The Development Of History Learning Model Based On Digital History To Increase The Interest And Creativity Of Students In Senior High School

by Iqbal Fahruddin, Fairuz

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Abstract

Efforts to improve the history learning process during the COVID-19 pandemic need to be developed to develop the interest and creativity of students. At the practical level, not all history teachers and students can carry out the learning process well because they are constrained by technology. Therefore, it is necessary to solve how to increase the interest and creativity of students and teachers in teaching history in the classroom, especially at the high school level. This study aims to develop digital history-based history learning technology that will be practiced on students at the Odd semester high school level in class X. In addition, this study aims to develop students' interest and creativity in learning history with case studies at SMA PGRI I Kasihan Bantul Yogyakarta. The development method is carried out using the Agile Method with modeling using a structured approach with stages, namely: (1) Plan, (2) Design, (3) Development, (4) Testing, (5) Deployment, (6) Review, (7) Launch, Analyze data using expert validation tests and user validation tests. Data collection was obtained using a questionnaire instrument using a Likert scale. Field data collection techniques were carried out through (1) document analysis, (2) interviews, and (3) observation. Historical data analysis was carried out for the interpretation of historical meaning. The results of the study illustrate that the development of historical learning media based on digital history gives the impression of a creative nuance and increases the interest of students in student learning because the platform used is based on a digital history website that can be used both using computers and smartphones that can easily be accessed wherever and whenever you are. In addition, historical site objects that were previously far away become closer through this media. Therefore, it is necessary to optimize the use of digital history-based historical learning media to increase the interest and creativity of students at all grade levels in high school.

Keywords: Digital History, Learning Media, Interests, Creativity, Students

Introduction

During the current pandemic, learning creativity is one of the keys to teacher success. Based on the results of observations in the field regarding historical learning, there are some serious problems. Historical education so far conducted online, which is carried out in high school on average, is still primarily considered not optimal due to several reasons such as students are constrained by internet quotas, lack of supervision from parents if there is an online schedule even some learners are more focused on online games than taking history classes. Based on these problems, it takes the concept and strategy of learning media development with digital technology (Febrianto et al., 2020). In addition to the use of historical learning media, teachers can also gain experience in learning; students can also develop their creative thinking power, which is one of the high-level thinking that can teach learners to be critical (Birsyada, 2015; Saekhow, 2015; Gunawan; Ni Made Yeni Suranti; Fathoroni, 2020). Thus, the learning process can increase the necessary interest power of students, and the learning process will always be able to respond to every technological development of the world (Karpov, 2017; Thomas et al., 2021).

The existence of the Covid-19 pandemic has demanded many changes in learning. Previously, teachers used conventional education a lot; now, it is required to be able to innovate in conveying their knowledge to students (Xuan & Xuan, 2021). Learners are also required to be able to adapt to distance learning by using gadgets at home without meeting directly with the teacher who teaches. However, at the same time learning in the Covid-19 pandemic era has created autonomy incentives in teaching, teacher innovation is increasing, and teachers and students are increasingly adapting to the online learning model (Patricia Aguilera-Hermida, 2020; Katsarou, 2021; Muthuprasad et al., 2021). Thus one side of the state of the Covid-19 pandemic complicates the learning process for teachers and students (Sintema, 2020), but on the other hand, it brings new benefits for teachers and students with the emergence of innovations and creativity; thus the quality of education is better (Pham & Ho, 2020; Xuan & Xuan, 2021).

The rapid spread of the Covid-19 virus has tested and changed the structure of education and led to uneven access to technology to conduct online learning in various regio. The structured change in education makes the educational process, especially in learning, carried out online to suppress the spread of Covid 19 (Lynch, 2020). Based on this, there is no other way out but to develop learning technology during the current pandemic to support theory and practice in learning (Alieva et al., 2018; Darmawan, 2011). In short, the learning process must transform IT so that the material is still delivered online (Schneider & Council, 2020; Yulia, 2020). Utilizing IT, especially historical learning, will increasingly attract the interest and motivation of students because of their proximity to gadgets in their daily lives (Solis-Foronda & Marasigan, 2021; Utomo & Wasino, 2020).

