

Implementation of Android-Based Learning Media in ICT Subject for Grade VII at SMP Negeri 11 OKU

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ABSTRACT

The learning process in schools is often less interesting because the methods used tend to be conventional and less relevant to the learning style of the current digital generation. Therefore, innovative learning media that can support the learning process is needed, one of which is android-based. This research aims to develop android-based learning multimedia in grade VII ICT subjects at SMP Negeri 11 OKU. The research method used is development research with the ADDIE model approach. Based on the several stages of testing carried out, data was obtained of 100% for its appearance or function and data on student responses were obtained of 83.4% with very good criteria. Based on the results of the study, it can be concluded that multimedia learning is feasible and can be used as an alternative media during the learning process. The existence of android-based learning multimedia can motivate students to learn and enable students to learn independently according to their abilities anywhere and anytime.

Keywords: android; learning media; development; ICT.

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1. INTRODUCTION

The learning process in schools is often less interesting because the methods used tend to be conventional and less relevant to the learning styles of today's digital generation [1]. Therefore, innovative learning media that can support the learning process by utilizing technology is needed [2][3], one of which is android-based [4]. Teaching and learning activities can involve technology to package the material to be taught so that the learning process becomes richer and optimal results [5]. The existence of android-based learning multimedia can motivate students to learn and enable students to learn independently according to their abilities anywhere and anytime [6][7].

However, the utilization of these technological advances has not been seen optimally in learning. Based on the phenomenon that occurs during learning in the classroom, especially the ICT subject Class VII at SMP Negeri 11 OKU, the learning process carried out by teachers still focuses on using the lecture method. Many students are bored when studying, either because of the amount of material that must be studied, or because of the less innovative learning media, or the atmosphere that makes the classroom boring [8]. The media used is

book media or presentation media in the form of power points that contain text only without images and videos. In fact, teachers and students already have android-based mobile phones but have not been used to support the learning process. Most teachers and students only use android to open a social network or *game* [9]. Technological advances such as androids should be used in the learning process [10].

Based on the above explanation, there is a need for android-based learning media in Class VII ICT subjects at SMP Negeri 11 OKU. The learning media can be used as a learning medium for students both at school and outside of school and can be used by educators as a learning medium in the teaching and learning process. In addition, with this application, students are directed to make more use of the smartphones they have, not only for communication but also for the realm of education.

Research related to android-based learning has also been carried out before, such as the development of android-based mathematics learning media at SMP Negeri 1 Air Putih [11], Development of Android Application-Based Learning Media on Excretory System Materials for Class XI High School [12], Development Learning Media Based Android for English Subjects [13]. The research that will be carried out is to develop android-based learning multimedia in Class VII ICT subjects at SMP Negeri 11 OKU. The existence of android-based learning multimedia can motivate students to learn and enable students to learn independently according to their abilities anywhere and anytime.

2. RESEARCH METHOD

The methodology used in this study is development research. It is a research oriented to develop and validate products used in education [14][15]. The development of this android-based learning media uses the ADDIE model, which is a model developed from an instructional design model to help build the theoretical foundation of learning design [16][17]. The learning media design model or approach using the ADDIE model consists of several stages, namely:

1. Analysis: the first stage in this research and development is the needs analysis stage by conducting observations at SMP Negeri 11 OKU. In addition, by conducting interviews with teachers of ICT subjects in grade VII to find out how the learning process and media are used during the learning process. The results of this analysis will be a reference in the development of this android-based learning media.
2. Desing: the planning stage is carried out by designing from android-based learning multimedia [18] that will be built such as designing the display of android-based multimedia applications.
3. Development: After the next design stage is the stage for the process of turning the design into a key, meaning that this stage is something that is needed to support the learning process, everything must be prepared [19]. This stage makes a product that is prepared according to the design that has been made in the previous stage, this stage produces an android-based learning multimedia product by combining text, images, animations and sounds.
4. Implementation: This stage tests the product that has been made in terms of the appearance or functionality of the product [18]. Product testing is carried out using the black box testing method. This test aims to ensure whether the application runs well and can be used by users to the maximum [20].
5. Evaluation: the process by which the product developed is successful and in accordance with expectations based on existing needs. If there are things that need to be improved, they need to be identified and then improved. The goal is to produce quality products. Supporting Elements such as Images, Animations [21].

3. RESULTS AND DISCUSSION

The results and discussion in this researcher are based on the findings during the research process of the application of the ADDIE model in the development of android-based learning multimedia in grade VII ICT subjects at SMP Negeri 11 OKU. The discussion of this article is focused on explaining the description of activities in the steps of the ADDIE model, namely:

1. Analysis

Based on the results of interviews conducted together with ICT (Information and Communication Technology) teachers at SMP Negeri 11 OKU, data such as: syllabus and materials taught in grade VII were obtained.

2. Design

The design stage is an overview of the appearance of the learning media to be built. The picture in question is to look at what is done at the analysis stage. The following is the design of the learning media that will be built:

3. Development

After the next design stage is the stage for the process of turning the design into a key, meaning that this stage is something needed to support the learning process, everything must be prepared. Here are the results of the development stages:

a. Home view page

The initial display page contains information to start learning as a first step to enter the learning media



Figure 6. Home view page

b. Main View Page

The main display page contains buttons, such as the Instructions button which functions to provide instructions for using media, the Material button functions to display materials, the Evaluation button functions to work on evaluation questions, the Profile button functions to display the Creator's profile.



