader context of history learning.*

**Keywords**— digital platforms; history learning; 21st century; website; senior high school

### 1. INTRODUCTION

Digital platforms facilitate various forms of interaction, including communication and transactions, making them important infrastructure in the digital ecosystem. Digital platforms are described as operating systems that emphasize engagement in people's lives (Vaidyanathan, 2022 in Ha & Kim, 2024). So, if you master it, it becomes a very important competency for every component, including individuals, governments and companies (Ha & Kim, 2024). Along with significant technological developments (Samih, 2019; Wineburg, 2018), the demand for learning that is more interactive, dynamic and relevant to students' needs is also increasing. Websites are a relevant digital platform and can be used as an alternative for 21st century history learning (Fatimah et al., 2023). According to (Lancashire, 2000) multimedia integration on the website provides several benefits, namely learning materials can be viewed anywhere and anytime; by organizing hyperlinks, providing access to other relevant learning resources; learning materials can be updated at any time; and can contain documents not found in textbooks, such as molecular graphs, spectra or videos.

The use of websites in history learning answers the need for various conveniences that are oriented towards creating an open learning environment because they are flexible and can

be accessed anywhere; creating interactive learning environments and enabling more dynamic experiences; increase interest and motivation to study history; the media is quite effective; facilitating collaboration and interaction that enriches students' learning experiences; and increasing digital literacy which gives students autonomy and freedom in solving problems critically (Chen et al., 2008; Fatimah et al., 2023; Haniko et al., 2023; Kuo et al., 2021; Priyambodo et al., 2012; Santoso, 2016; Sari et al., 2023). It is hoped that the use of websites can bring history learning to a new level by providing accessibility to resources, presenting material in an attractive visual manner, and enabling interactivity between teachers and students. Students can access all history learning materials in real time via electronic devices such as smartphones. Thus, history learning is not limited to the classroom, but can be done independently.

However, the reality shows that conventional history teaching methods are considered less attractive and ineffective for the current generation. Not a few studies state that learning history is less popular with students, the facilities and performance of educators are still lacking, and learning history is still at the stage of memorizing historical events. (Jumardi, 2015; Marta, 2017; Sumardiansyah, 2017; Supriatna, 2011). Apart from that, there are many schools that do not fully use websites in teaching history. Previous research shows that students still do not engage with digital information critically

(McGrew et al., 2018). Challenges such as limited access, lack of technology skills of teachers, and budget limitations are obstacles to making this happen. Research on website evaluation presents a similar picture, and shows that very few students are identified as having good performance in using websites (Kiili et al., 2008; Shenton et al., 2012; Wineburg & McGrew, 2017, 2019 in Goulding, 2021). Studies with teachers (Morgan, 2003 in Kember et al., 2010) and students (Caruso, 2004 in Kember et al., 2010) each confirm that the most popular CMS functions are often related to facilitating classroom management rather than interactivity. Many instructors use it simply as a delivery mechanism for course material resulting in “underutilization” of its functionality (Vovides, Sanchez-Alonso, Mitropoulou, & Nickmans, 2007:66 in Kember et al., 2010). The lowest perception is reflected in the minimal use of chronology skills in class regarding the study of documents and historical sources, especially the lack of use of various learning methods with various technologies in history classes (López-García, 2023). These findings confirm the results of previous studies (Rodríguez-Medina et al., 2020; Gómez et al., 2021a,b in López-García, 2023), which also stated that teenagers tend to refuse to study historical subjects using different technologies and make less use of them. historical documents and sources. This indicates the need for new strategies in the integration of technology and more effective learning methods in the classroom in order to develop skills that are in line with the current demands of history learning.