One of the technology-based learning development models that can be developed is using digital history to increase interest and creativity. Not only that, at present and in the future, historians must master digital technology so that many digital historians can be born while maintaining the correct historical methodology (Paju, P., Oiva, M., & Fridlund, 2020). This is marked by the characteristics of new access to historical archival materials and collaboration between historians in integrating the concepts and practices of digital history methodologies. (Matthew N. O. Sadiku, Mahamadou Tembely, 2017). The results of several studies show that the use of digital history-based learning models is influential in developing students' digital

literacy skills (Rasmitadila et al., 2020). However, the survey results have not fully revealed the extent of the influence of the use of digital history, especially in increasing the creativity and imagination of students and history teachers. On the other hand, the use of the digital account in some studies is still limited to the management of libraries and historical archives. The limited analysis of digital history development in the school environment makes this research study very important to improve students' creativity and history teachers in schools (Ishak et al., 2021).

Whereas in the digital era like today, the concept and practice of learning using technology have become a solution to overcome the concerns of the Covid-19 Pandemic. The use of digital technology and helping learn media is also considered to facilitate research and writing of local history (Becket, 2007; Ivygina et al., 2018). However, the use of digital technology in historical learning in schools has not received much attention from researchers, especially in historical education. In this way, teachers and chroniclers can openly access digital-based historical sources anytime and anywhere (Denbo, 2017; Hernández-Ramos & De La Paz, 2009). Praxis, the use of digital technology has been widely done by developed countries such as the UK by utilizing digital resources for historical writing purposes, especially for teachers whose history has difficulty obtaining historical sources (Tamm, M., & Burke, 2018).

Related, the use of digital history sources in school learning activities is still not much done. The use of historical learning using a digital history approach to strengthen historical education in schools also began to be carried out by several parties (Utami, 2020). However, the provisional conclusions of the results of this study show that not many history teachers have used an approach that utilizes local historical resources for classroom learning (Ma'unah et al., 2018). Thus, many learners and teachers still lack insight and mastery of this digital history-based history learning technology. Whereas it should be by applying a digital history-based learning model can build the creativity of students and history teachers in utilizing digital-based historical resources. Therefore, there is still a need for further research on the development of historical learning based on digital technology.

Based on the above understandings, history teachers at this time in addition to the need to develop digital technology in learning must also be able to map and assist students intensively so that the historical learning process runs creatively and quality (Kelly, 2013; Liu, 2010). Another thing that is no less important is the compatibility between digital learning resources and basic competency materials and existing curricula. Another staple that is no less important is that history teachers must still criticize the sources of digital history that have been taken and displayed in the digital history webspace (J. K. Lee, 2002).

In addition to the need to develop digital technology in historical learning, assisting the development of methods and utilization for teachers and learners also needs to be done intensively. About the strategy of developing historical learning media through technology has begun to be widely carried out by various parties as an alternative (Clarke, W.G. & Lee, 2004; Efendi et al., 2018; Febrianto, Trunojoyo, et al., 2020). The study results concluded that the use of digital technology in the process of learning history in the classroom in practice could increase creativity, especially in providing variations in historical learning media in digital spaces in schools. However, there have not been many satisfactory data results related to digital technology in developing students' creativity, specifically in historical learning. Therefore, one of the developments of historical learning models that can be used is digital history.

In Indonesia, the latest research regarding digital history specifically to see how far it can increase students' interest in learning history in schools (Utami, 2020). However, the results in the study have not shown significant results regarding the influence of the use of learning technology using digital history on the development of creativity of students and history teachers. Thus, further studies are still needed, especially about the product of digital history technology in historical learning in the classroom. Therefore, this research was made to analyze and find the influence of digital history technology on historical knowledge in the school, especially among high school students. This research is focused on developing digital history-based historical learning media at PGRI Yogyakarta Senior High School.

