IJHE
https://journal.unnes.ac.id/
Indonesian Journal of History Education
2024: 9 (2), 65-100

Electronic Handout on the History of the Gondang Winangun Sugar Factory Since the Malaise Crisis of 1930-1982 to Enhance Knowledge of Colonialism

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Abstract

This research aims to develop electronic teaching materials in the form of handouts regarding the dynamics of the Gondang Winangun Sugar Factory since the Malaise crisis for students of SMA N 2 Klaten (a high school). This development focuses on two main challenges: first, although students are enthusiastic about interactive history learning, teachers need more engaging and easy-to-understand teaching materials; Second, although students are interested in local history, local historical resources are often limited and difficult to access. This teaching material is presented digitally as an interactive website accessed through various electronic devices. The research method uses Research and Development (R&D) with the ADDIE model, including the stages of analysis, design, development, implementation, and evaluation. Data was obtained through observations, interviews, and questionnaires from validators, history teachers, and students. The assessment results showed that this teaching material obtained an average assessment percentage of 82.3% from media experts, 90.2% from material experts, 91.1% from history teachers, and 88% from students. With these results, electronic handouts are considered feasible and effective as alternative teaching materials at SMA N 2 Klaten, especially for class XI.

Keywords: *Teaching Materials, Electronic Handout, Gondang Winangun Sugar Factory*

Introduction

History subjects play a crucial role in education in Indonesia by shaping an intelligent, critical, and insightful young generation that builds national identity and global understanding. History is not just facts and dates but a bridge that connects the past, present, and future. Setyowati (2018) refers to history as a narrative that unites various dimensions of time, while Sartono Kartodirdjo (1992) emphasizes the importance of understanding human changes and developments in the context of space and time. Implementing the Independent Curriculum requires a transformation in learning history from memorizing facts to a more holistic and contextual approach. History teachers are expected to integrate a diachronic approach, which focuses on chronology and analysis of change, with a synchronous approach, which assesses events in the context of the present (Ministry of Education and Culture, 2022; Burke, 2009; Candra & Azmi, 2022), to make history learning more relevant and can be related to current conditions.

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The Independent Curriculum provides greater flexibility for teachers in designing learning that is contextual and relevant to student needs, different from the previous curriculum, which was bound to a standard structure. This curriculum allows the exploration of local stories often marginalized from the national historical narrative (Ministry of Education and Culture, 2022; Daryanto, 2014; Ministry of National Education, 2008).

As an integral part of national history, local history plays a vital role in strengthening students' understanding of national history and the complexity of the nation of Indonesia. Kholidin (2021), Djafri (2017), and Fauzi et al. (207) emphasized that local history is not only a story of the past but an essential element in understanding national history and community development. The Independent Curriculum adopts a student-based approach that provides opportunities for teachers to explore local history in depth, with students active through research, discussions, and learning projects that develop critical thinking skills and creativity (Ministry of Education and Culture, 2020; Hamalik, 2009; Hidayat, 2012). While local history is important, the Learning Outcomes (CP) document needs to explicitly mention it, raising questions about its integration in achieving national learning goals. Local history must still be taught by paying attention to CP from national history (Suharso, 2017; Komarudin, 2018; Lestari & Hidayati, 2023; Kurniawan, 2018).

SMA Negeri 2 Klaten, as a flagship school in Klaten Regency, has implemented an Independent Curriculum to provide learning flexibility to students. Although the use of technology in history learning is not new, the challenge of creating a fun and effective learning experience still exists (Suryadi et al., 2023; Laoli et al., 2023; Miftah, 2009; Prastowo, 2013). In the era of the Independent Curriculum, teachers are expected to adapt and innovate, using technology-based media such as educational videos, animations, and simulations to visualize complex historical concepts. Marc Prensky (2001), Prastowo (2016), and Prensky (2011) highlight the importance of teachers' adaptation to technology, considering the young generation who grew up in a digital environment. Technology provides broad access to many learning resources, allowing students to study history from different perspectives and build a more comprehensive understanding. The integration of digital media in history learning can help students understand complex concepts and develop critical thinking skills (Utomo et al., 2021; Puji, 2014; Purnomo et al., 2024; Rahmawati, 2023), and allows for more personalized and differentiated learning with access to teaching materials according to the individual needs of students. Observations in the classroom showed students' high enthusiasm for local history topics, such as the Gondang Winangun sugar factory in Klaten, which indicated that studying

local history made students feel more connected to the material and the context of the life of the surrounding community.

Students find it easier to understand history when they see the connection between local events and global and national contexts (Sarita et al., 2021; Utami & Ardianto, 2023; Utomo et al., 2021). Therefore, teaching materials that contain comprehensive and easy-to-understand local historical information are essential. However, the need for local history sources in Klaten is an obstacle for students who want to learn about the history of their area in depth. This study analyzes the need for teaching materials based on students' interests, needs, and abilities, which shows that they need electronic teaching materials that are concise, structured, and easy to understand. Teaching materials that include texts, videos, images, and interactive learning activities are expected to meet these needs. To overcome this challenge, this study developed an e-handout on the dynamics of the Gondang Winangun sugar factory from the Malaise crisis of 1930-1982. The development of this e-handout is based on observations, interviews, needs analysis, and questionnaires, which shows the high enthusiasm of students for local history and the need for appropriate teaching materials. This e-handout is designed to make it easier for students to understand the material without taking notes, complement the educator's explanations with additional visuals and information, and provide independent learning resources that can be accessed anytime and anywhere.

Rahmawati's (2023) research on developing local history e-handouts shows that e-handouts can increase students' interest and motivation and provide a systematic approach to developing teaching materials. This research underlies the development of an e-handout about the Gondang Winangun sugar factory, highlighting the importance of learning local history to increase students' love for the homeland and nationality. The Gondang Winangun sugar factory reflects the progress of colonial technology and the complex relationship between the colonizers and the PRMI, helping students understand the impact of colonialism and how historical events shape the current socio-economic conditions. This e-handout is designed as a website with interactive elements such as images, videos, and podcasts to engage students and improve their understanding, overcome challenges in learning local history, and take advantage of opportunities by providing more engaging and accessible materials. This research also aims to analyze students' needs and interests, improve teaching materials to suit their characteristics and learning preferences at SMA Negeri 2 Klaten, and assess the effectiveness of e-handouts in increasing students' understanding, engagement, and motivation in learning local history.

In addition, this research will provide new insights into the use of technology in history learning and encourage innovation in more effective teaching methods. By utilizing e-handouts that

integrate various multimedia elements such as videos, images, and infographics, this research aims to increase students' interest and motivation and positively influence their learning outcomes. This research will also provide concrete solutions to the need for local history learning resources in Klaten, enrich local knowledge, and strengthen students' understanding of the historical context in their area. Finally, this study will present an e-handout development model that can be adapted by other schools, providing practical guidance for educators in designing relevant and effective local history teaching materials.

Method

Research Design

This research uses the Research and Development (R&D) method with the ADDIE approach to develop an electronic handout on the Dynamics of the Gondang Winangun Sugar Factory Since the Malaise Crisis as a history learning medium for students in grade XI F SMA N 2 Klaten. The research design includes the analysis, design, and development stages, focusing on developing teaching materials tested for quality and learning needs. The R&D method was chosen to create innovative and effective learning products. The ADDIE model, which consists of five stages: Analysis, Design, Development, Implementation, and Evaluation, is used to design and develop electronic handouts (Molenda, 2003; Dick & Carer, 1996). However, this study focuses only on the Analysis, Design, and Development stages due to time and resource limitations. The Implementation and Evaluation stage will be carried out in the next research.

Data and data sources

This study collected data from various sources and techniques to evaluate the quality and effectiveness of the electronic handout of the Dynamics of the Gondang Winangun Sugar Factory. Qualitative data were obtained through interviews and observations. Interviews were conducted with history teachers of SMA N 2 Klaten to identify problems and needs in history teaching materials as well as expectations for electronic handouts. In addition, interviews with students in class XI F explored their experiences and responses to the material presented. The Gondang Winangun Sugar Factory Museum tour guide was also interviewed to get in-depth information about the factory's history, which was used in the handout content. The data from this interview was analyzed with a thematic analysis approach. Non-participant observations in class XI F SMA N 2 Klaten were carried out to observe the use of teaching materials and interaction between teachers and students during the learning process and how electronic

handouts are applied in the context of learning. This observation provides an objective picture of the acceptance and effectiveness of electronic handouts.

Quantitative data is collected through questionnaires or questionnaires. The student needs analysis questionnaire is designed to assess students' barriers, interests, and preferences for learning media and support the design of handouts that suit their needs (Mulyaningsih, 2012). Validation questionnaires are used to measure the validity of the design, material accuracy, ease of use, and appeal of electronic handouts by involving media and material experts. Teacher response questionnaires collect feedback regarding the design and quality of materials from a teaching perspective. In contrast, student response questionnaires assess their responses to electronic handouts, including content design and quality. The data from this questionnaire was analyzed to assess the effectiveness of electronic handouts from the student's point of view.

The main data sources include students in grade XI F SMA N 2 Klaten as recipients of handouts, history teachers of SMA N 2 Klaten for teaching evaluations, and tour guides of the Gondang Winangun Sugar Factory Museum for historical information. Documents and archives from museums are also used to obtain information and relevant references. Data processing and analysis were conducted systematically to ensure that the developed electronic handouts met the quality and educational relevance standards by combining quantitative methods for evaluating questionnaire results and qualitative methods for interviews and observations.

Participant Characteristics

1. Students of Class XI F SMA N 2 Klaten

The students involved in this study were thirty students from class XI F at SMA N 2 Klaten, who were between 16 and 17 years old, men and women. As participants, these students followed a history curriculum by high school education standards and were the main target of the electronic teaching materials developed. Their main need is teaching materials that are engaging and easy to understand, especially for studying local and global history.

2. History Teacher of SMA N 2 Klaten

This participant is a history teacher between 40 and 45 years old. The teacher has 10-15 years of teaching experience and academic qualifications in history education. In the research context, this teacher is an evaluator who assesses the feasibility and effectiveness of the developed electronic teaching materials. Teachers need teaching materials that can improve the quality of teaching and relevance to the curriculum.

3. Gondang Winangun Sugar Factory Museum Tour Guide

These tour guides are between 35 and 45 years old and have in-depth experience and knowledge of the history of the Gondang Winangun Sugar Factory. This guide provides accurate and detailed information about the history of sugar factories used as a reference in developing electronic teaching materials. The need for tour guides is to promote and educate the public about local history, which is part of the teaching materials.