Figure 7. Main Menu Page

c. Instruction Page

The instruction page is a display that contains instructions for using media, namely information about the button functions used in this program.



Figure 8. Instruction page

d. Material Page

This material page is a sub-menu of the main menu page. As for the material page in each basic competency, there is a menu to link to the material, as seen in the following figure:

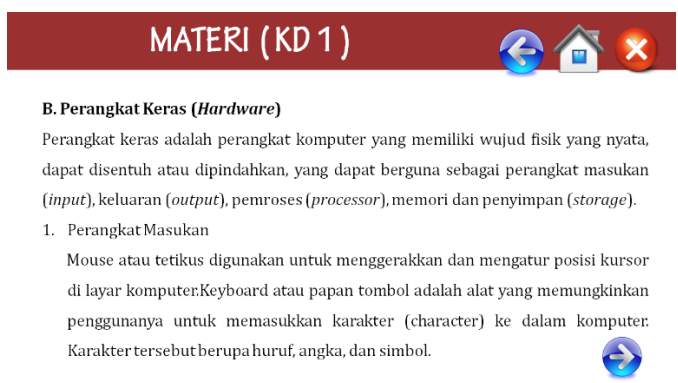


Figure 9. Material Page

e. Evaluation Page

The evaluation page contains multiple-choice questions. On this page, questions will be displayed to find out students' understanding of the material that has been studied.

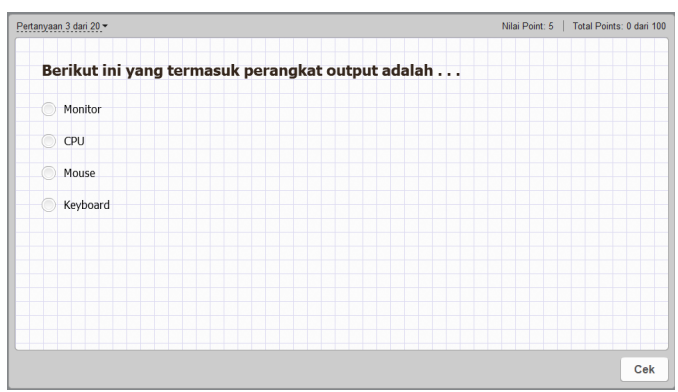


Figure 10. Evaluation Contents Page

4. Implementation

This stage tests the product that has been made in terms of the appearance or functionality of the product. The following are the results of the test on the products that have been built:

Table 1. Product assessment results

Testing Indicators	Validation	
	Yes	Not
1	√	
2	√	
3	√	
4	√	
5	√	
6	√	
7	√	
8	√	
9	√	
10	√	
11	√	
12	√	
13	√	
14	√	
15	√	
16	√	
17	√	

Product testing is carried out using the black box testing method. Based on the results of the black box test, it can be said that all buttons on this learning media application run well as expected with a large percentage of 100%, so it can be concluded that this Android-based learning multimedia is feasible to be used in the learning process.

5. Evaluation

The evaluation stage is the final stage in the implementation of research and development with the ADDIE design. At this stage, a questionnaire was given to students to find out students' responses regarding the use of android-based learning multimedia in grade VII ICT subjects. The recapitulation of the assessment results from the students' answers can be seen in the following table:

Table 2. Student assessment results

No	Criteria	Value	
		Tot	%
1.	The product can be operated easily	415	83,0
2.	The buttons in the product are easy to use and work well	420	84,0
3.	The use of images in the material helps to understand the material well	416	83,2
4.	In-product evaluations help improve your understanding of the material	416	83,2
5.	The attractiveness of the display design used in android-based learning media products	410	82,0
6.	The use of images in android-based learning media products is interesting and in accordance with ICT materials	422	84,4
7.	The use of voice in android-based learning media products in accordance with ICT materials	425	85,0
8.	The use of text types in android-based learning media products in accordance with ICT materials	410	82,0
Sum		3334	83,4

Based on the results of the assessment by students, the total score of 8 instruments is 3334 with an average of 83.4. So the overall percentage of the student assessment questionnaire is 83.4% with the predicate of Very Good.

4. CONCLUSION

The process of developing android-based learning multimedia in grade VII ICT subjects at SMP Negeri 11 OKU was developed using the ADDIE model which consists of the Analysis, Design, Development, Implementation, Evaluation stages. The analysis stage is analyzing the need to determine the right problem and solution. The design stage is to create a product design based on the results of the analysis stage and produce a display design from android-based learning multimedia. The development stage is to make products that are prepared in accordance with the design that has been made in the previous stage, this stage produces learning multimedia products. The implementation stage is to test products that have been made in terms of appearance and functionality. The last stage is evaluation, which is to evaluate whether the product made is feasible and in accordance with expectations based on needs. The results of the trial obtained a score of 83.4% with very good qualifications.

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