The urgency of using the website itself is very linear to facilitate the demands of 21st century history learning which has seven main objectives, namely: 1) developing in-depth knowledge of historical events; 2) develop critical and creative thinking skills; 3) building awareness and national spirit; 4) develop curiosity, inspiration and aspirations; 5) develop patriotic attitudes and leadership; 6) develop the ability to search, process, package information; and 7) communicate (Hasan, 2012:49). History learning is designed to help students develop analytical skills, namely the ability to visualize, collect information, convey, analyze, solve problems, and make decisions (Umamah, Afita Surya, et al., 2022). Partnership for 21st Century Learning, (2015:2) also mentioned that history is one of the key subjects in learning today. Trilling & Hood, (1999:8) also mention seven key skills that must be mastered, namely; 1) critical thinking and doing; 2) creativity; 3) collaboration; 4) cross-cultural understanding; 5) communication; 6) computing; and 7) career and learning self-reliance.

Therefore, this research is worthy of consideration considering the need for changes in the history learning process in schools in order to increase the effectiveness of history learning which refers to the educational paradigm of the second century. In this context, this article will explore the use of digital platforms, especially websites in teaching history at the high school level. The focus highlights case studies of website use in high schools on the effectiveness of history

learning, by identifying trends, benefits, challenges and opportunities over the last few decades (last 5 years).

The next section in this research will explain the literature review, research methods used, results and discussion, conclusions and research implications. Through a deeper understanding of the use of technology in history learning, it is hoped that it can make a valuable contribution in improving the quality of history learning in this digital era.

## 2. LITERATURE REVIEW

Currently, various subjects, especially history, have implemented interactive digital tools to illustrate theoretical material (Yildirim et al., 2018). Interactive learning environments and digital platforms are one of the most effective learning methods in the modern era (Malysheva et al., 2022). The benefits of using digital history resources in secondary education increase student engagement and historical understanding (Miguel-Revilla et al., 2020). Modern digital platforms enable the learning of various subjects as they have a rich variety of functions (Ijaz et al., 2017).

Research (Malysheva et al., 2022) analyze the effectiveness of interactive learning environments and digital platforms in history learning. The aim of this research is to reveal the level of university involvement in digital technology and students' motivation to study history through a survey; developing learning programs that utilize digital technology; and evaluate the effectiveness of the program and its impact on students' motivation to study history based on repeated surveys. The results of the first survey indicated the need for special programs to increase students' motivation in studying history and familiarize them with modern educational technologies. In the second survey, as many as 85% of students stated that digital tools influenced their learning motivation. These findings confirm that the digitalization of education has a positive impact on students' creative thinking, which increased to 58% from 18%.

This is also supported by research (Singh & Ahmad, 2022) which analyzes the impact of digital platforms in the form of social media on generations and their impact on history learning. The existence of social media has influenced the study of history, known as digital history. In this context, social media emerges as a new form of historiography and provides a more relevant discussion space for students as users of digital platforms. Social media makes historical information more relaxed and easily accessible to students. By 2022, there will be 5 billion internet users with more than 93% of them using social media. In the last 15 years, social media has changed the way people interact, which has an impact on the younger generation and the world of education. Social media platforms often discuss historical issues, opening up opportunities for the transformation of history education. Through social media, historical information becomes more casual and easily accessible to students. This research is also proven by research results (Decenilla et al., 2022) students indicated that the use of TikTok videos in self-

made mini-lectures had a positive impact on their learning behavior. This triggers their desire to learn to increase educational self-confidence, while making the process of learning history fun and entertaining.

During the Covid-19 pandemic, digital platforms have become the answer to taking advantage of the opportunities and challenges of online history learning. Educators can freely use WhatsApp, Facebook, Instagram, Google Classroom, Zoom, Google Meet, YouTube, Discord, as well as virtual tours of cultural sites to support online learning (Absor, 2020). The Interactive Learning Environments family, which includes Zoom, Skype, Google Meet and others, makes remote learning possible (Demir et al., 2020). The advantage of this program is that online lessons can be delivered via digital platforms. Additionally, the screen sharing feature allows teachers and students to display presentations, video recordings, or audio, which helps in visualizing theoretical material.