Data Collection Techniques

1. Observation

Observations are made to gain an in-depth understanding of real conditions in the field. In this study, non-participant observations were conducted in class XI F SMA N 2 Klaten. The researcher directly observed the history learning process to see how students interacted with the existing teaching materials and how they responded to the teaching methods applied. During the observation, the researcher noted various aspects, including student activities, teaching methods used by teachers, and the use and effectiveness of existing teaching materials. This observation aims to identify shortcomings and needs that may not be revealed through other methods and assess how newly developed teaching materials can be accepted and used in the context of actual learning.

2. Interview

Interviews are conducted to obtain in-depth information and qualitative perspectives on issues related to history teaching materials. This interview involves several key parties:

One history teacher of SMA N 2 Klaten was interviewed to explore their views and needs on existing history teaching materials and the potential for developing electronic teaching materials. This interview focuses on the difficulties faced in teaching history, expectations for new teaching materials, and feedback related to relevant materials. Furthermore, several students of class XI F were interviewed to understand their experience in studying history, their needs in terms of teaching materials, and their response to the idea of developing electronic teaching materials. This interview aims to identify students' preferences regarding learning media and interesting historical materials. In addition, this tour guide provides insight into the history and dynamics of the Gondang Winangun Sugar Factory. The information from this guide is used to ensure the accuracy of the historical content included in the electronic teaching materials.

3. Documentation

Documentation records and stores relevant data for further analysis. This study conducted two types of documentation, including data collection related to students' implementation and use of electronic handouts. This includes recording how students interact with the teaching materials, the difficulties they face, and the effectiveness of the handouts in supporting the learning process. This documentation contains photographs and notes on various aspects of the museum, including historic buildings, old machinery, and photo archives. This documentation supports the development of electronic teaching material content by providing visual references and accurate information about sugar factories.

4. Questionnaire or Questionnaire

Questionnaires or questionnaires are an essential instrument in this study to collect qualitative and quantitative data regarding the feasibility of electronic handouts to be developed. Developing a student needs analysis questionnaire refers to the study of M. Mifta (2009), which includes curriculum demands, field needs, target characteristics, and special interests. Meanwhile, the validation and response questionnaire were developed based on the assessment standards of the National Education Standards Agency (BSNP, 2014), including content feasibility, language, presentation, and graphics. This instrument was distributed to two expert lecturers in history, one history teacher at SMA N 2 Klaten, and students of class XI F SMA N 2 Klaten.

This questionnaire is designed to identify students' needs and obstacles in learning history. Through this questionnaire, students provide information about the topics they want to study, the learning media they like, and their challenges in understanding the history material.

Table 1. Student Needs Analysis Instrument Grid

No	Indicators	Research Items	Item number
1	Barriers and Interests	Enthusiastic in participating in the history learning process in the classroom	1
		Having difficulty understanding historical material	2
		Have an interest in studying history through historical relics around	3
		Have an interest in studying the history of PGGW	4
		Have studied the history of PGGW in the material of colonialism and imperialism	5
		The available textbooks or handbooks are less appealing	6
		Have a handbook or other teaching materials	7
		Have enough other learning resources to support history learning	8
		Have used digital-based teaching materials	9
3	Types of Teaching	Need digital-based teaching materials	10
		Teaching materials contain concise and structured	11

	Materials	material	
		Teaching materials contain relevant content	12
		Text content	13
		Content in the form of videos and images	14
		Explanation of the material in the teaching materials using easy-to-understand language	15

This instrument is used to obtain assessments from media experts and material experts about the feasibility of electronic teaching materials. This questionnaire covers design, material accuracy, ease of use, and attractiveness of teaching materials. The data from this questionnaire is used to make revisions and improvements to the product.

Table 2. Media Expert Validation Instrument Grid

No	Indicators	Research Items	Item number
1	Handout Cover Design	The HDE cover is attractive and informative.	1
		HDE titles are clear and easy to read.	2
		The image or illustration on the HDE cover is relevant to the content.	3
		The color and contrast on the HDE cover are comfortable for the eyes.	4
2	Handout Content Design	The fonts and font sizes used are easy to read.	5
		Paragraphs and spacing between lines are tight enough.	6
		Use bullet points and headings to aid reading.	7
		Illustrations, figures, and tables are used appropriately.	8
3	Layout and Structure	HDE is easy to navigate and access	9
		Instructions and instructions for using the HDE are clear and easy to understand	10
		HDE is compatible with various devices (PC, laptop, tablet, smartphone).	11
		The information presented can be easily understood.	12
4	User Convenience	The layout of HDE is neat and structured.	13
		HDE is divided into several clear sections.	14
		Each section has an informative title.	15
		The information in HDE is presented in a logical and easy-to-understand manner.	16
		Design elements (images, illustrations, icons) are used effectively and sparingly.	17

Table 3. Material Expert Validation Instrument Grid

No	Indicators	Research Items	Item number
1	Conformity with Materials	The content of the HDE is according to the material you want to teach.	1
		HDE contains all the valuable information related to the	2

		dynamics of the Gondang Winangun Sugar Factory since the malaise crisis.	
		HDE contains accurate and up-to-date information about the Gondang Winangun Sugar Factory.	3
		HDE explains important concepts clearly and easily understood.	4
		The HDE contains relevant examples to aid understanding.	5
2	Depth of Matter	HDE explained the dynamics of the Gondang Winangun Sugar Factory in depth.	6
		HDE explained numerous factors that affect the difficulties of the Gondang Winangun Sugar Factory.	7
		HDE explained the impact of the malaise crisis on the Gondang Winangun Sugar Factory clearly.	8
		HDE explained the efforts made to overcome the impact of the malaise crisis.	9
		HDE explained the development of the Gondang Winangun Sugar Factory after the malaise crisis.	10
3	Accuracy and Objectivity	HDE does not contain misleading or biased information.	11
		HDE uses neutral and objective language.	12
		HDE does not contain private opinions or prejudices.	13
		HDE contains reliable sources of information.	14
4	Compatibility with Target Users	HDE corresponds to the target user's level of understanding.	15
		HDE uses a language that suits the target user.	16
		HDE contains examples that are relevant to the target user.	17
		HDE attracts and motivates target users to learn.	18

This questionnaire collects feedback from history teachers on the quality of electronic teaching materials, including design, content, and ease of use. Teacher assessment helps assess the relevance and effectiveness of teaching materials in the teaching context.

Table 4. Grid of Teacher Response Instruments Media Aspects

No		Indicators	Research Items
1	Design and Layout	The HDE display is attractive and easy to read.	1
		The layout of HDE is neat and structured.	2
		The fonts and font sizes used are easy to read.	3
		The use of color in HDE is not intrusive and fits the theme.	4
2	Illustrations and Images	The illustrations and images used are relevant and helpful in understanding.	5
		The illustrations and images are of excellent quality and are clear.	6
3	Ease of Use	HDE is easy to navigate and access. The instructions for using the HDE are clear and easy to understand.	7
		HDE is compatible with various devices (PC, laptop, tablet, smartphone).	8
		HDE is free from errors and bugs.	9

Table 5. Teacher Response Instrument Grid Material Aspects

No	Indicators	Research Items	Item number
1	Depth of Matter	HDE explained the dynamics of the Gondang Winangun Sugar Factory comprehensively.	1
		HDE explained the various difficulties of the Gondang Winangun Sugar Factory in detail.	2
		HDE explained the tidal factors of the Gondang Winangun Sugar Factory in depth.	3
2	Accuracy and Objectivity	HDE does not contain misleading or biased information.	4
		HDE uses neutral and objective language.	5
		HDE contains reliable sources of information.	6
3	Suitability to the Level of Understanding of Students	HDE corresponds to the student's level of understanding.	7
		HDE attracts and motivates students to learn.	8
		HDE uses appropriate language and is easy for students to understand	9
		HDE contains relevant examples	10

This questionnaire is designed to measure students' responses to electronic teaching materials. Students provide assessments about the appearance, quality of content, and usefulness of teaching materials in helping them understand the historical material.

Table 6. Student Response Instrument Grid

No	Indicators	Research Items	Item number
1	Design and Layout	The appearance of this electronic handout is attractive	1
		The layout of this electronic handout is neat and structured.	2
		The illustrations and images in this electronic handout help with material comprehension.	3
		This HE is easy to use and navigate	4
2	Content Quality	The material presented in the electronic handout is easy to understand	5
		Electronic handouts help understand the impact of the malaise crisis on the Gondang Winangun Sugar Factory	6
		The electronic handout helps to understand the efforts made to save the Gondang Winangun Sugar Factory from the impact of the malaise crisis	7
		Electronic handouts help understand the development of the Gondang Winangun Sugar Factory after the malaise crisis	8
3	Relevance and Benefits	Electronic handouts contain relevant and useful information	9
		The electronic handout made me more interested in learning the history of the Gondang Winangun Sugar Factory	10
		This handout is more interesting than a regular textbook	11
		This handout added to my curiosity about the Gondang Winangun Sugar Factory	12
		This handout helped me get to know the local history	13
		This handout helped me learn more actively	14
		This electronic handout was useful and helped me learn the dynamics of the Gondang Winangun Sugar Factory since the malaise crisis	15

Data Validity Check Techniques

Several data validity examination techniques are applied systematically to ensure the validity of the data in this study. First, triangulation is used to validate data using various sources, methods, and assessors. This is done by combining information from observations, interviews, documentation, and questionnaires. By comparing results from different data sources and collection methods, researchers can identify consistency and discrepancies, which helps ensure the information's accuracy. Furthermore, the validity of the content is tested by engaging material and media experts to ensure that data collection instruments, such as electronic questionnaires and handouts, cover all the essential and relevant elements of the topic being researched. The validity of the construct is also tested to ensure that the instrument measures the intended construct. This is done by item analysis, convergence, and divergent testing to ensure that each item in the questionnaire represents a relevant construct and that there are no inappropriate differences.

Reliability is also tested to measure the consistency and stability of measurement results. This technique involves an initial trial of the instrument on a small sample and the use of techniques such as Cronbach's Alpha to assess the internal consistency of the questionnaire. Data verification is done by double-checking to ensure no recording or interpretation errors. Additionally, cross-referencing compares the results of different data collection methods to identify inconsistencies. Finally, criticism and feedback from peers or other researchers are accepted to assess the validity and quality of the data. Group discussions or initial presentations of research results help get additional input that supports data verification. By applying these techniques, researchers can ensure that the data collected is valid and dependable so that the research results can be trusted and contribute significantly to developing practical electronic teaching materials.