The results of the initial observation data of this study at PGRI I Kasihan Bantul Yogyakarta Senior High School revealed that some students lacked interest in following the historical learning process in the classroom. Learners who are not very fond of history subjects flow following the learning process in the school. This phenomenon can be seen from the homework they make impressed 'perfunctory.' This scene is also found in several other schools that teach history (Rasmitadila et al., 2020). To bring history subjects into the classroom, the teacher must think about how to deliver creative and fun material (Seo, 2021). In addition, history teachers are required to master IT to innovate in every learning. Based on the above problems, IT-based historical learning strategies must increase the creativity and innovation of history teachers in education. One method that can be used is digital history technology. The development of historical material in digital space uses primary sources that are then reproduced electronically, text, images, artifacts, and historical narratives, records, or presentations built through the investigation of digital history in web form (Utami, 2020). This research will be focused on the essential historical competencies of students of class X odd semesters.

The concept of digital history that will be developed at an early stage is carried out using model design and application interface design. Model design is carried out using a structured approach using menu structure data, flow diagrams, ERDs, and mockups. The application can be displayed in 3 modes: Mobile, Tablet, and Desktop. I am using Web media using Google Site and Google form for evaluation for media development. In this way, the historical learning process, in addition to increasing the imagination and creativity of learners, can also arouse learners' interest. Departing from the explanations above, this study wants to analyze, in particular, the effectiveness of the development of digital history-based historical learning media on the subject of class X historical materials at PGRI I Kasihan Bantul High School Yogyakarta.

Research Questions
The question of this research is how the strategy of developing digital history-based history learning in the classroom and how digital history can strengthen students' creativity and historical interest in class X at PGRI I Kasihan Bantul High School Yogyakarta?

Urgency of Research
The urgency of this research is to overcome the lack of teacher creativity in technology-based history learning at PGRI I Kasihan High School which has implications for the low interest in learning history and the invention of students. In addition, the results of this study also fill the gap in previous studies, especially in developing local history learning models based on digital history-based technology.

Research Methods

This study's research object is part of high school students in Kasihan Yogyakarta who sit in class X of the academic year 2021/2022. This type of research is development research (R&D) (Sugiyono, 2016). The development is carried out in a digital history-based historical learning model to increase the creativity and interest of learning students at PGRI I Kasihan Bantul High School Yogyakarta. Development methods are carried out using Agile Methods by modeling a structured approach. Testing includes expert validation tests and user validation tests. This research data analysis is in expert validation tests and user validation tests. Data was obtained using questionnaire instruments using the Likert scale (Paes & Irizarry, 2018). The Likert scale measures a person's attitudes, opinions, and perceptions of social phenomena. The Likert scale used consists of five options as outlined in the following table:

Table 1. Likert Scale

Score	Category
1	*Very unkind*
2	*Not good enough*
3	*Pretty good*
4	*Good*
5	*Excellent*

Data analysis techniques to find out the data of expert validation percentage results, language validation, and media design validation are carried out using the formula from (Y. Lee, 2021) as follows

$$P = \frac{\sum x}{\sum x\_i} \times 100\%$$

Information:
P   : percentage
$\sum x$: the overall number of respondents' answers
$\sum xi$: the total number of ideal values in the item

Based on the results of the data analysis obtained, the next step is to convert the percentage of assessment to descriptive qualitative data. The quality of media product eligibility can be seen from the eligibility criteria for validation results described in Table 2. Table 2 Media Product.

Validation Result Eligibility Criteria

Achievement Level	Qualification	Information
85% - 100%	*Very unkind*	No need to revise
75% - 84%	*Not good enough*	No need to revise
65% - 74%	*Pretty good*	Revised
55% - 64%	*Good*	Revised
0 – 54%	*Excellent*	Revised

Research FlowChart This research procedure uses an Agile method approach (Setiawan & Muhtadi, 2019). Agile methods have six stages of development which are cycles, namely.