Similar research examines the use of website-based e-learning in physics learning (Putra et al., 2022). The use of website-based e-learning provides the most benefits as a source of student learning, while the biggest obstacle in using website-based e-learning is that schools must have fast internet service. This research is also strengthened by the results of literature studies (Surani, 2019) which shows that educational technology has a very important role in the era of education 4.0. This can be seen from the use of educational technology products such as E-learning, learning applications, and independent learning platforms that suit the needs of education 4.0.

Udemy's digital platform is designed for the development of various courses, enabling the improvement of professional competencies and general skills. This shows the implementation of a student-centered teaching approach (Hooshyar et al., 2019). The advantage of the Udemy's digital platform is that it has special features that allow educators to conduct online classes on various historical events, design and send tests to students, and display audio and video recordings.

Elsewhere, researchers from the Columbia and England point to a new era of digital history, which could bring new innovations to science through the use of digital tools to study historical facts. They note that even in advanced Western countries, social barriers and high expectations for history students can be overcome by educators' use of computers and other digital tools. Experts also reveal that digitalization gives every student free access to information, they can read ancient manuscripts available online or visit history museums in other parts of the world (Crymble & Afanador-Llach, 2021).

The aim of this research is to explore the use of digital platforms, especially websites, in history learning at the high school level. The focus highlights case studies of website use in high schools on the effectiveness of history learning, by identifying trends, benefits, challenges and opportunities over the last few decades (last 5 years).

### 3. RESEARCH METHOD

This research is qualitative research with the type of library or literature study research. Library study research is a form of research carried out by collecting, reviewing and analyzing various library sources related to research problems or topics. Literature study research or literature review is a critical process for collecting, evaluating, and synthesizing literature relevant to the research topic (Machi & McEvoy, 2024). Thus, the main data sources for this research refer to previous research sources, proceedings, national and international articles/journals that are relevant to this research topic. The journal articles used in this research are previous research that is reputable, accredited and published within the last 5 years.

### 4. RESULT AND DISCUSSION

A website is a collection of interconnected web pages, usually on the same server, containing a collection of information provided by individuals, groups or organizations. (Wikipedia, 2024). Websites are usually stored on web servers and can be accessed over networks such as the Internet or Local Area Network (LAN) using Internet addresses called URLs. The collection of all publicly accessible sites on the Internet is known as the World Wide Web (WWW). Even though they are accessible to the public, not all sites provide open access to the public. Some sites require visitors to register as members, or pay to become members in order to access the content on a website.

Rudyanto (2011:7) defines a website as an application that contains multimedia documents such as images, text, animation and video which uses the Hypertext Transfer Protocol (http) protocol and requires software such as a browser to access it. The website is useful for finding all the information needed by users, including students. The ease of accessing the website is used as a source of information for new knowledge and insights for students (Wiratama, 2022).

The use of websites as a medium for learning history has strategic benefits, according to (Wiratama, 2022) this is supported because; (1) the website can be accessed practically and flexibly using technological devices such as smartphones, laptops, etc.; (2) use of websites for e-learning in learning; (3) the implementation of digital-based learning as a government policy makes websites a learning medium that facilitates the activities of educators and students; (4) limited face-to-face learning schedules have led to website innovations to provide additional material; (5) The movement to reduce paper use also allows the use of websites as a medium for writing anything via a computer or laptop screen.

The following are relevant and analyzed research topics:

**Table 1:** Relevant Research

| No. | Research  | Result  |
|-----|---|---|
| 1.  | Putri, S. A., & Khusna, N. I. (2024). Pengaruh Pengembangan | The use of website-based learning media has a significant |