Data Analysis

This study uses qualitative and quantitative approaches to collect and analyze data. Qualitative data was obtained from suggestions and inputs provided by validators, history teachers, and students. Meanwhile, quantitative data was obtained from validation questionnaires by validators and assessment responses by history teachers and students. Expert validators evaluate product design through product data analysis using the Likert scale. The Likert scale assessment criteria used in this study are as follows:

Table 7. Likert Scale Assessment

Alternative Answer	Score
Excellent	4
Good	3
Less	2
Very Less	1

Source: Akbar (2013)

Interval data analysis can be done by calculating the average answer based on the score given by the validator for each question. Scoring is followed by the transformation of the data into percentages using the following formula:

$$P = \frac{f}{N} \times 100\%$$

Information:
P = percentage figure
f = score obtained
N = overall score

The data used is then interpreted by referring to the qualification criteria that have been set. This qualification criterion is based on Akbar's (2013) research and is described in the following formula:

a) Maximum Value Percentage

$$\%Nilai\ Maksimal = \frac{skor\ maksimal}{skor\ maksimal} \times 100\%$$

$$= \frac{4}{4} \times 100\%$$

$$= 100\%$$

b) Minimum Percentage of Grades

$$\%Nilai\ Minimal = \frac{skor\ minimal}{skor\ maksimal} \times 100\%$$

$$= \frac{1}{4} \times 100\%$$

$$= 25\%$$

c) Range

$$Range = \%Nilai\ maksimal - \%\ Nilai\ minimal$$

$$= 100\% - 25\%$$

$$= 75\%$$

d) Interval Width

$$Lebar\ Interval = \frac{Range}{Jumlah\ Interval} \times 100\%$$

$$= \frac{75\%}{4} \times 100\%$$

$$= 18.75\%$$

Based on the formula presented, the categories in the value scale can be categorized as shown in Table 8.

Table 8. Eligibility Scale Categories

Percentage	Value Scale	Category
81.25% < 100% value≤	4	Highly Worthy
62.5% < 81.25% value≤	3	Proper
43.75% < 62.5% value≤	2	Not Eligible
Twenty-five percent < value 43.75%≤	1	Very Unworthy

Research Results

Initial Analysis

In this digital era, the development of electronic learning media in handouts is an innovative solution to meet the needs of history learning for XI F students at SMA N 2 Klaten. The needs analysis stage is divided into three. First, an analysis of the relevance of the Independent Curriculum to the research topic. The Independent Curriculum allows for an in-depth exploration of local history, making it relevant to the context of students' lives. The Gondang Winangun Sugar Factory is not just an old building but also a silent witness to the upheaval of the nation's history, offering an opportunity to gain experience about aspects of colonialism and imperialism. The factory reflects the exploitation of resources and labour by the colonial nation and the significant social and economic impact on the local community. On the one hand, these factories create jobs and improve living standards, but on the other hand, the challenging work system and low wages create economic difficulties for many workers.

Second, analyzing students' characteristics and needs shows high enthusiasm for local history topics. Classroom observations and interviews with thirty students of class XI F revealed their great interest in learning about local history, such as the Gondang Winangun sugar factory near the school. The students were interested in uncovering hidden facts and the transformation of the local area. They felt that it was easier to interpret history when looking at the connection

between local, national, and global events. This analysis emphasizes the importance of connecting local events with a broader context to increase students' understanding and interest in history.

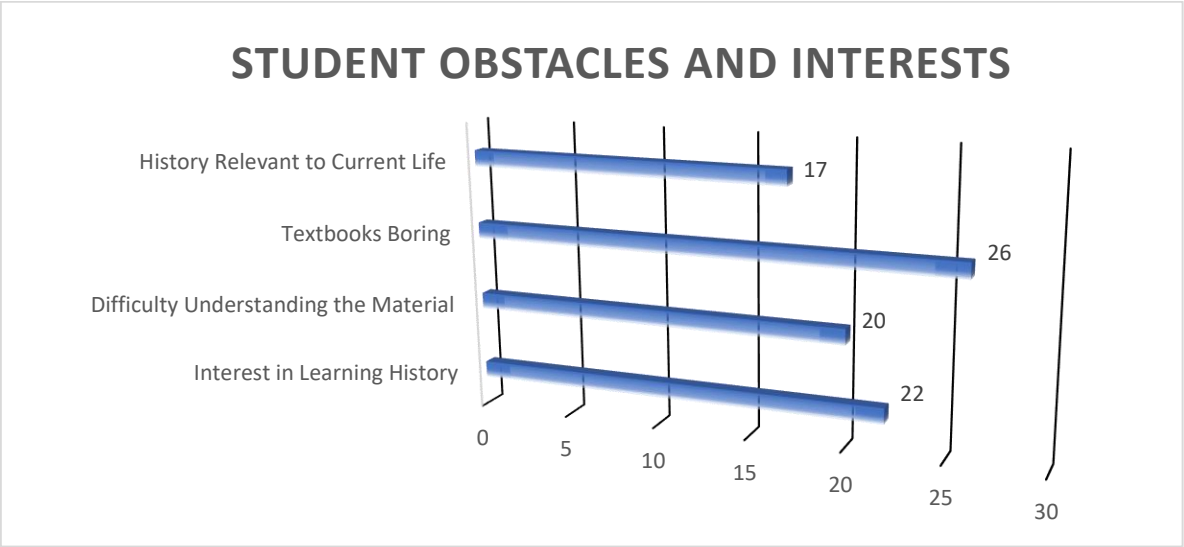


Figure 1. Student Barriers and Interests

The analysis of the needs of teaching materials shows that students need local history teaching materials in a compact, structured, and easy-to-understand electronic format. Relevant text, video, and image content is also a unique attraction. In addition, the simple and minimalist form and interactive learning activities are also popular with students.

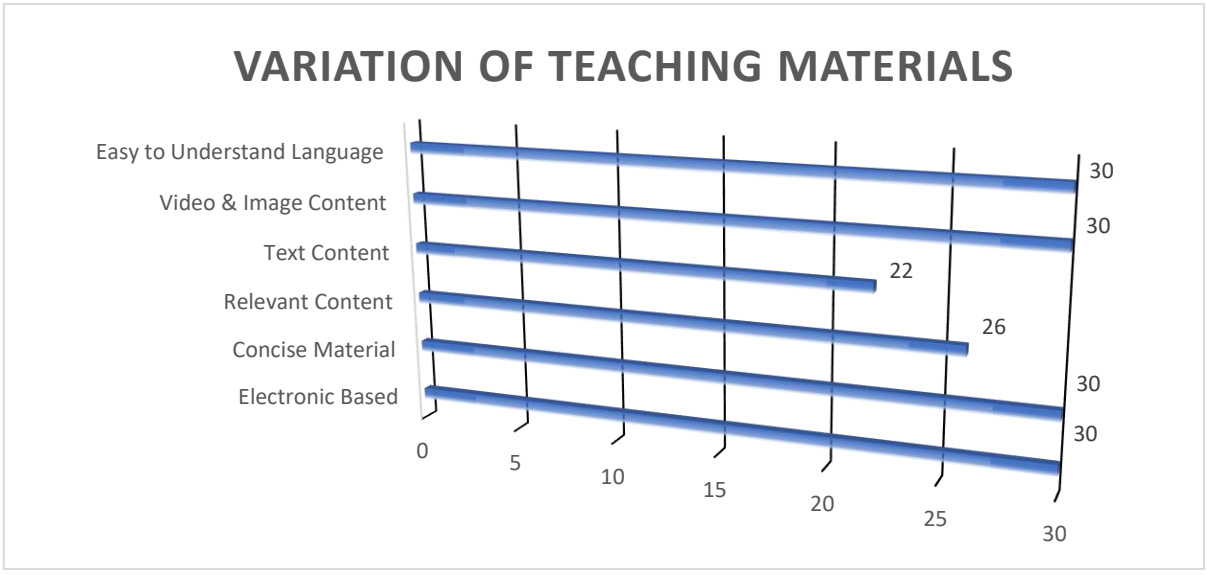


Figure 2. Types of Teaching Materials

The researcher also implemented the dissemination of a needs analysis questionnaire to students to strengthen the findings of observations and interviews. This questionnaire contains

items of questions related to the needs in the field, characteristics, and special interests of the students. The results of the questionnaire were then analyzed in depth to improve the teaching materials to be in line with the needs and interests of the students.