Sumber: https://indevlab.com
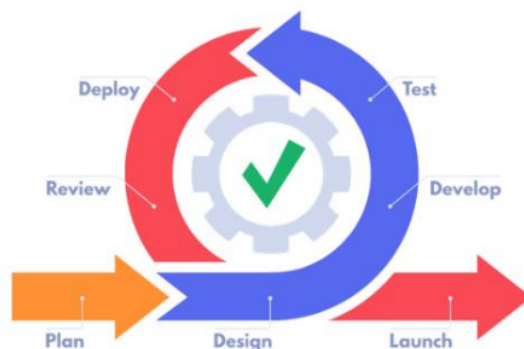
Figure 2. Agile Method Cycle

Plan

The concept developed in this research is the development of web-based digital history. The features designed include:

1. Material, displaying essential competencies, indicators, and prioritization materials in the form of video and article formats.
2. Gallery, displaying photos from primary sources, comes with photo descriptions.
3. Evaluation, displaying questions related to certain materials. Content Developers are sourced from primary and secondary data related to class X history subject matter.

Table 3. Content Development Plan

No	Theory	KD	Source	Media
1	Definition and Scope of History science	Understand the basic concepts of history (chronological, diachronic, synchronic, space and time thinking as well as change and continuity)	Primary sources in the form of interviews and documentation field	Video, Article, Presentation, Photo Documentation, Archive
2.	Historical Traditions of Indonesian Society in the Pre-literate and Literary	Analyzing human life and the cultural results of the Indonesian Pre-literate community	Secondary sources and results of previous research documentation	Video, Article, Presentation, Photo Documentation, Archive

3	Basic Principles of Historical Research	Understand the basic concepts of history (think diachronic, synchronic chronology, space and time, as well as change and continuity)	1	Primary sources are primary archive data.	Video, Article, Presentation, Photo Documentation, Archive
			2	Sumba - secondary to scientific articles, examples of historiography	
4	Early Life of Indonesian Society	Analyzing human life and the cultural results of the Indonesian Pre-literate community	1	Primary sources from previous research documentation.	Video, Article, Presentation, Photo Documentation, Archive Video, Article, Presentation, Photo Documentation, Archive
			2	Secondary sources & results of scientific	
5	Influence Early civilizations of the world community Towards Indonesian Civilization	Analyzing various theories about the process of entering Hindu-Buddhist religion and culture and their influence on the lives of Indonesian people		Secondary sources in the form of documentation and notes of scientific research results	Video, Article, Presentation, Photo Documentation, Anup