| No. | Research   | Result  | No. | Research  | Result   |
|-----|--|---|-----|---|--|
|     | Multimedia Berbasis Website untuk Meningkatkan Aspek Kognitif Siswa pada Mata Pelajaran Sejarah di MAN Kota Pasuruan. <i>ARIMA: Jurnal Sosial Dan Humaniora</i> , 1(3), 11-16.   | influence on the history learning outcomes of class The validation results of media experts, material experts and Indonesian history teachers on website-based multimedia teaching media show the good category and are suitable for use. The use of website-based teaching media can improve students' cognitive aspects so that students become more active in learning, especially learning Indonesian history.  | 3.  | Fatimah, S., Hidayat, H., Sulistiyono, S. T., Alhadi, Z., & Firza, F. (2023). Digital Literacy toward Historical Knowledge: Implementation of the Bukittinggi City History Website as an Educational Technology. <i>JOIV: International Journal on Informatics Visualization</i> , 7(4), 2445-2451. | Utilizing the Bukittinggi City History Website as an educational technology tool for the community can increase digital literacy in historical knowledge. Using the Bukittinggi City history website as educational technology is an effective and efficient alternative.  |
| 2.  | Aprilia, W., Jamhuri, M., Yusuf, A., & Hadi, M. N. (2023). Penerapan Media Web Wordwall Untuk Meningkatkan Motivasi Dan Hasil Belajar Siswa Pada Pembelajaran Sejarah Kebudayaan Islam Di SMA Ma'arif NU Pandaan. <i>Risalah, Jurnal Pendidikan dan Studi Islam</i> , 9(4), 1441-1448. | There was an increase in students' learning motivation after using the wordwall web, which was shown in the pre-cycle stage, a score of 50.37% was obtained, the first cycle obtained a score of 55.56% and the second cycle obtained a score of 83.89%. In the pre-cycle stage, an average of 70 was obtained with a classical completeness of 44.44%, in the first cycle an average of 87.22 was obtained with a classical completeness of 77.77% and in the second cycle an average of 97.83 was obtained with a classical completeness of 97.22%. From these results it can be concluded that the application of this media has proven successful and has provided an increase in the motivation and learning outcomes of class XI MIPA 3 SKI subjects. | 4.  | Wiratama, N. S. (2023). Manfaat Personal Website sebagai Media Pembelajaran Sejarah. <i>Historis: Jurnal Kajian, Penelitian dan Pengembangan Pendidikan Sejarah</i> , 7(2), 33-39.  | Personal websites can be useful in: (1) providing flexibility in choosing the time and place to develop courses; (2) minimizing the use of paper so that lecturers participate in environmentally friendly movements; and (3) provide stimulation in the form of sensitivity to follow developments in information technology to students. The advantages of personal-based history learning media: (1) provide students with the opportunity to study lecturer material wherever they are; (2) provide motivation for students to be able to create a website as exemplified by their lecturer; (3) learning materials can be updated easily according to developments; (4) encouraging lecturer creativity to innovate in developing enjoyable learning. |
|     |  |   | 5.  | Yuni, L. R., Isjoni, I., & Asril, A. (2023).  | The results of the website-based E-LKPD  |