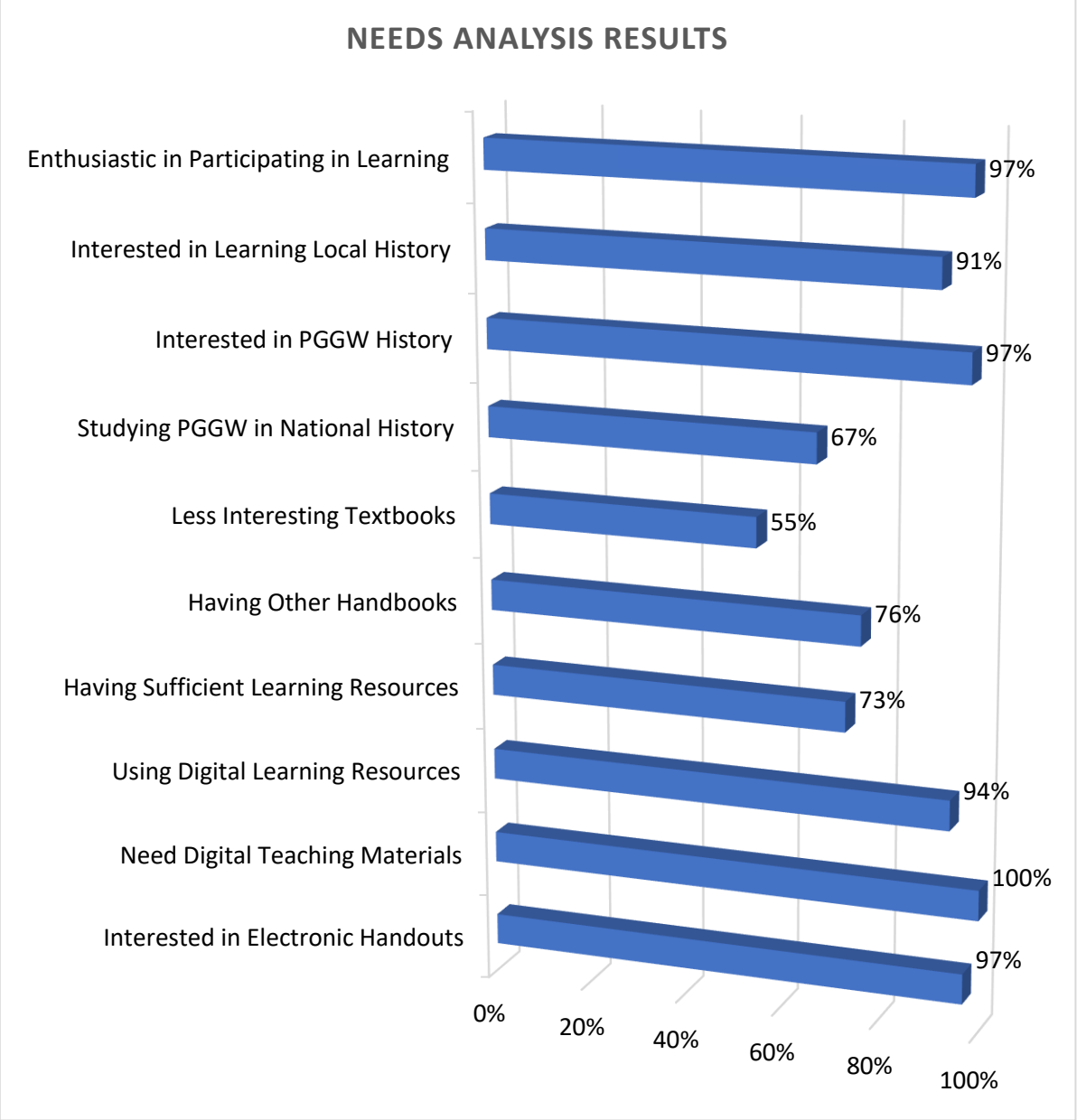


Figure 3. Student Barriers and Interests

Realizing the complexity of these challenges and needs, electronic handout teaching materials on the dynamics of the Gondang Winangun Sugar Factory since the Malaise crisis of 1930-1982 were developed as an innovative solution. The development was based on empirical findings from observations, interviews, needs analyses, and questionnaires, which pointed to three important points: the high enthusiasm of students for local history, the importance of connecting the Malaise crisis to the global and national context, and the need for electronic

teaching materials that facilitate understanding without taking notes and provide additional information independently. In addition, an analysis of school facilities and environment revealed that SMA N 2 Klaten has complete facilities to support the use of learning media, including LCD projectors, speakers, internet access, and adequate electricity sources, to ensure the smooth teaching and learning process.

Planning

At this stage, electronic teaching materials in handouts are designed by considering the results of previous analyses. This handout is in digital format and comes with various multimedia elements such as images, videos, and animations. To design this handout, Canva software was chosen because of its ease of use and graphic design features that support the creation of compelling visual materials. The handout design process includes several essential steps. First, the structure and format of the handout are designed based on the results of observations and interviews by dividing the handout into three main parts: introduction, content, and closing. The introduction includes a preface, a table of contents, instructions for use, and a concept map. The content section presents information about the Gondang Winangun Sugar Factory, including a brief history, the impact of the Malaise crisis, and post-restructuring developments. The closing contains reflection questions in quiz games and snake ladders, designed to create an active and engaging learning atmosphere for students.

After determining the structure and format, the material and practice questions were prepared for this electronic handout, focusing chronologically on the dynamics of the Gondang Winangun Sugar Factory. The handout began with the idea of establishment, development, commercial operation, colonial glory, the Malaise crisis, and post-crisis recovery. Explanations include restructuring strategies such as cost reduction, market development, product quality improvement, and factory development in the era of Japan, Independence, and the New Order. Practice questions include fifteen multiple-choice quizzes in Quizizz and fifteen essay questions in the snake and ladder game in Genially, designed to measure students' understanding and create an active and interactive learning atmosphere.

At this stage, the selection of typography was made using a font size "Catchy Mager" size 40 for the title and 14 for the content of the material, which is cheerful and easy to read, as well as a size 20 "CS Gordon" font for sub-topics, which gives a touch of formality but remains easy to read. Brown colors are used variously light brown #EFEBE5 on the background, light brown #D4A992 for sub-topics and illustration elements, and deep brown #8961C on charts and fonts

to create an impression relevant to the topic of the Gondang Winangun Sugar Factory. Minimalist and modern illustrations include links to additional materials, making it easier to access information. These handouts not only structure the text of the material but are also designed to provide an interactive learning experience with visual elements, links to articles, podcasts, infographics, and videos, as well as activities such as quizzes on Quizizz and snake and ladder games on Genially, aiming to motivate students to learn more actively.

The preparation of the research instrument for developing this electronic handout includes various questionnaires to ensure the feasibility of the product. The instruments used included student needs analysis questionnaires, material validators, media validators, and teacher and student responses, with an assessment scale of 1-4. The student needs analysis questionnaire includes fifteen questions about obstacles, interests, and the types of teaching materials needed. The assessment by media experts consisted of seventeen items regarding the cover design, content, layout, and ease of use. In comparison, the evaluation by material experts included eighteen items regarding the suitability of the material, depth, accuracy, and usefulness with the target user. The teacher and student response questionnaires contain 19 and 15 assessment items, which include aspects of design, illustration, presentation of materials, ease of use, and usefulness. The development of this electronic handout content utilizes various multimedia elements, including videos and references from various media, to provide innovative and integrative learning media.

The material "Getting to Know the Gondang Winangun Sugar Factory" uses videos to present a brief history and unique facts about the factory. The video highlights important information such as its status as one of the oldest sugar factories in Indonesia, the ownership of a unique steam locomotive, the mystery of the underground passage connected to the administrator's house, as well as its role as a filming location for the movie "BJ Habibie and Ainun." The video design uses #E81C31 red for the background and subtitle fonts, symbolizing passion and cultural heritage, black #000000 for clarity and professionalism, and light blue #D0D0D6 for the subtitle background, symbolizing trust and stability. The video was designed with the Canva app, while the audio and subtitles were added using the Capcut app.

Figure 4. PGGW Video View

The material "The History of the Gondang Winangun Sugar Factory," especially the "Glory Days" section, uses videos to describe the heyday period of the factory. This video highlights the use of modern machinery from Europe, the role of factories as the economic center of the surrounding community, and the railway line that connects the factory with markets in Yogyakarta, Solo, and Semarang. The deep brown color #8961C in the background of the video symbolizes the prosperity of the past, and the light brown #FED271 in the background of the subtitles symbolizes warmth and nostalgia. In contrast, the black #000000 for the subtitle font symbolizes clarity and professionalism. The video design is designed with the Canva app, while audio and subtitles are added using the Capcut app.

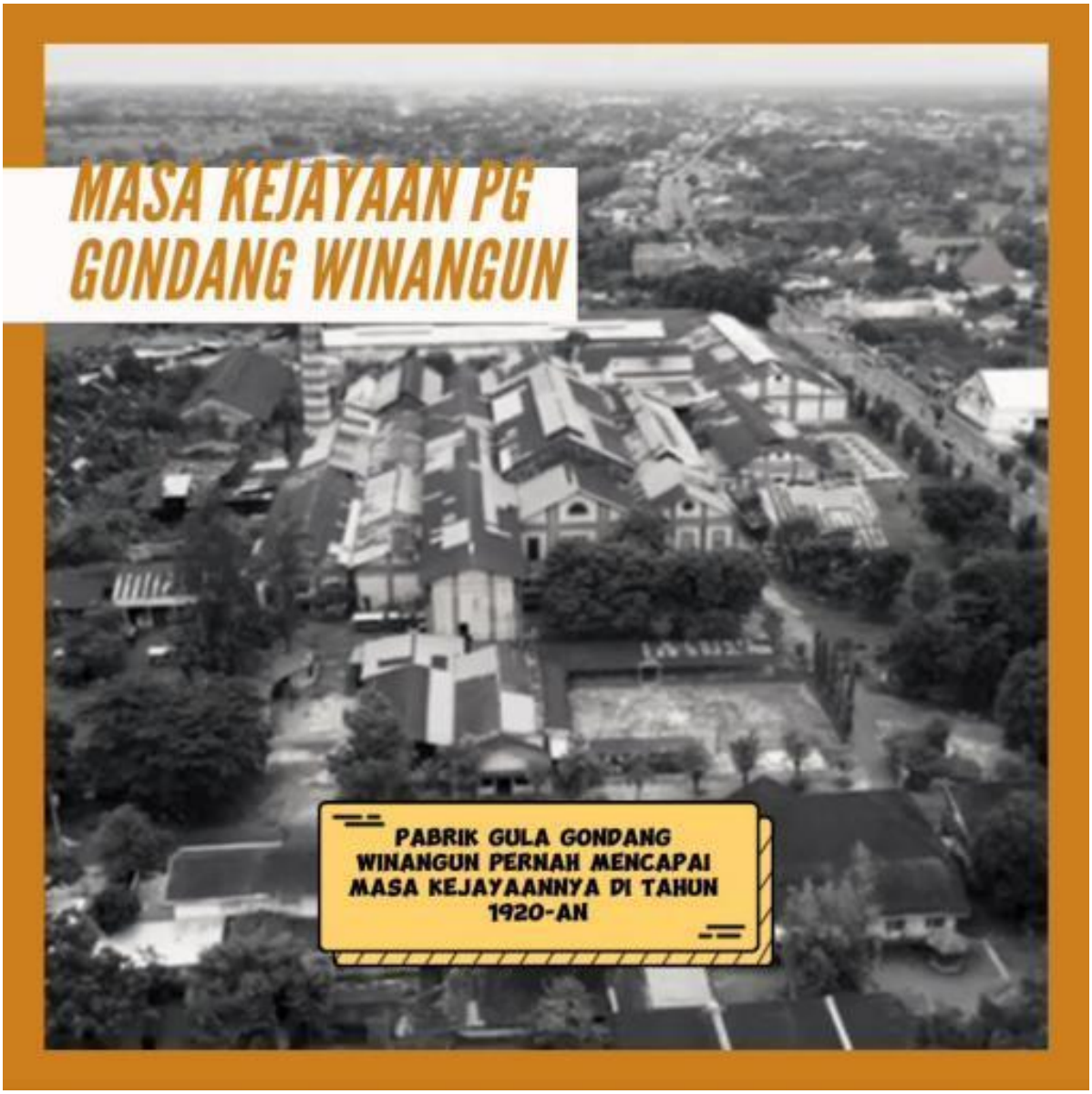


Figure 5. PGGW Glory Days Video Display

The collection of various reference sources, such as the infographic "The Workload of Farmers during the Forced Planting Period" by Tirtoid, the podcast "Forced Planting System in Indonesia" by Kelompokduaa, the article "Malaise Crisis" by Tirtoid, the video "Gondang Winangun Sugar Factory Museum" by Dolan Klaten, and the video "Railway Line" by MerahPutih, were carried out to enrich the content of the electronic handout. These sources are sourced from various social media, such as Twitter, Spotify, TikTok, and the Tirtoid website, to find innovative and relevant references in the digital age.