Design

The model and application interface design are carried out at the design stage. Model design is carried out using a structured approach using menu structure data, flow diagrams, ERDs, and mockups.
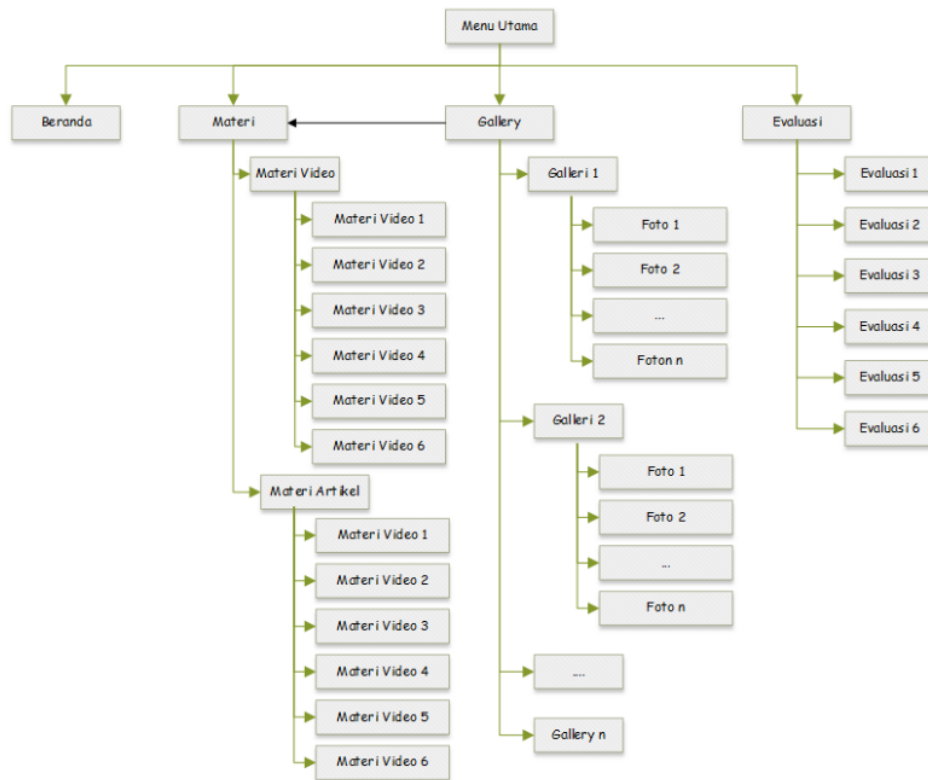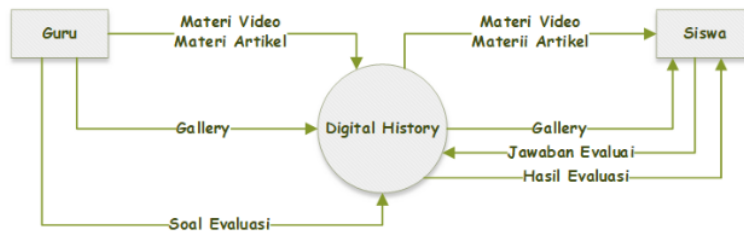
Figure 3. Menu Structure

Figure 3.Data Flow Diagram

The application can be displayed in 3 modes, namely: Mobile, Tablet and Desktop (Grömer, 2017).

Development
The development of historical learning models in this research uses a Web-based developed using Google Site and Google forms for evaluation. At the same time, content development

uses several applications such as Microsoft Powerpoint, Camtasia, Filmora, and Adobe Photoshop.

Testing
The testing stage involves application trials using black-box testing techniques to determine whether there are bugs/errors in the application (Cholifah et al., 2018). This stage is iterative to the development stage until no bugs/errors are found in the application.

Deployment
The deployment stage is the deployment of applications for trials to be used by teachers and students as target users of the application.

Reviews
The review stage is the stage to measure the quality of the application and the content contained in it: expert validation test and user validation test as listed in the Data Analysis subbed.

Launch
The launch stage is the application release stage for the learning process.

Results and Discussion

History Learning and Utilization of Digital History The use of digital technology in school learning has been widely practiced in various developed countries, the United States and Canada. This method has even been used in historical knowledge in the classroom (Levesque, 2006; Saekhow, 2015). However, the study results on whether it can increase the creativity and imaginative power of students and history teachers as a whole have not been widely published (Bahr, 2010; Paes & Irizarry, 2018; Riyani et al., 2021). However, learning digital history methods can practically make it easier to find and access historical sources digitally from wherever and wherever students and teachers are located (Becket, 2007). Access to these historical sources can be done when learners and teachers have insights and can master digital technology for learning. With the method of learning history using the digital history platform, teachers and learners can access historical sources openly (Denbo, 2017). These sources can be accessed openly because they are available and documented digitally in a digital platform that anyone can access at any time. History teachers who have difficulty finding historical sources can access it by utilizing digital history platforms, which have been analyzed by source criticism first (Tamm, M., & Burke, 2018). Thus not all historical references can be incorporated into digital history platforms without the criticism of the source first.

