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Development of Digital Teaching Materials on Solo Traditional Cuisine to Increase Cultural Awareness in History Education in Senior High Schools in Surakarta City

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Abstract: *History learning is an effort to convey the study of local wisdom in the environment around students. One of the local history studies that can be studied in history lessons is the impact of Dutch colonialism in Indonesia. The impact of Dutch colonialism in Indonesia can be seen in various fields, for example in the cultural sector it can be seen from the development of traditional culinary delights in Solo. This material is compiled in a digital teaching material with the title Solo Traditional Culinary. The aim is to provide cultural basics to students at State High Schools in the City of Surakarta. It is hoped that this digital teaching material will have an impact on teachers and students in the learning process. The approach used in this research is descriptive qualitative. The research locations taken were SMA Negeri 1 Surakarta and SMA Negeri 4 Surakarta. It is hoped that the creation of digital teaching materials can increase cultural awareness and innovation in the development of teaching materials. Apart from that, students are expected to get better learning outcomes by having quality teaching materials.*

Keywords: Digital Teaching Materials; History Learning; Traditional Culinary

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1. INTRODUCTION

Quality education is very important to create a generation that is critical, knowledgeable, skilled, creative, innovative, and highly competitive. Teachers play an important role in realizing quality education. In carrying out their role, teachers must be provided with the necessary facilities in the learning process so that it runs effectively. In the Merdeka Curriculum, teachers are given the freedom to design interesting learning activities. As facilitators, teachers are expected to maximize learning activities by preparing teaching modules that include learning outcomes, learning objectives, learning implementation steps, teaching methods, and relevant media. Technology plays an important role in modern learning, especially in improving the quality of teaching and learning (Hakim Nurhikmah, 2019).

SMA Negeri 1 Surakarta and SMA Negeri 4 Surakarta are leading schools in Solo that implement the Merdeka Curriculum. This curriculum gives teachers the freedom to plan learning as a guide to achieving *learning outcomes.* However, based on data collection, it is known that the main learning resource is only the History textbook from the Ministry of Education and Culture, written by Matina Safitry, Indah Wahyu Puji Utami, and Zein Ilyas. The number of printed books is very limited and insufficient to meet the needs of all students. For example, there are 396 students in grade XI, divided into 11 classes

with 36 students per class, but the printed books available in the e-library cannot adequately accommodate all students in all classes.

Based on interviews with history teachers at SMA Negeri 1 Surakarta and SMA Negeri 4 Surakarta, they said that the main learning references provided to students in history textbooks are still limited and only discuss general material without any local history material. In this context, digital books are one alternative solution because they can be accessed anytime and anywhere. History itself is a compulsory subject for all students, whether they are majoring in natural sciences or social sciences. It cannot be denied that textbooks are still very much needed by students because they are considered capable of providing an understanding of various events in Indonesian national history (Krismawati et al., 2018). However, it is difficult for students to construct their knowledge of national history if it does not start from the local history that exists in their surroundings. Therefore, teachers need the competence to incorporate local history into the learning resources used in history lessons (Wiyanarti et al., 2020).

Local wisdom, also known as *local genius*, is a term popularized by Quaritch Wales (Ayatrohadi, 1986: 18). Local culture certainly contains *a way of life* that accommodates policies and philosophical values. History learning that utilizes local history has many uses, including increased historical awareness, building collective memory, and improving students' understanding of history (Iswanto Sufandi, Warto, 2015). Thus, local wisdom is a form of local policy that serves to regulate community life in terms of goodness.

Nowadays, it is very easy to enjoy the lifestyle and thinking of foreign nations rather than one's own country. Therefore, it is not surprising that many children do not know their own culture. Educational institutions play a very important role in instilling the culture that exists in Indonesia. The cultivation of cultural awareness is necessary so that the nation's children can embrace the values contained in the culture as their identity (Sutarno, 2008: 7-10).

Research on cultural awareness in Indonesia, especially that related to the dynamics of local culture in a region, is still relatively low. The results of a questionnaire given to students showed that 78.8% of students did not meet the indicators of cultural awareness. According to Ardhana et al. (2004), local or regional traditions and history do not seem to feature prominently in the historiography that has developed in Indonesia. In history lessons, the learning process plays a very important role. It is not only a means of transferring ideas or concepts, but also a process that helps students become more maturein understanding the identity, character, and personality of the nation through an understanding of historical events (Susanto, 2014: 56). In addition, local history learning provides opportunities for students to gain firsthand experience and in-depth information about the history of the area where they live. This can strengthen their understanding of local history and its connection to their daily lives (Kuntowijoyo, 2013). If history is written correctly, seeing the meaning contained within it can help strengthen national identity values such as cultural awareness.