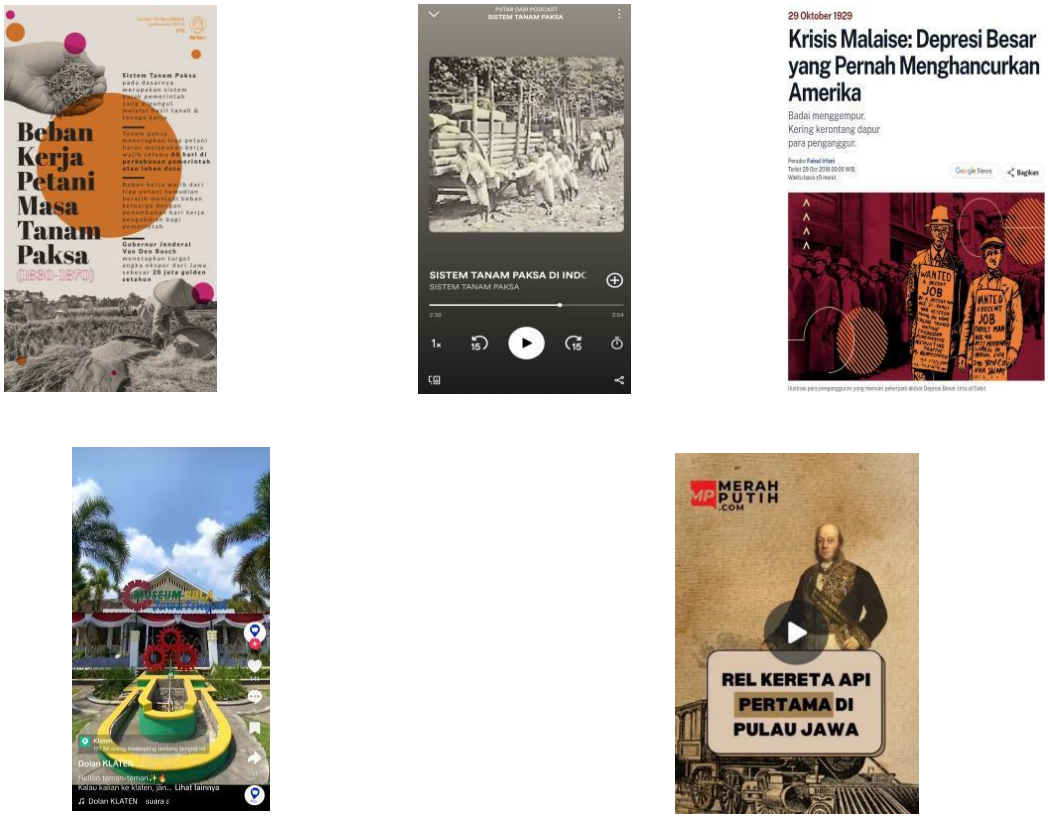


Figure 6, Reference Sources

The exercise of fifteen multiple-choice questions covers the material of the Gondang Winangun Sugar Factory, starting from historical dynamics, the impact of the malaise crisis, the restructuring period, and the post-restructuring period. Open the Quizizz app and click the "Create New Quiz" button. Select the "Multiple Choice" quiz type, then enter the quiz title "Gondang Winangun Sugar Factory." The work time is set at 20 seconds per question. Click the "Add Question" button to start creating the question. For each question, enter the correct answer choice and some incorrect answer choices. When you are done making all the questions, click the "Save" button to save the quiz.

Figure 7. Quizizz Practice Questions Display

The 10-item essay practice is designed to engage students with material on the Gondang Winangun Sugar Factory, covering its historical dynamics, the impact of the malaise crisis, the restructuring period, the post-restructuring era, and its role in Klaten's economic history. To make the learning process interactive, students and educators can utilize the "Game" template available on https://genial.ly/. By selecting the "Snakes and Ladders" template, educators can creatively present the material. Begin by modifying the game title and description to reflect the Gondang Winangun Sugar Factory content. This ensures the game aligns with the historical and economic themes of the factory, making it both educational and engaging for students.

To enhance critical thinking, each box on the game board should be customized with essay questions that explore various aspects of the factory's history, such as its response to the malaise crisis or its transformation during the restructuring periods. Include clear game instructions and a question box for each space on the board, embedding the questions within the game. These prompts encourage students to analyze, evaluate, and synthesize historical information. Once all the questions are added, click the "Save" button to finalize the game. This innovative approach transforms traditional essay practice into an interactive learning tool, fostering deeper engagement and understanding of the Gondang Winangun Sugar Factory's historical significance.

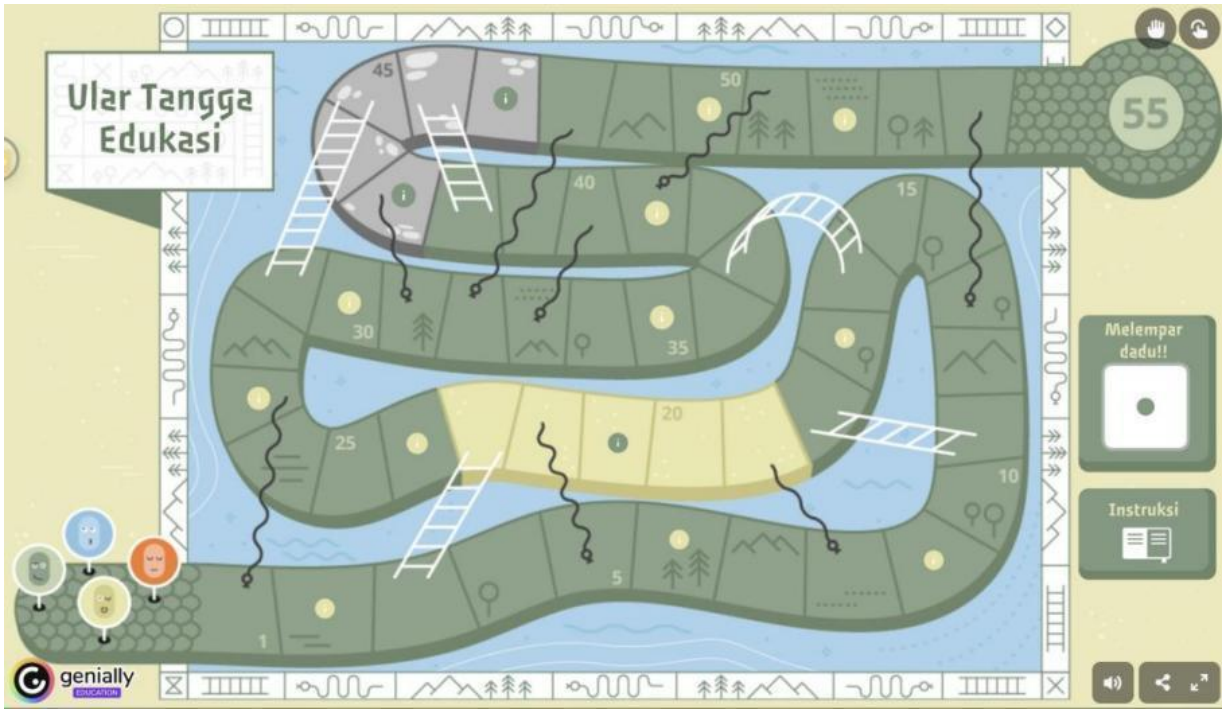


Figure 8. Display of Exercises Genially Questions

Fifth, electronic handouts are developed using the Canva application for the product's overall design. These handouts are designed to be compatible with student devices such as laptops, tablets, and smartphones.

a. Create a Canva account, access the Canva website, and click "create a design" in the main menu. Select "website" to start the design.
b. On the cover, use a photo of the Gondang Winangun Sugar Factory, a title, and appropriate subtitles, including the researcher's name and a description.
c. The preface explains the purpose and gratitude and information about making a handout.
d. The table contains all the handout sections with a clear structure.
e. Content standards include subject matter, classes, competencies, and compilers.
f. Instructions for use provide a brief guide for the user.
g. The concept map describes the sub-topics of the material.
h. The sub-topic "Getting to Know the Gondang Winangun Sugar Factory" shows history and unique facts.
i. The sub-topic "History of the Gondang Winangun Sugar Factory" contains a chronological discussion with related photos and videos.
j. The sub-topic "The Impact of the Malaise Crisis" explains the impact of the crisis with photos and diagrams.

k. The sub-topic "Restructuring" includes restructuring efforts with photos of factory facilities.
l. The sub-topic "post-restructuring" reviews factory changes in different eras with related photos.
m. Practice questions consist of multiple choice and essays with links to Quizizz and Genially.
n. The last page contains a list of libraries and image sources. Publish your site by selecting "Website Publishing" in Canva.

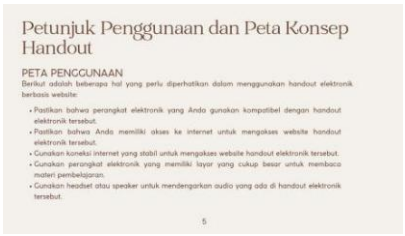
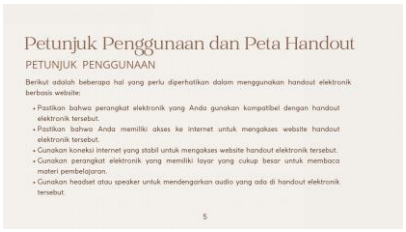
Development

The third stage in the ADDIE development model is the development stage, which focuses on making the components that have been designed, such as structure, format, content, materials, and problems, into the final product as an electronic handout. In this process, the Canva platform is used as the primary tool. Based on the storyboard design from the previous stage, the electronic handout developed into a website compatible with various electronic devices such as computers, laptops, tablets, and smartphones. The development phase includes several steps, starting with the revision of the product, where the handout prototype is evaluated by media experts, material experts, and history teachers of SMA N 2 Klaten to ensure the material's clarity, usability, and suitability. The input from this trial is analyzed to revise the prototype until it reaches the definitive version ready to be tested on students.