After pandemic conditions like this, schools need technology-based learning methods to anticipate distance or non-face-to-face learning, of course, by utilizing learning technology that can be adjusted to the conditions of students and the school environment (Erduran, 2020; Shi & Lin, 2021; Wargadinata et al., 2020). It is at this time that the role of history teachers becomes central in developing creative and fun learning models (Rugube et al., 2020; Supriatna & Maulidah Neni, 2020). To be able to realize creative and fun learning, one of them can use the use of digital technology (Clarke, W.G. & Lee, 2004). Although the use of digital technology development has been carried out by various parties, but specifically not much data has been seen about developments in the field concretely whether it has a significant effect or not on the historical learning process in the classroom (Ivygina et al., 2018; Utami, 2020). Although many

history teachers have obtained historical resources to access digital use widely (Ma'unah et al., 2018).

Utilization of Digital History in Historical Learning in High School

The use of digital history in this research will be used in the learning of the history of class X high school. The material that will be used as learning material is about the understanding and scope of historical science with essential competencies is to understand the basic concepts of history (chronological or diachronic thinking, synchronic, space and time, and change and sustainability. The sources used are primary and secondary in the form of field management and interviews. Media is used in videos, articles, presentations, photos, documentation, and archives (Denbo, 2017). In this first material, the main issue is how to understand students about the basic concepts of historical science to explain and practice how to think historically as the basis of historical science. The second material that will be developed is related to the historical traditions of Indonesian people during the Pre-Script period and The Time of Characters with the essential competencies used is to analyze human life and cultural results of the Indonesian Pre-Script society. Sources used as media development materials are secondary sources of previous research documentation. Media used in the form of videos, articles, presentations, photos, documentation, and archives

The third material is about the basic principles of historical research with basic competence to understand the basic concepts of history (chronological/diachronic thinking, space and time, and change and sustainability). The sources used are primary and secondary and articles of historiography research results. In this material, the main output is that, in addition, learners can understand the basic steps of historical research and can also practice how to think history is sustainable. The fourth material that will be developed is about the early life of Indonesian people with basic competence to analyze human life and cultural results of the Indonesian Pre-Script community. The sources used are primary and secondary and previous documentation and research. The media used there are videos, articles, documentation and previous research articles, photos, and archives. At the same time, the last material is about the influence of the early civilization of the world community on Indonesian society. Essential competencies used are analyzing various theories about the entry of Hindu-Buddhist religion and culture and its influence on the lives of Indonesian people (Government, culture).

However, this article will only be focused on the fifth subject matter. Namely, the essential competencies used are to analyze various theories about the entry of Hindu-Buddhist religion and culture and its influence on the lives of Indonesian people (Government, culture). The temporal indicators used are (3.5.1) Analyzing various theories about the entry and development of Hindu-Buddhist religion and culture in Indonesia. And the arrow (3.5.2) is formulating an opinion on the most appropriate approach of some existing theories about the process of entering and developing Hindu-Buddhism in Indonesia. The second focus is on the material development of Hindu-Buddhist kingdoms with essential competencies (3.6). It analyzes the characteristics of people's lives, government, and culture during the Hindu-Buddhist kingdoms in Indonesia. It shows examples of evidence that still apply to the lives of Indonesian people today. The indicator used is (3.6.1), which explains the development of Hindu-Buddhist kingdoms in Indonesia (3.6.2)—analyzes the development of the cultural results of the Hindu-Buddhist era, and (3.6.4) shows evidence of life and the effects of Hindu-Buddhist culture that still exists today.
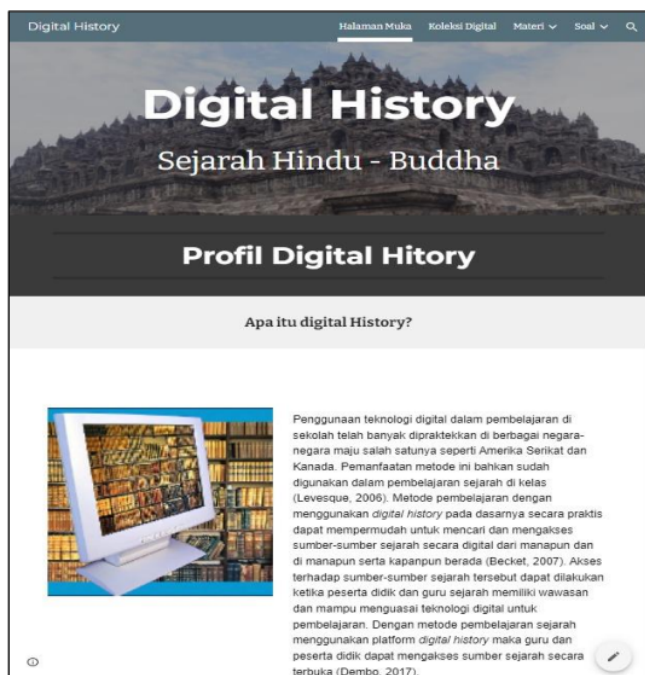
(Figure 4. Digital History Front View).