| No. | Research  | Result   | No. | Research   | Result   |
|-----|---|--|-----|--|--|
|     | Development of Website-Based E-LKPD to Train Students' Historical Thinking on the Material of the Great World Revolutions Class XI State High School 1 Koto Kampar Hulu. <i>JETISH: Journal of Education Technology Information Social Sciences and Health</i> , 2(2), 1816-1823. | validation on the world's great revolution material by material experts received an average score of 4.7 in the very appropriate category. Expert questions received an average score of 4.6 in the decent category, media experts gave an average score of 4.2 in the very decent category, and the results of student respondents in the small group test showed an average score of 4.79 in the very decent category. Student respondents in the large group test gave an average score of 4.86 in the very decent category.  |     |  | lite (Digital Literacy) application requires improving quality and quantity by better adapting to developments in science and technology.  |
| 6.  | Alim, M. R. (2022). D-Lite: Pengembangan Website Media Multiliterasi Pada Pembelajaran Sejarah. <i>SKULA: Jurnal Pendidikan Profesi Guru Madrasah</i> , 2(3), 151-158.  | Initial observations showed that 60% really needed, 37% needed, and 3% did not need website-based multiliteracy media. D-Lite (Digital Literacy) aims to be a companion and support media for multiliteracy learning, supporting the creation of conceptual understanding, critical thinking, creative thinking, collaboration and communication. Innovation in learning is needed as a choice of multiliteracy learning media. The small class trial had a percentage of 92.00% with very feasible information and the results of the large class trial showed an average result of 89.00% which was included in the very feasible category. Continuous development of the D- | 7.  | Alim, M. R. (2022). Pengembangan Media Galeri Visual Sejarah (GVS) berbasis Website pada Materi Candi-Candi di Malang Raya. <i>Historia: Jurnal Pendidikan dan Peneliti Sejarah</i> , 5(2), 167-174.   | The observation results show the need for digital learning media that is capable of visualizing historical relics, especially material from Hindu-Buddhist temples, which can be used easily and anywhere. The results of research and development trials show feasibility with an average yield of 86.7%. The use of website-based learning media is accessible and increases students' understanding of historical objects.  |
|     |   |  | 8.  | Baharuddin, R. A., Rosyida, F., Irawan, L. Y., & Utomo, D. H. (2022). Model pembelajaran self-directed learning berbantuan website notion: meningkatkan kemampuan berpikir kritis siswa SMA. <i>Jurnal Inovasi Teknologi Pendidikan</i> , 9(3), 245-257. | The results of the analysis show that the SDL model using the notion website concept has an impact on students' critical thinking abilities. Hypothesis testing shows that a significance value of 0.00 rejects $H_0$ and accepts $H_1$ because the value is less than 0.05. In addition, the difference in scores between the experimental and control groups, which respectively showed a large increase of 0.618 and a small increase of 0.005, is another aspect that needs attention. |
|     |   |  | 9.  | Hisyam, M. (2022). <i>Pengembangan</i>   | The development of timeline-based Venngge  |

| No. | Research   | Result  | No. | Research  | Result   |
|-----|--|---|-----|---|--|
|     | <i>Vennngage Berbasis media Timeline untuk Meningkatkan Kemampuan Berpikir Kronologis Siswa</i> (Doctoral dissertation, Universitas Negeri Padang).  | media obtained the results of the feasibility test by the validator, seen from the level of achievement of the chronological thinking analysis on the Timeline contained in the questionnaire, which was 93%, meaning that the chronological thinking analysis on the Timeline created was categorized as very feasible. The level of achievement of the media feasibility test is 80%, while the results of the feasibility test by the validator, seen from the level of achievement of the feasibility of the material contained in the questionnaire, is 92%, meaning that the material steps in the Timeline media are categorized as very feasible. |     |   | world history e-books, as well as posters and images that help visualize historical events.  |
|     |  |   | 11. | Umamah, N., Surya, R. A., & Bayu, A. P. (2022). Pengembangan Sumber Belajar Inovatif Berbasis Google Classroom Pada Pembelajaran Sejarah Untuk Meningkatkan Analytical Skills Menggunakan Model ASSURE. <i>Jurnal Penelitian Sains dan Teknologi Indonesia</i> , 1(1), 16-24. | The validation results of material experts on innovative learning resources based on Google Classroom obtained a percentage level of 76% in the good category, 80% for media experts in the good category, 90% for language experts in the very good category. The percentage of user test scores from educators is 94% in the very good category. The average result of the pre-test was 44.66 and the post-test was 81.66. The average post-test result is greater than the average post-test, meaning that the media has succeeded in increasing students' Analytical Skills. |
| 10. | Malysheva, O., Tokareva, E., Orchakova, L., & Smirnova, Y. (2022). The effect of online learning in modern history education. <i>Heliyon</i> , 8(7). | Most students (85%) admit that digital tools have an impact on their motivation to learn. They rated this impact as moderate (50%), high (20%), and low (30%). As a result, indicators of professional competence and skills increased by 10%: "technical competence (modern technologies)" (72%), "creativity" (75%), "critical thinking" (71%), "strategic thinking" (65%), and "practical skills" (88%). Concrete examples are websites that make it easier for students to find historical information, including access to historical archives,  |     |   |  |
|     |  |   | 12. | Widiadi, A. N., Sheehan, M., & Shep, S. (2022). The potential of web-based historical sources as learning resources to foster students' historical thinking skills. <i>Paramita: Historical Studies Journal</i> , 32(1).  | Based on qualitative data, the findings show that the digital primary sources presented on the website which were deliberately developed as learning resources to foster students' historical thinking abilities also contain challenges and difficulties for their users, both teachers and students, especially in developing students' historical thinking abilities.   |
|     |  |   | 13. | Harismawan, W. (2020). Penggunaan Komik Berbasis Web pada Mata Pelajaran Sejarah Siswa  | According to the articles that have been reviewed, the author concludes that the use of web-   |