Andy Suryadi, S.Pd., M.Pd., including the cover design, content, layout, structure, and ease of use, evaluated electronic handout media aspects. The first test of the prototype obtained a score of 75%, indicating that some elements still need improvement. Some of the problems found included writing a "usage map" that should be a "how-to", the layout of the image source that needed to be separated from the main image, the unnecessary use of bold letters in the practice sections, and improvements to typing and font consistency.

The material aspects were evaluated by Dr. Carolina Santi Muji Utami, M.Hum., including the suitability, depth, accuracy, and objectivity of the material and suitability with the target user. This evaluation obtained a score of 87%, with some necessary revisions to deepen the material regarding the heyday of the Gondang Winangun Sugar Factory and the improvement of typing.

The evaluation by Brilliantoro Yusuf Ervanda showed a score of 90% for the media aspect and 80% for the material element. The necessary improvements include adding preliminary materials about the Gondang Winangun Sugar Factory and information about other sugar factories in Klaten and sugarcane transport railways.

Before	After
	
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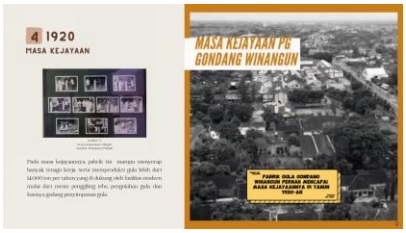
-	
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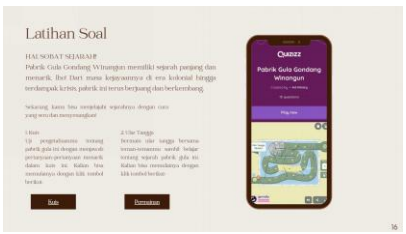
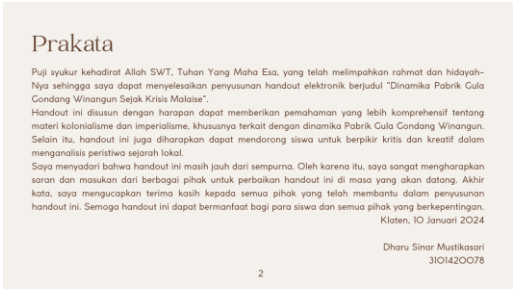
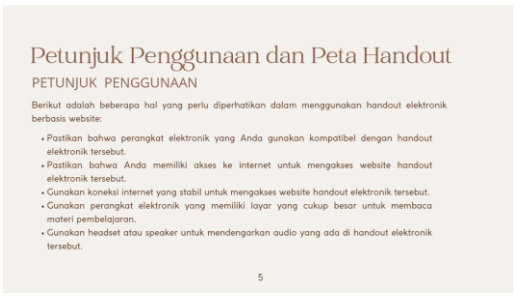
	

Figure 9. Electronic Handout Revision





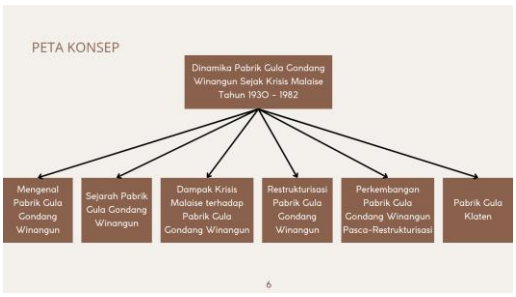


Figure 10. Display Implementation

Third, after passing the revision, the electronic handout is assessed by Andy Suryadi, S.Pd., M.Pd., as a media expert validation lecturer who will determine the electronic handout's design, content, layout, and ease of use. Dr. Carolina Santi Muji Utami, M.Hum., as a material expert validation lecturer, evaluated the accuracy and depth of the historical material of the Gondang Winangun Sugar Factory. Meanwhile, Brilliantoro Yusuf Ervanda, as a history teacher of SMA N 2 Klaten, provided input and assessment related to the media aspect and material aspects of the electronic handout. This expert input is then used to revise and refine the electronic handout. Validators analyze product data using the Likert scale. This scale provides structured assessment criteria, ranging from Very Good (SB) with a score of 4, Good (B) with a score of 3, Less (K) with a score of 2, to Very Less (SK) with a score of 1.

The validation is carried out by this media expert lecturer, who has in-depth experience and expertise in his field, aiming to get constructive and directed information, criticism, and suggestions so that the teaching materials developed by the researcher become quality products and by the needs and characteristics of students. Comments and suggestions from media experts are used to improve teaching materials before a test of media use by teachers and students is carried out.

Table 9. Conducted Media Expert Validation

Total Score	56
Eligibility Percentage	82,3%
Score Interval	81.25% < 100% value≤
Feasibility	Handouts are very decent, with no revisions

Source: Primary Data processed

Based on the results of the validation above, it was revealed that the electronic handout media with the material of the Gondang Winangun Sugar Factory Since the Malaise Crisis developed by the researcher, achieved a percentage score of 82.3%, classified as "very feasible". This

indicates approval to conduct a trial use of the product after achieving a feasibility percentage above 62.5% with a minimum category of "moderately feasible."

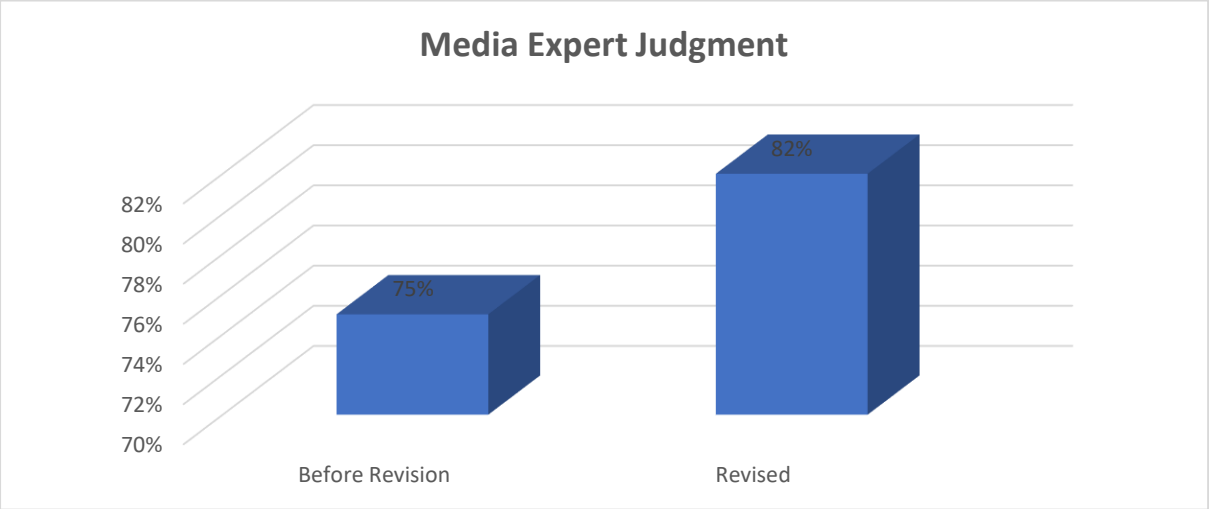


Figure 11. Media Members

Validation is conducted by expert lecturers of this material, who have in-depth experience and expertise in their fields, aiming to get constructive and directed information, criticism, and suggestions so that the teaching materials developed by researchers become quality products and by the needs and characteristics of students. Comments and suggestions from material experts are used to improve teaching materials before teachers and students conduct a media use test.

Table 10. Results of the Judicial Examination of Material Experts

Total Score	65
Eligibility Percentage	90,2%
Score Interval	81.25% < 100% value≤
Feasibility	Handouts are very decent, with no revisions

Source: Primary Data processed

Based on the results of the validation above, it was revealed that the electronic handout media with the material of the Gondang Winangun Sugar Factory Since the Malaise Crisis developed by the researcher achieved a percentage score of 90.2%, classified as "very feasible", so that the electronic handout can be used without revision. This indicates approval to conduct a trial use of the product after achieving a feasibility percentage above 62.5% with a minimum category of "moderately feasible."

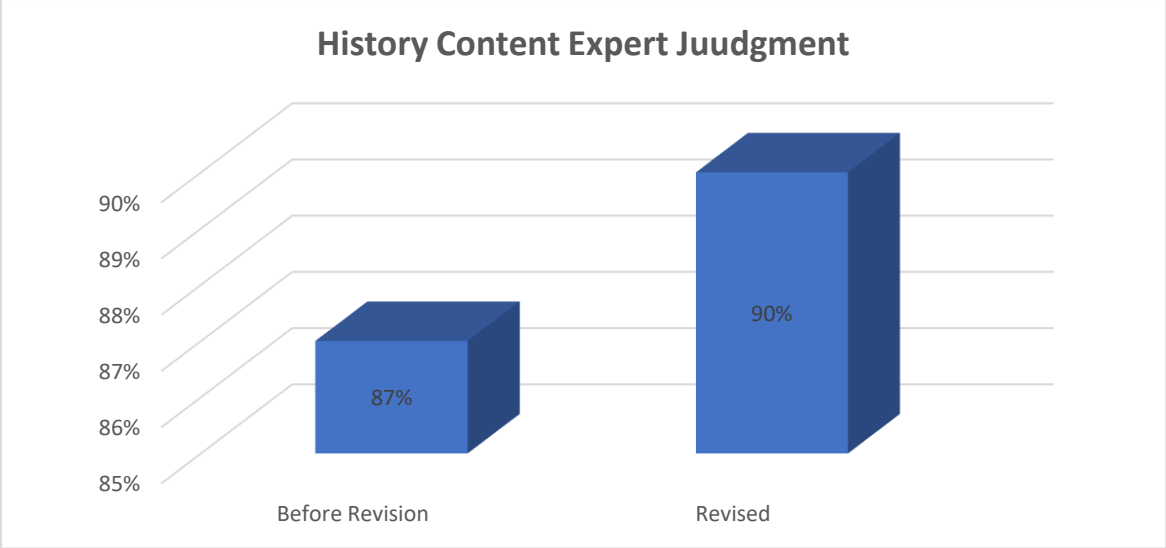


Figure 12. Material Expert

After going through a thorough validation process by experts in the field of media and materials, the product has undergone improvements based on the input and suggestions that have been given. The product results were then tested by history teachers at SMA N 2 Klaten on Tuesday, February 27, 2024. This trial is an integral part of the product development process to produce quality and feasible electronic handout teaching materials with the Gondang Winangun Sugar Factory theme before being used in trials to students.

