

DESIGN OF INTERACTIVE LEARNING MULTIMEDIA MATERIALS OF BATIK JUMPUT ON SBdP SUBJECTS IN ELEMENTARY SCHOOL

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ABSTRACT

Designing Interactive Multimedia Learning for Batik Jumput for SBdP Subjects at SD Negeri Gambiran seeks to produce interactive multimedia learning at SD Negeri Gambiran and establish the feasibility of the development's outcomes based on expert opinion and student comments. This research is design and development research. The subjects of this study are students of class V of Gambiran State Elementary School. This development model refers to the ADDIE development model, which consists of five stages: Analyze, Design, Development, Implementation, and Evaluation. Method of data collection with observations, interviews and questionnaires. Eligibility assessments involve experts and learners' responses. The results of this study are; (1) Interactive Multimedia batik jumput SBdP subjects; (2) Interactive multimedia is worth using both in terms of material and visual appearance. The feasibility of interactive multimedia is based on assessments from media experts, material experts, teachers with 87.5%, 92.5%, 97.5%, respectively.

INTRODUCTION

Education is a necessary part of human life. Every human being requires education in order to advance in the future—Educators attempt to provide students with facts and values from society (Smith-Maddox & Solórzano, 2002). According to the National Education System Law of the Republic of Indonesia, Number 20 of 2003, education is a conscious and planned effort to create a learning environment and learning process in which students actively develop their potential to have religious, spiritual strength, self-control, personality, intelligence, noble character, and skills needed by himself, the community, the nation, and the state (Zamjani, 2022). Science and technological advancements significantly impact many aspects of human existence. Education is a crucial aspect of the maturing process for humans. Education has become more efficient and effective as knowledge and technology have advanced. Good collaboration between teachers and students is one of the most crucial aspects of the educational process (Limberg et al., 2021).

Teachers should be able to grasp new and unique approaches to teaching in order for the process to be engaging. Learning is a system; thus, effective and efficient learning practices and media influence learning success. As one component of the learning system, media plays a significant role in disseminating knowledge, and teachers must be able to design learning media that meets the needs of students (Gamar & Tati, 2021). One of the issues that teachers and students experience when undertaking online learning activities during the epidemic is a lack of ability in using information and communication technologies (Azhari & Fajri, 2021). The teacher had not added interactive learning videos in the online learning process. The WhatsApp program was simply utilized to deliver messages to provide or collect assignments (Hassan et al., 2021). In addition to having limited technical abilities, teachers do not have much time to generate instructional material due to a variety of administrative and other obligations (Len-Urritia et al., 2018).

Because materials given over WhatsApp Groups might be difficult for students to comprehend, teachers must be able to create engaging and dynamic learning media. This is a guideline for remote learning students to help them grasp the topic. In addition, using learning media in the early phases of learning can improve the efficiency of the learning process and information delivery. Learning media may help youngsters learn by giving them a concrete representation of abstract concepts. As a result, it can be argued that learning media plays a vital role in inspiring students and bringing the previously abstract subjects to life. The correct learning media must be chosen, and interactive multimedia is one type of renewable media, which is the focus of this research.

Multimedia-based interactive learning media is a collection of elements such as sound, graphics, videos, text, and animations that are packaged engagingly and entertainingly to pique students' interest in learning (Abbas, 2021). Microsoft PowerPoint, ISpring, Adobe Flash, Prezi, Windows Movie Maker, and GoAnimate are just a few examples of software that educators may utilize to create interactive multimedia-based instructional media. The PowerPoint application is used in this study to create interactive learning multimedia (Hamilton et al., 2021). Because PowerPoint is a program that is installed on almost every laptop or desktop computer, it is an excellent choice for generating interactive learning media. Microsoft's PowerPoint software is a piece of software. This program has already had revisions up to Microsoft Powerpoint version 2015 up till now (Francique, 2021). The visual or interface, extra functionality, and development of access to make it easier for users to utilize the menus in this program are the differences between each edition. The higher the version of PowerPoint, the better the feature performance and data output. The use of learning media in the classroom allows teachers and students to choose how they want to learn based on their own learning styles (Papadatou-Pastou et al., 2021). Because there are three types of learning styles: auditory, visual and kinesthetic; because there is a variety of learning styles, components of learning media selection and use must be tailored to the learning styles of students (Suji et al., 2021).