| No. | Research   | Result  |
|-----|--|---|
|     | SMA. <i>Indonesian Journal of Instructional Media and Model</i> , 2(1), 40-50. | based comics or online digital comics is very effective for learning history. |

#### 4.1 Website as a Learning Resource

Website-based learning resources provide information or material that is systematically arranged in the form of a web page so that it can be accessed anytime and anywhere conveniently (Putrianiingtyas et al., 2022). Learning resources are useful for making it easier to obtain information, knowledge and skills in learning (Gumantan et al., 2021). Students can gain new experiences outside the classroom than those found in textbooks and develop their own perspectives (Hassan et al., 2017).

Introduction to material about local history is an option for introduction to website-based media. It is not uncommon for students to be unfamiliar with or unfamiliar with historical material about their own region. So the website can be an innovative media for introducing local history material that is easily accessible through website-based learning resources. For example, (Alim, 2022) research discusses temples in Malang Raya.

Digital technology allows historians to quickly access the sources they need because archives have been digitized and made available through library websites or online learning platforms (Sousa, 2023). Research (Malysheva et al., 2022) shows that the website supports the use of digital archives, which makes it easier to access digital historical documents. One of the main advantages of the analyzed website is its availability in 6 languages. Additionally, the website is equipped with an interactive interface that allows interaction with specific groups, so students can quickly find the information they need in class. For example, the Library websites supported by UNESCO and the United States Library of Congress provide a variety of materials on world history, United States history, and European manuscripts, and so on. The advantage of a website-based library is that it provides interesting visualizations (images, photos, interactive maps) and increases motivation and interest in studying history. Students can view pictures and posters that illustrate historical events and present interesting information. The findings of this research show the positive impact of digitalization of education on students' motivation in studying history.

The use of digital historical sources in learning is a revolution in history education which has so far relied on printed sources (Bolick, 2006). Students will have more freedom to learn historical material without relying solely on textbooks (Hassan et al., 2017). Students can access various primary and secondary sources that can serve as references or references.

#### 4.2 The benefits of Websites for student learning

Website-based teaching media can improve students' cognitive aspects so that students become more active when learning Indonesian history (Putri et al., 2024). This media uses Google Sites in the form of a website so that it can be accessed on smartphones or computers, which makes it easier for students to understand historical material. The media is designed in an attractive way so that students are motivated and enthusiastic about learning so that it will have an effect on improving students' cognitive aspects. Through attractive visualization and easy accessibility, websites can improve students' understanding of historical material (Alim, 2022).

Using a website makes it easier for teachers and students in the learning process, especially with regard to assignments (quizzes or learning evaluations) and facilitates interactive discussions. Students can be asked questions, then solve problems that arise in the questions and teachers provide feedback on forum activities on the website, so this will hone students' level of critical thinking. (Baharuddin et al., 2022). Apart from that, students' historical thinking abilities will be honed when students study historical material or objects in website-based learning resources (Widiadi et al., 2022). Students will utilize various primary sources in learning history which encourages them to think historically. Reserach (Widiadi et al., 2022) has revealed the potential of the website [www.berpikirsejarah.com](http://www.berpikirsejarah.com) has potential as a web-based learning resource that history teachers can use to foster students' historical thinking. The challenge that arises is the availability of devices and an internet connection that must be stable. The same thing also states that the website can train and improve students' chronological thinking skills through the timeline-based Venngage website (Hisyam & Ofianto, 2022) and increasing understanding of concepts in the history learning process (Risma et al., 2016; Rofiul Alim, 2022). Research (Umamah, Surya, et al., 2022) utilizing the use of Google Classroom as an innovative learning resource according to student needs which has succeeded in improving students' Analytical Skills.