Table 11. Results of Usage Test by Teachers

Media Eligibility Aspects

Total Score	35
Eligibility Percentage	97,2 %
Feasibility	Handouts are very decent, with no revisions

Source: Primary Data processed

Material Feasibility Aspects

Total Score	34
Eligibility Percentage	85%
Feasibility	Handouts are very decent, with no revisions

Source: Primary Data processed

Based on the results of the media use trial by the teacher above, it was revealed that the electronic handout media with the material of the Gondang Winangun Sugar Factory Since the Malaise Crisis developed by the researcher achieved an average percentage score of 91.1%, classified in the category of "very feasible" so that the electronic handout can be used without revision. This indicates approval to conduct a trial use of the product after achieving a feasibility percentage above 62.5% with a minimum category of "moderately feasible."

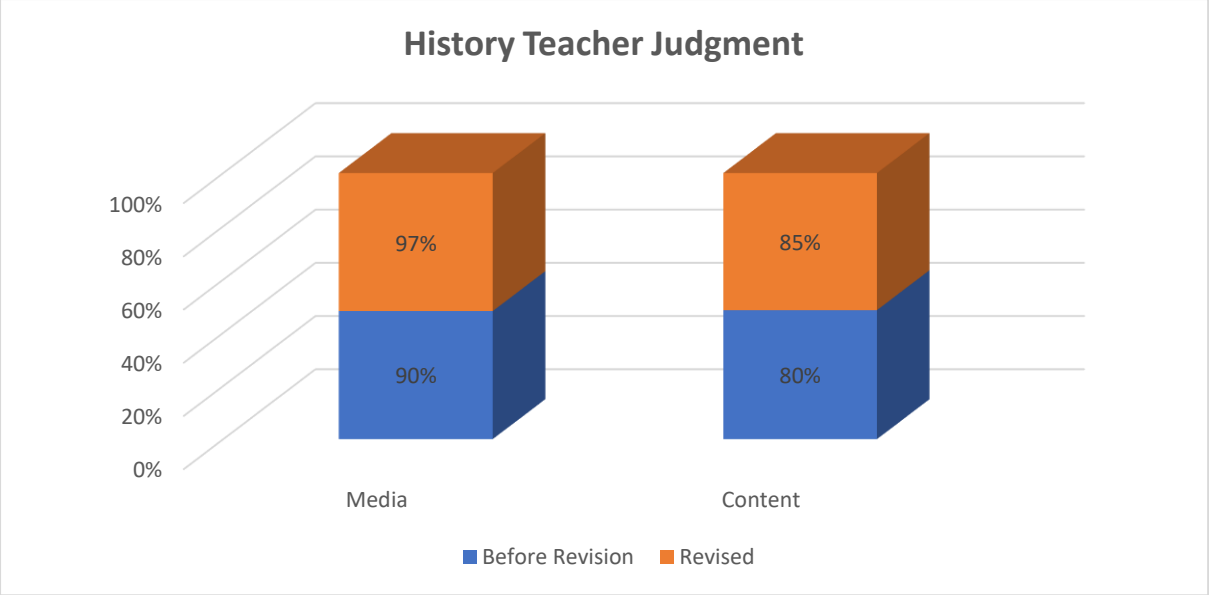


Figure 13. History Teacher

The test of the use of the historical product developed, namely electronic handout teaching materials with materials from the Gondang Winangun Sugar Factory Since the Malaise Crisis, was conducted at SMA N 2 Klaten, precisely in class XI F. This trial was conducted twice, namely a one-on-one trial, as an initial input on the product and a trial of use. The primary purpose of this trial is to produce teaching materials suitable for use in history learning at SMA N 2 Klaten. This one-on-one trial of teaching materials involved five selected students from class XI F. Student selection was carried out randomly to ensure a diverse representation of the target population. The trial took place on Tuesday, March 5, 2024.

Table 12. Student Limited Trial Results

	Total Score	Score Percentage	Information
Result	233 : 5 = 46.6	387 : 5 = 77.4%	62.5% < 81.25% value≤
Information		Positive	Pull

Source: Primary Data processed

After going through two important stages, namely testing students' use of the product in a limited trial and revision based on feedback, the researcher proceeded to the next stage: the use trial. This stage was held on March 7, 2024, at SMA N 2 Klaten, precisely in class XI F which consisted of thirty students. This trial use aims to measure the product's effectiveness in a real learning situation. The students in class XI F had the opportunity to use the product and give their feedback.

Table 13. Results of Student Usage Trial

	Total Score	Score Percentage	Information
Result	1,598 : 30 = 53, 2	2.640% : 30 = 88%	81.25% < 100% value≤
Information		Positive	Remarkably interesting

Source: Primary Data processed

The electronic handout product with the theme of Gondang Winangun Sugar Factory Since the Malaise Crisis developed by this researcher has gone through a revision process and test use by students. In the one-on-one trial, this product got an average percentage of 77.4% in the "interesting" category. Meanwhile, in the trial use, this product reached an average percentage of 88% with the category "very attractive." The sizeable percentage of responses and the category "very interesting" shows that this electronic handout has received a positive response from students. This product has attracted students' interest and attention in learning the history of the Gondang Winangun Sugar Factory.

Discussion

In today's digital era, the development of electronic learning media, especially handouts, has become an increasingly relevant innovative solution to improve student learning experiences (Akbar, 2023; Asiyani, 2019; Erlinda, 2016; Rahmawati, 2021; Sanjaya, 2016), especially in history learning at SMA N 2 Klaten. This study shows how electronic media can meet the needs of history learning by integrating the Independent Curriculum, which provides opportunities for teachers to explore local history in more depth. This is in line with the findings of Setyowati (2018) and Sudrajat (2008), which emphasize the importance of understanding history as a narrative that connects various dimensions of time. The Independent Curriculum allows for the exploration of local history, such as the Gondang Winangun Sugar Factory, which is a concrete example of the impact of colonialism and imperialism (Directorate General of Culture, 2016; Larasati, 2016; Mustopo, 2003; Perdana et al., 2019). This research highlights the relevance of the material to the broader curriculum, illustrating how a student-centered curriculum and local context can enrich students' understanding of history.

The students' enthusiasm for local history in this study reflects the results of previous research, as Kholidin (2021) shows. Kholidin found that students were highly interested in historical materials related to local and national contexts. This study found that students at SMA N 2 Klaten were very enthusiastic about the Gondang Winangun Sugar Factory, showing a keen interest in the local historical facts and the socio-economic transformation of the area. This shows that associating local events with global and national contexts can deepen students'

understanding. This finding is also supported by Suryadi, Atno, & Kurniawan (2023), who emphasize the importance of technology adaptation in learning to attract students' attention.

This research also highlights the use of technology to meet the needs of history learning. This is the principle expressed by Prensky (2001), Sari, 2017, and Slavin, 2006), who emphasized the importance of technology integration in learning for the younger generation. The study successfully implemented multimedia elements such as videos, images, and podcasts in the e-handout, which enriched the student's learning experience by providing easy access to various information sources. This technology allows for more personalized and engaging learning, supporting recommendations from previous research on the importance of technology adaptation to increase student engagement in the learning process.

The evaluation and validation of electronic handouts in this study show significant progress in product development based on feedback from experts and end users. This finding aligns with Rahmawati's (2023) research, which emphasizes the importance of testing and revision in developing electronic teaching materials. The trial results showed that the electronic handout succeeded in attracting students' interest and was effective as a teaching material, with high scores on the evaluation of media and material aspects. This shows that a feedback-based approach can improve the quality of teaching materials and ensure their suitability to student needs.

Comparison with previous research shows that this study makes a new contribution to developing e-handouts for local history learning. Although prior research has demonstrated the importance of local history and technology in education, this study offers a concrete model of e-handout development that other schools can adapt. This model provides practical solutions to overcome shortcomings in local history learning resources, provide structured and interactive teaching materials, and meet the needs of students in understanding history materials better.

Overall, this study reinforces previous findings by emphasizing the importance of integrating local history into the curriculum, using technology to improve the learning experience and the need for continuous evaluation in developing teaching materials. With the e-handout that has been created, it is hoped that students can be more involved and active in the history learning process and relate local events to a broader global and national context. This research shows that learning local history can become more engaging and beneficial for students with the right approach and effective use of technology.

Conclusions, Implications, and Limitations

This research developed and evaluated an electronic handout regarding the Gondang Winangun Sugar Factory as a history learning tool at SMA N 2 Klaten. The evaluation results showed that this handout effectively increased students' understanding of the factory's history, especially in the context of colonialism, imperialism, and the impact of the Malaise crisis. Assessments from media experts (82.3%) and material matter experts (90.2%) showed that the handout was well worth using without the need for major revisions. The classroom trial scored high for both the media (97.2%) and material aspects (85%), with students rating the handout as "very engaging" and effective.

The implications of this study suggest that electronic handouts offer a more interactive and immersive learning experience. Using multimedia elements such as text, images, videos, and interactive elements has proven effective in increasing student engagement and understanding of historical materials. These findings support constructivist and multimedia learning theories and Richard Mayer's theories of the effectiveness of mixed media, which suggests that technology-based teaching materials can enrich the learning experience and bridge the gap between theory and practice.

However, this study has limitations, including being conducted in only one school and on one group of students, so the results may not be fully representative for other schools with different contexts. In addition, there has been no long-term analysis of the impact of handouts on students' understanding and retention of history on a sustainable basis. Further research is needed to explore the use of electronic handouts in various educational settings and to assess their effectiveness in the long term.

Reference

Akbar, S. (2013). *Instrumen Perangkat Pembelajaran*. Bandung: PT. Remaja Rosda Karya.

Akbar, Z. N. F., & Sholeh, M. (2023). Pengembangan Bahan Ajar Geografi Berbasis Web Pada Materi Siklus Hidrologi untuk Siswa Kelas X di SMA N 1 Kejobong Kabupaten Purbalingga. *EduGeography*, *11*(1). https://doi.org/10.15294/edugeo.v11i1.67539

Asiyani, Y. (2019). Pengembangan Handout Berbasis Elektronik Menggunakan Teknik Mnemonik Akrostik pada Materi Keanekaragaman Hayati. *Jurnal Biologi dan Sains, 1*(2), 21-30. http://repository.radenintan.ac.id/8248/

Burke, P. (2009). *What is local history?. In A companion to social history*. Oxford University Press. https://academic.oup.com/ehr/article-abstract/CXXI/493/1200/546088

Candra, I. R., & Azmi, U. (2022). Pengembangan Bahan Ajar Handout pada Materi Masuknya Islam di Nusantara Mata Pelajaran Sejarah Kelas X di SMA Negeri 2 Bayung Lencir. *Jurnal Pendidikan Sejarah dan Dinamika* Sosial, *1*(1), 1-10. https://doi.org/10.33087/istoria.v5i2.111

Daryanto, A. D. (2014). *Pengembangan perangkat pembelajaran (silabus, RPP, PHB, bahan ajar)*. Yogyakarta: Gava Media.