Cultural diversity is very interesting to understand in order to maintain human life (Wunderle, 2006) states that understanding the attitude of preserving culture is something that needs to be interpreted in order to form a better personality. Local cultures hold noble values that characterize and identify each region. Therefore, it is important for the community to realize and understand how valuable it is to preserve this culture, one of which is by learning and appreciating the local wisdom that has existed since long ago. With the passage of time, history, and philosophical values have become less familiar to local residents, especially children. Therefore, a medium is needed to explore various cuisines in the form of educational books, so that students can learn to increase their cultural awareness.

According to Sujarwa (2010: 134), awareness comes from the word "sadar," which means to understand, remember, comprehend, and be open-minded to act according to one's heart. Awareness can also be defined as the openness of the heart and mind in behavior. Meanwhile, in psychological terms, Alfian (1979) explains that awareness is defined as an individual's level of alertness to environmental events, body conditions, memory, and thoughts.

Indonesia has so many local cultures that are widely known by the public, one of which is in the city of Surakarta. As the heir to the Islamic Mataram Kingdom, Surakarta has great potential to be developed within the framework of local culture, one of which is cuisine. Solo is known as a city with a rich variety of cuisine, offering a range of delicious dishes that can be found in various corners of the city, each with its own uniqueness. The culinary culture in Solo, in particular, is not only about taste, but also has a long history and deep philosophical values. Surakarta, as the heart of Javanese culture, has many distinctive local cuisines that have become attractions for tourists. These local cuisines are foods or drinks commonly enjoyed by the local community, often served on special occasions, passed down from generation to generation, made according to original recipes that have been preserved, and have distinctive characteristics that set them apart from dishes from other regions. Examples include nasi liwet, serabi solo, intip, tengkleng, HIK, sate buntel, soto gading, bestik solo, sate kere, and many more. Many traditional dishes of the Surakarta community have special meanings.

According to Djono (2023), the importance of historical studies needs to be carried out, one of which is through actions to preserve cuisine and its philosophical values. One way to do this is through in-depth literature, education, and schooling. To date, education or schooling is still an effective means of cultural preservation. As stated by Spathopoulou and Papakonstantinidis (2017), learning at school is a medium for teachers to introduce local culture. This is because culture influences responsiveness, determines norms, and shapes the interpretations or ways of thinking of students. According to Wijayanto (Belanisa et al., 2022), digital books are teaching materials in the form of electronic books that can be accessed through digital devices. Digital books are interactive, adaptive, and user-friendly, allowing students to learn independently (Selvi et al., 2024).

Traditional Solo culinary material can be included in the material on the impact of colonialism for grade XI in senior high school. The impact of Western colonialism itself is divided into several fields, including economics, education, social, culture, etc. In the cultural field, it can be found concretely in everyday life, one of which is traditional Solo cuisine, which is rich in philosophical values.

Thus, digital books are an ideal choice because they contain interactive features such as animations, videos, and audio, which can increase students' cultural awareness and make the learning process more interesting.

2. RESEARCH METHOD

This research uses a *research and development* approach that aims to produce new products, technologies, and innovations to improve existing products. The focus of this research is the development of teaching materials using the ADDIE model. The process begins with the analysis stage, which involves identifying the needs and problems that exist in public high schools in Surakarta through interviews with teachers, student questionnaires, material analysis, and student interest analysis. In the design stage, digital textbooks were created using applications such as Canva and Flip PDF Professional. The development stage was carried out by assessing the validity of the product through material validators, media validators, and language validators. After validation, the implementation stage involved teachers and students. Finally, the evaluation stage measures the effectiveness of digital textbooks through large group trials on students' cultural awareness levels. This structured approach ensures that the resulting digital textbooks are valid, practical, and effective for use in learning.

The subjects in this study were 30 students in grade XI at SMAN 1 Surakarta and 30 students in grade XI at SMAN 4 Surakarta, history teachers, and three validators to validate the material, media, and language. This study used purposive sampling. The data collection methods used were observation, interviews, questionnaires, and learning outcome tests.

3. RESULTS AND DISCUSSION

Baek & Cheong in Mahamad, et al (2010: 80) stated that *m-learning* has many uses in the field of education, including supporting adaptive learning so that it is easily accessible anywhere and anytime, effective in the use of time, and supporting educational and collaborative learning. Another study shows that the usefulness *of m-learning*, as stated by Valk et al in Kim (2013: 52), is that in developing countries, students who utilize *e-learning* in learning can provide effective learning services and resources. Previous studies have also found that students who utilize *m-learning* are more interested because it has an attractive appearance and is a convenient and flexible learning reference.