The display image four above explains the front view of the digital history platform regarding digital history profiles. This profile describes and explains what digital history is used for. In addition, on the appearance of the face, there are items of theme material about Hindu-Buddhist History that will be described in the following sections. This is because the display only displays the subject matter of the history of Hindu-Buddhist development in Indonesia. In addition to home page items, there are also digital collection items. This item is in its side by side about images, photos, and documentation in digital form that has been processed and presented. The digital collection is related to the historical theme of Hindu-Buddhist development in Indonesia, which has been adjusted to class X high school's basic competence and learning indicators. In addition to digital collections, there are also materials and questions. This item contains the learn 28 materials that will be taught as well as the training questions that will be given to students to measure the extent of their understanding of the material taught.

(Figure 5. Digital History Middle View).

The 5th figure is displayed about digital collection items. The digital collection item contains images, photos, and documentation regarding the material of each Hindu-Buddhist kingdom material in Indonesia and its explanation. Some of the digital collections displayed include evidence of Hindu Buddhist historical relics in Indonesia, such as the Prambanan Temple, Pawon, Mendut, Sojiwan, and Mendut and Plaosan. On each dinosaur is displayed relief, and the picture is presented with the explanation briefly. This is done to facilitate reading and attract students to read to understand Hindu-Budhha historical materials in Indonesia.
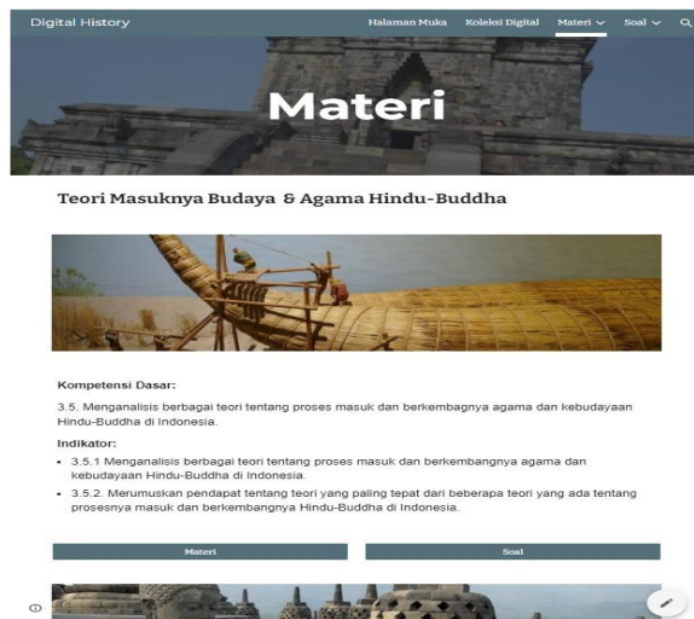
(Figure 6. Digital History Back View).