Departemen Pendidikan Nasional (Depdiknas). (2008). *Pedoman Pengembangan Bahan Ajar*. Jakarta: Depdiknas.

Dick, W., & Carey, L. (1996). *The systematic design of instruction*. New York: Harper Collins College. http://dx.doi.org/10.1007/s11423-006-9606-0

Ditjen Kebudayaan. (2016). *Pabrik Gula Gondang, Saksi Mata Kejayaan Gula Indonesia*. Kemdikbud.

Djafri, M. (2017). *Pembelajaran Sejarah: Konsep, Teori, dan Strategi.* Yogyakarta: Pustaka Pelajar.

Erlinda, N. (2016). Penerapan metode pembelajaran inkuiri disertai handout: dampak terhadap hasil belajar fisika siswa SMAN 1 batang anai padang pariaman. *Jurnal Ilmiah Pendidikan Fisika Al-Biruni*, *5*(2), 223-231. https://ejournal.radenintan.ac.id/index.php/al-biruni/index

Fauzi, M., Sunarjan, & Amin, S. (2017). Pengembangan Bahan Ajar Berbentuk Handout Berbasis Sejarah Lokal dengan Materi Perjuangan Rakyat Banyumas Mempertahankan Kemerdekaan dalam Agresi Militer Belanda 1 tahun 1947 Terhadap Minat Belajar Siswa Kelas XI SMA Negeri 4 Purwokerto. *Jurnal Pendidikan Sejarah dan Dinamika Sosial, 1*(1), 21-30. https://www.semanticscholar.org/

Hamalik, O. (2009). *Perencanaan dan Pengembangan Pembelajaran*. Jakarta: Bumi Aksara.

Hidayat, A. (2012). Konsep Pembelajaran Aktif, Inovatif, Kreatif, Efektif, dan Menyenangkan (Paikem). *AN NUR: Jurnal Studi Islam, 4*(1), 39-50. https://www.semanticscholar.org/

Kartodirdjo, S. (1992). *Pengantar Sejarah Indonesia Baru*. Universitas Gadjah Mada.

Kemendikbudristek. (2020). *Rencana Strategi Pusat Kurikulum dan Perbukuan Tahun 2020-2024.* Pusat Kurikulum Nasional.

Kemendikbudristek. (2022). *Capaian Pembelajaran Mata Pelajaran Sejarah Fase E - Fase F*. Pusat Kurikulum Nasional.

Kemendikbudristek. (2022). *Platform Merdeka Mengajar*. Pusat Kurikulum Nasional. https://www.kemdikbud.go.id/main/

Komarudin, U. S. (2018). *Bahan Ajar Inovatif: Membangun Pembelajaran yang Efektif dan Menyenangkan.* Bandung: Mitra Pustaka.

Kurniawan, G. F. (2018). Pengajaran Sejarah Lokal sebagai Counter Wacana Ekstremisme Global di Indonesia (Studi Kasus di Dua Tempat). NASIONALISME, *152*. https://www.researchgate.net/

Laoli, M. S., Zebua, J. N., Hulu, N. P., & Waruwu, L. (2023). Pengembangan Bahan Ajar E-Handout Bahasa Indonesia untuk Meningkatkan Motivasi Belajar Siswa di Sekolah. *Journal on Education*, *6*(1), 4411-4417. https://doi.org/10.31004/joe.v6i1.3582

Larasati, S. (2016). Pengaruh Krisis Malaise terhadap Pabrik Gula Gondang Winangun Tahun 1929-1940. *Ilmu Sejarah-S1*, *1*(2). https://journal.student.uny.ac.id/index.php/ilmu-sejarah/article/view/2418

Lestari, E., & Hidayati, S. N. (2023). Bahan ajar berbantuan Smart Apps Creator untuk Peningkatan Hasil Belajar Peserta Didik. *Jurnal Pendidikan Teknologi Informasi dan Komunikasi, 1*(1), 1-10. https://ejournal.unesa.ac.id/index.php/pensa/article/view/53707

Miftah, M. (2009). Model dan Format Analisis Kebutuhan Multimedia Pembelajaran Interaktif. Teknodik. *Kemendikbud, 95-105.* https://doi.org/10.32550/teknodik.v13i1.443

Molenda, M. (2003). In Search of the Elusive ADDIE Model. *Performance Improvement, 42*(5), 34-37. http://dx.doi.org/10.1002/pfi.4930420508

Mulyaningsih, E. (2012). *Metodologi Penelitian Terapan*. Yogykarta: Alfabeta.

Mustopo, R. (2003). Pengaruh Krisis Malaise Terhadap Pabrik Gula di Kabupaten Klaten sampai Tahun 1942 (Thesis, Universitas Sebelas Maret). https://adoc.pub/pengaruh-krisis-malaise-terhadap-pabrik-gula-di-kabupaten-kl.html

Perdana, Y., Susanto, H., & Ekwandari, Y. S. (2019). Dinamika Industri Gula Sejak Cultuurstelsel Hingga Krisis Malaise Tahun 1830-1929. *HISTORIA: Jurnal Program Studi Pendidikan Sejarah, 7*(2), 227-242. http://dx.doi.org/10.24127/hj.v7i2.2117

Prastowo, A. (2013). *Panduan Kreatif Membuat Bahan Ajar Inovatif: Menciptakan Metode pembelajaran Yang Menarik dan Menyenangkan*. Yogjakarta: DIVA Press

Prastowo, A. (2016). *Pengembangan Bahan Ajar tematik: Tinjauan Teoritis dan Praktik*. Jakarta: Kencana.

Prensky, M. (2001). *Digital Natives, Digital Immigrants Part 1*. On the Horizon. http://dx.doi.org/10.1108/10748120110424816

Puji, R. P. N. (2014). Pengembangan bahan ajar berbasis sejarah lokal menampilkan eksistensi Benteng Portugis Situbondo pada mata pelajaran sejarah kelas XI IPS. *Jurnal*

Pendidikan Sejarah dan Dinamika Sosial, 1(2), 31-40. http://repository.unej.ac.id/handle/123456789/56432

Purnomo, A., Kurniawan, G. F., Em, S., & Mulianingsih, F. (2024). Colonization is opposed to freedom: Anti-Dutch memories and the didactic practice of Indonesian history teachers. *Paramita: Historical Studies Journal, 34*(1), 147-160. http://dx.doi.org/10.15294/paramita.v34i1.47560

Rahmawati, E. (2023). Pengembangan bahan ajar E-Handout sejarah lokal materi perjuangan Kadet Soewoko dalam pertempuran di Lamongan tahun 1948-1949 untuk kelas XI IPS 1 SMAN 1 Lamongan. *Jurnal Pendidikan Sejarah dan Dinamika Sosial, 2*(1), 1-10. http://repository.um.ac.id/id/eprint/290774

Rahmawati, L., & Ardiwinata, D. (2021). Pengembangan bahan ajar elektronik berbasis multimedia interaktif untuk meningkatkan hasil belajar siswa kelas IV SDN 1 Ciampea Kabupaten Bogor. *Jurnal Ilmiah Universitas Muhammadiyah Prof. Dr. Hamka, 19*(1), 1-10. https://doi.org/10.24036/jippsd.v7i1

Sanjaya, W. H. (2016). *Strategi Pembelajaran Berorientasi Standar Proses Pendidikan.* PT Kencana Prestasi Media.

Sari, B. K. (2017). Desain Pembelajaran Model ADDIE dan Implementasinya dengan Teknik Jigsaw. In *Seminar Nasional Pendidikan: Tema "Desain Pembelajaran di Era Asean Economic Community (AEC) Untuk Pendidikan Indonesia Berkemajuan"*, 18 March 2017, Sun Hotel, Sidoarjo, East Java, Indonesia. http://eprints.umsida.ac.id/432/

Sarita, V. R., Jati, S. S. P., & Ayundasari, L. (2021). Pengembangan bahan ajar e-handout berbasis Kodular materi Istana Gebang untuk pembelajaran Sejarah di SMA Negeri 1 Blitar. *Jurnal Pendidikan Sejarah dan Dinamika Sosial, 1*(2), 11-20. https://doi.org/10.17977/um063v1i12p1265-1276

Slavin, D. (2006). *Educational Psychology: Theory and Practice.* Belmont, Calif: Wadsworth.

Sudrajat, A. (2008). Pengembangan bahan ajar materi pembelajaran PAI. In *Makalah disajikan dalam Workshop Bimbingan Teknis Penguatan KTSP SMP*.

Suharso, R. (2017). Pembelajaran Sejarah Lokal Pada Kelas Sejarah (Model Pengembangan Bahan Ajar Sejarah Lokal Kota Kudus Dalam Rangka Meningkatkan Minat Siswa Pada Sejarah). *Dalam Sejarah dan Budaya, 101*. http://dx.doi.org/10.17977/um020v11i12017p095

Suryadi, A., Atno, A., & Kurniawan, G. F. (2024). Improving the Pedagogical Competence of Central Java Province History Teachers Through Quizizz Media-Based Edutainment

Method Guidance. *AURELIA: Jurnal Penelitian dan Pengabdian Masyarakat Indonesia*, *3*(2), 1193-1201. http://dx.doi.org/10.57235/aurelia.v3i2.2656

Utami, D. A., & Ardianto. (2023). Menuju Sejarah Lokal yang Bermakna: Implementasi Pendekatan Berpusat pada Siswa di SMA Negeri 1 Yogyakarta. *Jurnal Pendidikan Sejarah Indonesia*, *12*(2), 235-252. http://dx.doi.org/10.58812/jpdws.v1i07.542

Utomo, C. B., Kurniawan, G. F., & Ria, T. N. (2021). History Teacher Initiative Improves the Quality of Digital-Based Learning in the Covid-19 Pandemic. In *6th International Conference on Education & Social Sciences (ICESS 2021)*. Atlantis Press. https://doi.org/10.2991/assehr.k.210918.011