Based on *the National Center for Competency-Based Training* in (Prastowo, 2015), teaching materials are all materials that will help teachers in conducting classroom learning. Teaching materials are all materials in the form of text, information, or tools that have been systematically arranged to create learning support that is appropriate for the conditions of the students. Teaching materials can be in the form of written material or other media such as textbooks, worksheets, models or mock-ups, *e-books,* audio teaching materials, and other interactive teaching materials.

With the development of technology today, textbooks are not only in print but also widely available in digital form, known as electronic teaching materials. Electronic teaching materials are considered easier to access, more efficient to produce, and more environmentally friendly. However, their use requires supporting devices such as computers or cell phones. Darlen et al (2015) define electronic teaching materials as digital teaching materials containing interactive media in the form of text and images that can be accessed via computers or smartphones. Digital teaching materials are systematically arranged to increase motivation and assist students in the learning process.

Based on the opinions of several experts, it can be concluded that digital teaching materials are all materials used in learning that have been designed in a complex manner to achieve learning objectives. The digital teaching materials compiled must be adapted to current developments, such as the teaching materials developed by the author. According to Mbalu and Suhartono (2024), the development of teaching materials involves several stages, such as selecting, determining, compiling, organizing, evaluating, and linking topics or discussion points based on facts, principles, concepts, and theories. In developing these history teaching materials, it is necessary to conduct trials with students to identify their actual strengths and weaknesses.

Currently, teachers should not only rely on books published by the Ministry of Education and Culture but also need to develop their own teaching materials in accordance with the characteristics of students in their area. In addition, the main textbooks still have several shortcomings, such as the lack of depth in the material written. In developing teaching materials, several criteria must also be met, such as: (1) curriculum analysis, (2) determining the title of the teaching material in accordance with the learning outcomes to be achieved, (3) a complete description of the book's content and the indicators to be achieved, (4) collecting literature as writing material, (5) writing the book in accordance with the target audience, (6) reviewing the book to be created, (7) improving the learning focus, and (8) including illustrations, tables, and diagrams (Irafahmi & Sulastri, 2016).

Digital teaching materials on local history entitled Traditional Cuisine of Solo as a learning innovation in Surakarta City High Schools can be accessed via *smartphone* or computer at the following link: https://acesse.one/BahanAjarKulinerTradisionalSolo . The contents of the teaching material consist of (1) cover, (2) foreword, (3) table of contents, (4) instructions for using the book, (5) learning outcomes, (6) cultural awareness indicators, (7) concept map, (8) material, (9) evaluation. Cover The cover explains the title contained in the digital teaching material, namely Traditional Solo Cuisine, accompanied by users of digital teaching materials in grade XI or phase F

Figure 1 shows the cover of the Solo Traditional Cuisine digital teaching material.



Figure 1. Cover of the Solo Traditional Cuisine digital teaching material

Foreword and Table of Contents

The introduction section contains an introduction from the author, while the table of contents contains a list of teaching materials and their page numbers to make it easier for readers to find the section they want to open..

Figure 2 shows the foreword and table of contents.



Figure 2. Appearance of the Foreword and Table of Contents

Instructions for Using the Book

Instructions for using the book on the use of digital teaching materials on Solo Traditional Cuisine, such as learning activities and evaluation assignments.

Figure 3 shows the instructions for using the book.



Figure 3. Display of Book Usage Instructions

Learning Outcomes

The Learning Outcomes include that Phase F students (grade XI SMA/MA/Program package C) are expected to be able to utilize primary and secondary sources to conduct local historical studies that are directly or indirectly related to Indonesianness. Furthermore, they are expected to be able to communicate this in oral, written, or other media forms synchronically and diachronically. Students are also expected to be able to describe, analyze, and evaluate historical events and their meanings. Each element in the learning outcomes consists of historical concept skills, historical thinking skills, and historical awareness. In addition, there are cultural awareness indicators to determine the reader's level of cultural awareness

Figure 4 shows the learning outcomes and cultural awareness indicators.



Figure 4. Display of Learning Outcomes and Cultural Awareness Indicators

Materials in Digital Teaching Materials

The material in this Solo Culinary digital teaching material consists of concept maps, definitions of traditional cuisine, the history of traditional Solo cuisine, the philosophy of traditional Solo cuisine, examples of traditional Solo cuisine, summaries, activities, evaluations, glossaries, and bibliographies.

Concept Map and Material

Figure 5 shows the concept map and the introductory material of the digital teaching material.



Figure 5. Display of concept maps, introductory material, definitions of traditional cuisine, history of traditional cuisine, and philosophy of traditional Solo cuisine

An analysis of the need to develop a digital teaching book on Solo Traditional Cuisine was conducted to increase cultural awareness among students at SMAN 1 Surakarta and SMAN 4 Surakarta. The development of this digital teaching book is expected to increase the effectiveness of students' cultural awareness, enrich their learning experiences, and support the achievement of learning objectives.