Cultural arts is one of the learning materials in elementary schools that still use simple media and have not used interactive media. Due to a lack of learning media, the jumput batik material is still quite simplistic, taking the form of photographs. Art and culture are packaged as a cohesive subject, called art and culture. Cultural arts are taught beginning in primary school because pupils are expected to have spiritual, social, and skill attitudes throughout the learning process. Jumput batik is one of the materials that is incorporated into arts and culture topics and studied to develop students' skills, in line with KD 3.4 regional knowledge and KD 4.4 fine artworks of material regions. There were certain challenges in delivering jumput batik content in primary schools, particularly in the delivery of instructors who still used simple learning mediums, resulting in less engaged interviews with fifth-grade teachers being performed in addition to observations. Because the teacher could not engage directly with pupils during online learning, the teacher had difficulty presenting the jumput batik information. The teacher encourages pupils to read content from books and then delivers learning media in the form of images, making the learning media less engaging. Teachers do not always have much time to create interactive learning material since they are often preoccupied with school management. This is what makes students less understanding how to make jumput batik without direct guidance from the teacher. A similar situation happened at SD Negeri Gambiran, where the application and execution of jumput batik instructional materials fell short of expectations. Teachers in offering jumput batik learning did not utilize computer-based media, according to pre-research done through observations from October 20 to November 24, 2020. The media used by teachers was still relatively basic media, such as picture media supplied by the instructor through the application. Messages in a WhatsApp group, As a result, it appears less interactive when used, whereas interactive media is required to inspire students' excitement for learning. Interviews with fifth-grade teachers were performed in addition to observations. Because the teacher could not engage directly with pupils during online learning, the teacher had difficulty presenting the jumput batik information. The teacher encourages pupils to read content from books and then delivers learning media in the form of images, making the learning media less engaging. Teachers do not always have much time to create interactive learning material since they

are often preoccupied with school management. Teachers have not leveraged their capacity to maximize the use of science and technology for learning media, especially on jumput batik material, and there are no computerized interactive learning media that can be used to enhance the online learning process. Practical activities are not carried out in online jumput batik learning since there is no direct aid from the teacher; thus, students would have difficulty practising jumput batik. As a result, the online jumput batik learning in class V SD Negeri Gambiran fails to meet the learning objectives.

RESEARCH METHODS

The research on the content of Batik Jumput SBdP conducted at SD Negeri Gambiran falls under the category of Design and Development Research (D and D Research), which is defined as research that focuses on overcoming limitations and adapting to goals, solving problems, making decisions, and reasoning in uncertain situations (Sandars et al., 2021). Design and Development Research (D&D) is a methodical examination of the design, development, and assessment processes. The three major stages are designed to provide an empirical foundation for the development of instructional and non-instructional goods or tools and new or enhanced models (Sharma et al., 2021). Primary data came from media experts' evaluations, material experts' assessments, fifth-grade teachers' assessments, and student answers, while secondary data came from observations and interviews. Questionnaires, observations, interviews, sources, and time are all used as data collecting tools. The data analysis approach uses descriptive statistics to examine media experts', material experts', instructors', and students' replies. The ADDIE development model was applied in this development. The ADDIE model is one of the learning system design methods with an easy-to-follow system stage (Pears & Konstantinidis, 2021). The ADDIE model is divided into five stages: (1) analysis, (2) design, (3) development, (4) implementation, and (5) evaluation. It was only done in this study during the Implementation stage (see Figure 1).