An attractive website will increase students' interest in reading so that history learning objectives can be achieved. This is supported by research results (Harismawan, 2020) who concluded that the use of website-based comics is very effective in history learning because it can increase students' interest in reading and is easy to remember. Things that must be considered when creating a website-based comic are related to the target, interesting images, internet connection, language used and time to read it. Apart from that, gamification-based websites such as Wordwall can be an interesting evaluation tool and increase students' motivation and history learning outcomes (Aprilia et al., 2023). Similar research (Yuni et al., 2023) also reveals the effectiveness of E-LKPD as a website-based history learning evaluation tool.

### 4.3 Website Development in History Learning

The development of website-based history learning media has various innovations that have learning objectives according to needs, including the following;

#### 1) Multimedia Google Sites

Reserach (Putri et al., 2024) uses Google Sites as an interesting learning medium with historical material about the life of Indonesian society during the Islamic period. Media validation in the 91% category is very valid, the average student response of 85% meets the activeness criteria and there is a significant difference in learning outcomes in the experimental class compared to the control class with a significance value of  $0.00 < 0.05$ .

#### 2) Historical Visual Gallery (GVS)

The use of GVS media was motivated by the Covid-19 pandemic which caused classes to be held online (Alim, 2022). To overcome this, GVS media is needed which makes it easier to learn history without going directly to the field. The material used is related to the temples in Malang Raya with a gallery concept or visual graphic info. The consideration is assessed in terms of attractiveness, suitability, accuracy, usefulness and convenience. Good visualization can convey messages, concepts and information that you want to convey to students. The GVS page presents temple information which contains graphic images/info, videos and information that can be accessed by all users and there is a catalog of the names of temples in Malang Raya. The media validation results obtained were 80% in the feasible category with several inputs (revisions) regarding interactive displays in the form of attractive graphic info, providing zoom in/out features and high definition images. The results of field trials show feasibility with an average of 86.7%, the media is accessible and increases students' understanding of historical objects.

#### 3) Notion Website

Notion has various advantages such as note columns, digital kanban/sticky note boards, tables, calendars, and reminders that can be accessed easily and can improve students' critical thinking. The disadvantages are that it is not very colorful, the visuals are less attractive and can only be created with photos or videos. In research (Baharuddin et al., 2022), The notion web developed applies photos and videos and makes it easier for students to access material in visual and audio-visual form. The gallery view contains a combination of photos and sub-links that display information from the images. The notes database functions to record material, while tables help students understand the material and provide learning references. Sub-material is presented more concisely, while the links provided make it easier for students to access relevant website displays, videos and images. The results of this research show that the Notion website has an influence on students' critical thinking as shown by the results of hypothesis testing with a significance value of less than 0.05.

#### 4) Website-based Comics

Research (Harismawan, 2020) proves that the use of web-based comic media can increase interest and make it easier for students to understand historical material which tends to be less interesting. Comics are a series of pictures that present a systematic story in pictorial form. Comics are simple, easy to understand, clear, and in the form of an interesting combination of illustrated stories. However, you need to consider the target audience, attractive images, language used, reading time and adequate internet connection.

#### 5) City history website

Research (Fatimah et al., 2023) revealed that the influence of the Bukittinggi city history website had a significant influence on increasing digital literacy in historical knowledge. Websites about city history can be an efficient and effective alternative educational technology. Increasing digital literacy will increase understanding and knowledge of the city's history, including access to historical sites.