The first step in the development design is to select media that suits the characteristics and interests of the students. The second step is to prepare material on Solo traditional cuisine in accordance with the learning objectives to be achieved. This step includes incorporating photos, videos, and quizzes to reinforce the learning process. The third step is to create an initial prototype and draft design to be developed in the next stage. The fourth step is to design the digital textbook using the Canva application with its various features to produce an attractive digital textbook. The fifth step is to import the Canva PDF file into Flip PDF Professional to make the textbook more interactive.

Table 1 presents the results of the subject matter expert validation of the digital teaching material.

Table 1. Results of the Expert Material Validation Questionnaire Analysis

No	Evaluation Criteria	1	2	3	4	5
	Introductory Aspects					
1	Clarity in learning instructions					√
2	Clarity of steps in learning preparation					√
3	Clarity of steps in learning preparation					√
4	Clarity of the concept map of the material to be studied					√
	Content Aspects					
5	Coherence of the content				√	
6	Scope and depth of the material				√	
7	Suitability of the material to the learning objectives				√	
	Evaluation Aspects					
8	Clarity of instructions for completing the questions				√	
9	Sequence of questions presented				√	
10	Alignment of practice questions with learning outcomes				√	

Table 2 presents the results of the media expert validation.

Table 2. Results of Media Expert Validation

No	Evaluation Criteria	1	2	3	4	5
1	Clarity of title					√
2	Ease of use of buttons					√
3	Consistency of proportions (text and image layout)					√
4	Accuracy in selecting the type of text and font size presented					√
5	Easy-to-understand navigation menu and buttons					√
6	Appropriate use of colors in the layout of the material pages					√
7	Image suitability					√
8	Video and audio compatibility with the material					√
9	Image and video quality					√
10	Presentation of material using media in moderation					√

Table 3 presents the results of the language expert validation.

Table 3. Results of Language Expert Validation

No	Evaluation Criteria	1	2	3	4	5
1	Uses correct and proper language rules					√
2	Uses terminology appropriate to the main concepts of the material					√
3	The language used is straightforward and easy for students to understand					√
4	The language used is communicative					√
5	Accuracy of word choice in explaining the material				√	
6	Sentences represent the content of the message or information to be conveyed					√
7	Sentences are simple and to the point					√
8	Accuracy of spelling				√	
9	Consistency in the use of terms				√	
10	Consistency in the use of symbols and icons					√

Based on the assessment results from subject matter experts, media experts, and language experts, the score percentage was above 90%, which is categorized as highly valid.

Table 4 presents the results of the independent sample t-test on the posttest scores.

Table 4. Results of the Independent Sample T-Test (Posttest)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Post-test SMA N 1 Surakarta	Equal variances assumed	3.508	.106	6.478	58	.000	13.66667	2.10955	17.88939	9.44395
	Equal variances not assumed			6.478	50.107	.000	13.66667	2.10955	17.90359	9.42974
Post-test SMA N 4 Surakarta	Equal variances assumed	1.406	.241	4.815	58	.000	10.50000	2.18077	14.86528	6.13472
	Equal variances not assumed			4.815	55.503	.000	10.50000	2.18077	14.86946	6.13054

The results of the statistical test using the independent sample t-test show that the Solo Traditional Cuisine digital textbook is effective in increasing students' cultural awareness. At SMA Negeri 1 Surakarta, a significance value of 0.000 (less than 0.05) was obtained with a t-count of 6.478, which exceeds the t-table of 2.048. Similarly, at SMA Negeri 4 Surakarta, the results were significant (0.000) with a t-value of 4.815, which was greater than the t-table value of 2.048. Thus, it can be concluded that the use of this digital textbook successfully increased cultural awareness in both schools.

4. CONCLUSION AND RECOMMENDATIONS

The results of the needs analysis show that students need digital textbooks to support their learning process. The digital textbooks were designed in accordance with the Learning Objective Flow (ATP) and developed using the Canva application, then imported into the Flip PDF Professional application. These textbooks combine text, images, photos, learning videos, and evaluations in the form of quizzes that can be accessed via cell phones or laptops. The validation results show that the material, media, and language aspects of the digital textbook are "highly valid." In terms of practicality, this is also

demonstrated by a significant increase in the students' level of cultural awareness, as evidenced by the pretest and posttest, which placed it in the "highly effective" category.

These findings confirm that the use of digital textbooks is effective in increasing cultural awareness in history learning at SMAN 1 Surakarta and SMAN 4 Surakarta. It is recommended that educators use this digital textbook as an additional learning resource to increase students' cultural awareness and interest. For students, this textbook serves as an additional resource that helps them achieve their learning objectives in history lessons. Future researchers can use this digital textbook as a reference to develop better digital textbooks and improve existing history teaching modules

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