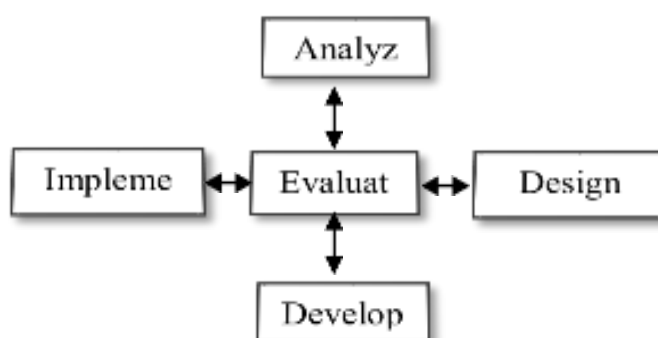


Figure 1. ADDIE Model Schematic (Pears & Konstantinidis, 2021)

Analyze stage (Analysis)

An analysis of the online learning process in class V on the *jumputan* batik material and the instructor's media throughout the learning process was carried out during the analysis stage. These components are examined to determine the requirements of instructors and serve as a guide for designing media that meets those needs.

Design Phase (Design)

This is the step that follows up on the analysis stage. The following actions are carried out at this stage: (1) determining the material, KI and KD, as well as the learning objectives that will be studied through the media to be developed, (2) creating a storyboard, which is a general design that includes template design, image selection, text, animations, videos, and materials that are presented in accordance with the developed theme. This preparation is carried out in order to meet the research objectives, which include assisting teachers in delivering learning materials and making learning materials easier to grasp for students.

Development

The development stage is when a previously developed design is transformed into a product. (1) creating learning media components such as background (templates), images, animations, videos, text, materials, quizzes, Background, and navigation buttons, (2) creating display designs using Microsoft PowerPoint, and (3) validating experts such as media experts, material experts, and elementary learning experts to determine the feasibility of interactive multimedia developed.

Implementation

It is the application of the product outcomes that have been generated and approved by the validator at this stage of implementation. To assess the feasibility of the learning medium generated, the outcomes of this development product will be tested in SD Negeri Gambiran, Yogyakarta.

RESULTS AND DISCUSSION

The study's findings may be summarized as follows, based on the results of the distribution of questionnaires, interviews, and observations on the creation of interactive multimedia PowerPoint:

Description of Research Results

Analyze (identify the requirement for interactive learning multimedia), Design (design interactive learning multimedia), Development (validation of learning multimedia by experts), and Implementation (testing on students) are the four steps of this project. The following are the findings of the study:

Analyze Stage

The analysis stage includes a study of student needs and characteristics and a study of media needs in SBdP topics using *jumputan* batik material. Pre-research observations, including direct and indirect observations and interviews with instructors and students in class V SD Negeri Gambiran, were used to analyze student needs. According to the findings of observations, students in online learning require interactive media to enable an engaging and inventive learning process.

Design Stage

The product idea is designed during the design stage. Making a storyboard, which is an overview of the media content in general and designing templates and materials, are all examples of design activities. In addition, the preparation that goes into creating media designs. PowerPoint is the application that is required for the creation of this material. A glimpse of the PowerPoint program is shown in Figure 2.

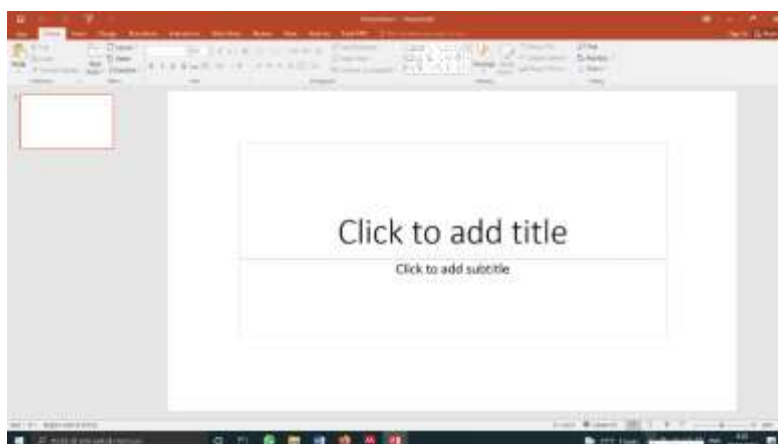


Figure 2. Microsoft PowerPoint View

Development Stage

The Storyboard that has been generated is used to develop interactive multimedia based on PowerPoint. Several tasks must be completed at this point, including typing content, questions, and quizzes and creating graphics, animations, and navigation buttons—the process of making this interactive multimedia using the Microsoft Office PowerPoint program. The media made consists of several components, namely: a design for loading, home menu, introduction, material, games, practice questions, videos, references. The initial design and the revised design are as follows:

Menu loading

Making loading is expected to be an attraction for students; the display is equipped with several animations, while the loading menu display can be seen in Figure 2.



Figure 3. Loading menu design

Home menu

The home menu in PowerPoint learning multimedia is a menu that presents multiple elements or alternatives, such as an introductory menu with basic competencies, core competencies, and learning objectives, followed by content menus, games, practice questions, movies, and references. Figure 3 shows the home menu display before the change. It has not yet been put on the reference menu.

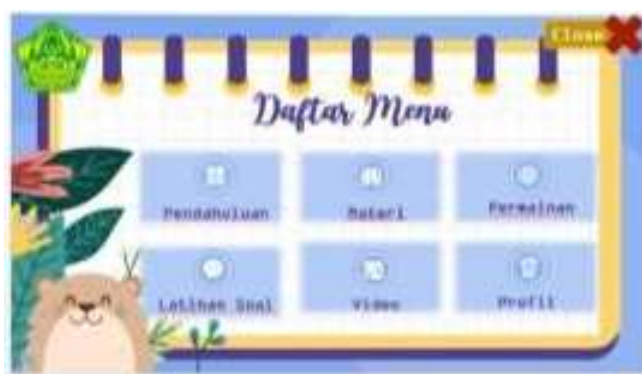


Figure 4. Home menu display before revision

The home menu display that has been revised is that there is an addition of a reference menu, and the profile menu is shifted in position to be on the top right—Figure 5.

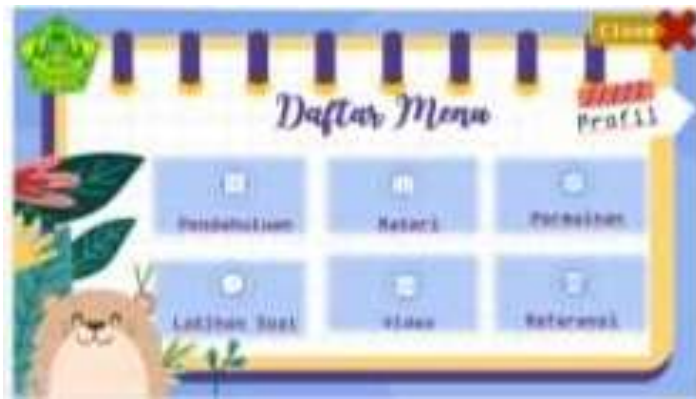


Figure 5. Home menu display after revision

Introduction

The introduction is a menu containing basic competencies and learning objectives that students must achieve in learning activities. The introductory menu display can be seen in Figures 5 (a) and 5 (b).



Figure 5 (a) display of basic competencies; 5 (b) display of learning objectives menu

Material page

The material page is a page in which some materials will be explained in learning media, such as understanding *jumpun* batik, making techniques, how to make. The display of the material page can be seen in Figure 6.



Figure 6. Material page display

Exercise

Practice questions are pages in which there are practice questions to determine the ability of students to *jumpatan* batik material. The practise questions presented in this interactive learning multimedia are in the form of a multiple-choice—display of the practice questions page, as shown in Figure 7.



Figure 7. Display of practice questions page

Game

The game is a menu that includes guesswork; in addition to providing fun, it also sharpens students' memory. Students are asked to guess the picture—game page displayed in the guessing game, as shown in Figure 8.



Figure 8. Game menu display

Videos

On the video menu, there is a video on how to make *jumpatan* batik with a duration of 4 minutes, which can later make it easier for students to make *jumpatan* batik. Video menu display as shown in Figure 9.