#### 6) Timeline based Venngage

Research result (Hisyam & Ofianto, 2022) proving the feasibility test results for timeline-based Venngage media seen from the achievement level of chronological thinking analysis of 93% in the very feasible category. The media suitability results are 80%, the material suitability is 92%, meaning the material in the media timeline is very suitable. Venngage is a tool for creating infographics, reports and data visualizations online. Users can access many templates or color schemes, add text, change fonts, add charts, widgets, and icons among many other features. A timeline is a series of lines that can describe a series of events from beginning to end and help students understand historical events chronologically. Making a timeline can use elements used in history learning to improve students' chronological thinking abilities.

#### 7) Wordwall Web

Research (Aprilia et al., 2023) found that wordwall web media can increase student motivation and learning outcomes. Web Wordwall can be used as an evaluation tool in the form of a game. Test-based games will be fun for students because on the wordwall web there are various kinds of interesting games. Wordwall is a website-based digital game media that contains various kinds of games and quizzes, so it can be used as an evaluation tool in learning. The results of applying this media, in cycle 2, obtained an average of 97.83 with classical completeness of 97.22%. It can be concluded that Web Wordwall has proven to provide an increase in student motivation and learning outcomes in the Islamic Cultural History subject.

#### 8) Website-based E-LKPD

Research result (Yuni et al., 2023) motivated by a lack of learning media, learning tends to be boring, teacher methods are still conventional and do not use media so that learning is less effective. An interesting media is needed, namely website-based E-LKPD (Students Worksheet) media. Media validation of material about the world's great revolutions obtained a high average score, namely 4.7, indicating a very feasible category. Similar scores were also obtained by question experts and media experts, with adequate and very

adequate categories. Meanwhile, the results of student respondents in the small group and large group tests showed a very decent category, with average scores of 4.79 and 4.86 respectively. E-LKPD was developed using the liveworksheet.com website, which is famous for its innovation, practicality, creativity and attractiveness, making it easier for students to understand the material and train their historical thinking.

#### 9) Google Classroom Innovative Learning Resources

Research (Umamah, Surya, et al., 2022) proves the benefits of innovative learning resources using Google Classroom which can improve students' analytical skills obtained from the results of small group trials by 82.8% with very high qualifications. Google Classroom can help teachers save time in sharing materials, designing and updating them, Google Classroom is connected to Google Forms making it easier to give assignments/tests directly, connected to each student's Google Calendar and Gmail so students can have better assignment arrangements. well, and teachers can easily combine attachments, notes, spreadsheets and so on into the Assignment feature in Google Classroom. The use of this media makes learning more interesting and challenging because it allows new ways of learning and encourages innovation that can be applied inside and outside the classroom.

#### 10) Multiliteracy media Website

Research (Rofiul Alim, 2022) developing D-Lite (Digital Literacy) as an innovative multiliteracy learning resource using the PHP programming language and Code Igniter framework. This media functions as a support for student learning that is accessible, in the menu there are madrasa e-learning, e-books, history learning blogs, and YouTube videos. From the final results, the media trial value showed 90.5% with the category very feasible to implement. D-Lite supports the creation of conceptual understanding, creative thinking, critical thinking, collaboration and communication.

### 5. CONCLUSIONS

The use of websites in history learning has great potential to increase the effectiveness and efficiency of 21st century learning. By utilizing the features available on the media and the web, students and teachers can interact through discussion forums, collect the information needed, provide interesting learning evaluations based on gamification, become alternative learning resources that are flexible and accessible, explore local history material, access primary sources, and are interesting because they are multimedia based. Apart from that, the benefits of websites can improve critical thinking skills, historical thinking and increase students' interest and motivation in studying history.

On the other hand, websites also have challenges or weaknesses that need to be considered, namely requiring a stable internet connection, website goals must be adjusted to user needs and expected learning objectives, and to create an attractive website it takes a lot of time in designing and designing visuals so that can increase student interest. The

research can be a basis for further research in the development and implementation of other digital platforms in history learning. Further research could be carried out to explore various aspects of the use of digital technology in the broader context of history learning

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