Figure 6 above explains material items in the digital history platform. The materials related to essential competencies are (3.5) Analyzing various theories about the entry process and the diversity of Hindu-Buddhist religion and culture in Indonesia. The learning indicators are (3.5.1) Analyzing multiple views about the entry and development of Hindu-Buddhist religion and culture in Indonesia and (3.5.2) Formulating opinions about the most appropriate approach to several existing ideas about the process of entering developing Hindu-Buddhism in Indonesia. Basic Competence (3.6) Analyze the characteristics of people's lives, government, and culture during the Hindu-Buddhist kingdoms in Indonesia and show examples of evidence that still apply to the lives of Indonesian people today. Indicator (3.6.1) Explains the development of Hindu-Buddhist kingdoms in Indonesia (3.6.2). Analyze the development of cultural results of Hindu-Buddhist times. And (3.6.4). Showing evidence of life and the effects of Hindu-Buddhist culture that still exists today.

(Figure 6. Digital History Back View).

Figure 6 explains the back view of the questions that students must do after being briefed on Hindu-Buddhist historical materials in Indonesia. These questions are given in the form of multiple choices to make it easier for students to choose and provide answers in the digital history platform. Although the state of the problem is multiple choice in each answer, there is a tricker answer, so it requires analytical thinking and fasts. The rejection of the above explanations further confirms that the Covid-19 pandemic situation like this is a driver and requires history teachers to make various breakthroughs by utilizing technology creatively to realize historical learning in creative and fun classrooms for students. To recognize that learning history in the school must be creative and fun for learners. Learning history in the school is not a burden but rather a pleasant awareness for learners and teachers (Mamoura, 2013; Supriatna & Maulidah Neni, 2020) . Strategies to teach history that has been done by

utilizing such digital technology still need to be developed further by the conditions (Clarke & Lee, 2004).

However, in historical learning, especially in high school, there have not been many breakthroughs to solve technology-based distance learning problems, for example, through a "digital history" approach, making it essential for further research to overcome these problems. In short, the development of historical learning models during the Covid-19 pandemic requires the right technological innovations to foster the creativity and imagination of students (Birsyada & Siswanta, 2021). One of the recorded learning technology innovations developed during a pandemic like this is through a digital history approach.

Implications and Further Research: The study results showed that the condition of the Covid-19 pandemic affected the learning process in schools. This leads to the constrainedness of several learning processes, such as online learning that does not show its quality because students do distance or non-face-to-face learning. In addition, teachers and learners have difficulty when doing online education. These constraints, such as lack of internet access due to the economic conditions of the student's family, are not possible every time to provide for internet quota buyers. Another problem is that some have difficulty doing and applying digital-based learning models or that use they use digital-based learning media. This obstacle causes the historical learning process to be dull and makes every learner less interested in history classes.

On the other hand, also during non-face learning, the lack of role of parents in controlling the schedule of their children's history makes it often when using online-based knowledge that some of the learners tend to be absent or absent even some are upset to forget the schedule. When learning in their class, some of the learners are engrossed in playing online games. Departing from these problems, developing an IT-based learning model is necessary as an alternative learning. One of the strategies that can be created is through the development of a digital history platform (Daniel, 2020).

The implication of this study is how to develop a creative and fun historical learning model that can increase learners' interest, especially in students in high school (Supriatna & Maulidah Neni, 2020). Another thing is that digital utilization tailored to the curriculum, essential competencies, and core competencies can increase creativity and make the learning process fun (Clarke & Lee, 2004). Future research recommends developing a digital history platform-based historical learning model more broadly applied in one class and all levels of course in high school. Another thing to note is that the digital content to be used is tailored to the curriculum material, Basic Competencies, and Core Competencies in each class. This becomes important so that the learning content does not deviate from the existing curriculum according to the RPP of the history teacher used.

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