Figure 9. Video menu display

Reference

The reference menu is a menu that contains the sources used in making materials or pictures and animations for learning media. The reference menu display can be seen in Figure 10.



Figure 10. Reference menu display

Interactive multimedia development Powerpoint

Interactive multimedia learning is becoming more popular. PowerPoint follows the ADDIE paradigm, which has five stages: analysis, design, development, implementation, and evaluation. However, this development is just at the implementation level. At this level, the analysis stage takes the form of examining student requirements and characteristics, as well as media needs in the SBdP subject matter of *jumputan* batik. Pre-research observations, including direct and indirect observations and interviews with instructors and students in class V SD Negeri Gambiran, were used to analyze student needs. According to the findings of the observations, interactive media is required for students in online learning in order to provide an engaging and innovative learning experience. The product idea is designed during the design stage. Making a storyboard, which is an overview of the media content in general and designing templates and materials, are all examples of design activities. In addition, the preparation that goes into creating media designs. The PowerPoint application is required for the production of this media.

The next level is the interactive multimedia development stage, which is based on the Storyboard that has been established and is done in PowerPoint. Several tasks must be completed at this point, including typing content, questions, and quizzes and creating graphics, animations, and navigation buttons. The Microsoft Office PowerPoint application is used to create interactive multimedia. The media created is made up of numerous elements, including a loading design, a home menu, an introduction, content, games, practice questions, movies, and references. Following the creation stage, the following step is media validation, which professionals carry out in order to obtain feedback and ideas. Expert validation was performed to establish the quality of the product and the practicality of using the media created in this study as a learning medium in schools. Three validators carry out the media validation process. A first validator is a group of media specialists who evaluate media characteristics such as quality and programming. The material expert validator then evaluates the content, while the third validator, a fifth-grade teacher from SD Negeri Gambiran, evaluates the material's applicability and the advantages of the generated medium. The validation findings from the experts were then reviewed; media experts' validation received a score of 70 and an 87.5 per cent percentage with the "Very Good" category, and media experts also gave notes/suggestions for media modification. Furthermore, material experts' validation receives a score of 74 and a percentage of 92.5 per cent in the category "Very Good," with notes/suggestions from material experts as a reference for enhancing the medium. The most recent validation was performed by a fifth-grade teacher at SD Negeri Gambiran, who received a score of 39 and a percentage of 97.5 per cent in the "Very Good" category, along with the notation that the medium was acceptable and fit for usage.

Furthermore, after the created media has gone through the development stage, the results of student reply to interactive multimedia PowerPoint that has been changed based on expert ideas and input, then tested on fifth-grade students at SD Negeri Gambiran are displayed. The study was undertaken to measure students' responses to media-generated using a questionnaire. The questionnaire had four alternative answer choices: 4 (Very Good), 3 Good, 2 (Poor), and 1 (Not at All) (Very Poor). The questionnaire has 13 variables, and the number of respondents is eight SD Negeri Gambiran pupils. With a percentage of 97.5 per cent, the results are excellent. According to the validator's evaluation of media specialists, material experts, and instructors, 87.5 per cent, 92.5 per cent, and 97.5 per cent, respectively. According to the test findings, students' responses to interactive learning multimedia are "very good" with a percentage of 95.19 per cent, indicating that interactive learning multimedia does not need to be altered and is acceptable for use as a learning medium in schools. As a result, it can be argued that interactive learning multimedia may be used effectively.

CONCLUSION

Based on the findings of the study into the design of interactive multimedia learning on SBdP themes for jumpat batik material, it is concluded that; (1) Create interactive multimedia based on PowerPoint jumpat batik material for use as a learning medium at SD Negeri Gambiran; (2) Interactive learning multimedia is suitable for use as a learning medium, according to the results of the assessment of three experts at SD Negeri Gambiran, namely media experts, material experts, and fifth-grade teachers, with percentages of 87.5 per cent, 92.5 per cent, and 97.5 per cent, respectively. With a percentage of 95.19 per cent, and students' responses with a percentage of 95.19 per cent.

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