



Development of Android-based Learning Media on Nun Sukun and Tanwin Material in Class VII

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ABSTRACT

A datum indicates that students' interest in learning is quite low at MTs Negeri (State Islamic Junior High School) 1 Pohuwato, particularly those in class VII, in the subject of ilmu tajwid (Quranic recitation) in Nun Sukun and Tanwin topic. The research objective is to develop an android-based learning media for the learning of class VII students of MTs Negeri 1 Pohuwato and to determine the validity of development of android-based learning media on the nun sukun and tanwin topic. The research method used is research and development with ADDIE model. The result of feasibility analysis carried out show that the material expert provides a value for feasibility assessment of 92.5% with the "feasible" criteria, from the media expert is 89% with the "feasible" criteria, and in accordance with the results of respondents by 20 students, the percentage is 92.3% with the "feasible" criteria. To conclude, the android-based learning media in nun sukun and tanwin topic that has been developed is feasible to be used in the learning process in class VII in Islamic Religious Education subject at MTs Negeri 1 Pohuwato.

Keywords: *Development of learning media, Research and Development Nun Sukun and Tanwin.*

1. INTRODUCTION

The goal of education is to help students reach their full potential by providing a learning environment and a learning process. The foundation for accurately and fluently reading the Qur'an is the science of tajwid, which also refers to the science of learning how to pronounce the letters. included in the Al-Qur'an, the holy scripture [1]. The Holy Book, or Al-Qur'an, is the primary and oldest source of Islamic doctrine [2]. With the advancement of information technology, particularly computers and cell phones, information can now be shared rapidly [3]. The phenomenon of learning in Indonesia is currently facing global challenges, namely with the existence of information and telecommunications technology (ICT), which shows extraordinary developments in today's world [4]. The Android-based Tajweed science learning application is an application designed to help users learn Tajweed science practically and easily via an Android smartphone [5]. The Android-based Tajweed application is an interesting and not boring learning medium, making it easier for children, especially Muslims, to learn the science of Tajweed [6]. In order to aid students in remembering and comprehending Tajwid and to facilitate learning, this program also includes

audio, visual, and graphics of numbers and letters with the concept of learning while playing [7]. The integration of information technology into education has greatly improved student learning in the classroom [8]. Developing technology-based learning media is not easy, more effort is needed to maximize technology as a learning media [9]. The interactive mobile application allows users to see examples and hear examples of the application being used, making it easier for students to understand the recitation material and be able to repeat it at home at any time [10]. Educational facilities that can be filled quickly, and learning media that can be used when learning is growing, such as modules, transparency overlays, films, videos, slides, web, and hypertext. With this, professional educators are required to be able to choose and be able to use various learning media so that students are more active in learning. So that it found the problems identified during the observation at MTS Negeri 1 Pohuwato with interviews with teachers of the Tajwid Al-Quran subject, that students' interest in learning was less enjoyable when learning took place [11]. In this case students need creative and effective media that can arouse students' learning motivation, so that students can take an active role in responding to learning activities. So, a solution is needed for learning that can cultivate motivation for

students with learning methods that use applications that make the material easy to understand, especially in learning material on nun breadfruit and tanwin so they can read the Qur'an tartil and correctly [12]. To overcome these problems, an android-based learning media development was created using the Research and Development method through the implementation of a procedural model, namely a descriptive model that uses procedural steps or steps that must be followed to produce a particular product.

2. METHOD

2.1. Research design

This research was conducted in the even semester of the 2021/2022 school year, only aimed at Islamic Religious Education subjects in class VII which are located at Mts Negeri 1 Pohuwato.

This type of research was carried out using research and development (R&D) methods. Research and development is a research method used to produce certain products, and test the effectiveness of these products [13]. According to Endang (2011) "Research and development aims to produce new media through the development process". The media that will be produced in this study is in the form of Android-based learning media. This development research design uses the five stages of the ADDIE model (Analysis, Design, Development, Implementation and Evaluation)[14].

2.2. Research data

Data are empirical facts collected for the benefit of solving or answering research questions. Research data can come from various sources collected using various techniques during research activities. The research data used in this study are:

1. Data Type

The data needed in this research is in the form of qualitative data and quantitative data.

2. Data Source

The data source in this study used a research data collection instrument in the form of a questionnaire. The definition of a questionnaire is a data collection technique that is carried out by giving a set of questions or written statements to respondents to answer.

2.3. Data analysis

Data analysis techniques in this study used qualitative and quantitative analysis. The qualitative analysis technique in question is data in the form of input, comments, criticism and suggestions for product improvement obtained from the results of a

questionnaire by material experts, and media experts and students. The qualitative data was analyzed descriptively and then used as input for product revision.

Data to get a large percentage of media eligibility, mathematically the formula for the percentage value of the validation results is used as follows.

$$\text{Percentage} = \frac{\text{average score}}{d \times \text{highest score}} \times 100\%$$

3. RESULTS AND DISCUSSION

The development of android-based learning media on nun breadfruit and tanwin material in class VII MTs Negeri 1 Pohuwato has been carried out through several stages. This chapter will explain in its entirety the results of the research on the development of android-based learning media. The steps in research and development only include the stages of looking at potential and problems, product design, design validation, design revision, and product trials.

3.1. RESULTS

3.1.1. Research result

The development of android-based learning media on nun breadfruit and tanwin material has been carried out through several stages. This chapter will explain the overall results of research on the development of android-based learning media on nun breadfruit and tanwin materials. The steps in research and development include the stages of looking at potentials and problems, data collection, product design, design validation, design revisions, product trials, product revisions, usage trials, product revisions, and mass production. As for this study, the steps according to the ADDIE model were used, namely analysis, design, product development and manufacture, testing, and evaluation [15].

3.1.2. Information gathering results

1. Analysis

At this stage, a needs analysis is carried out to obtain information related to learning media that is in accordance with what students are doing. So that students more easily understand learning.

2. Material Analysis

The first collection of material was obtained from interviews with teachers and students in class VII Mts Negeri 1 Pohuwato. The data obtained, among other things, is that today's class VII Mts children are most active with social media.

The storyboard describes a description of each page in the application, storyboards are made to facilitate the process of making initial design products from Android-based learning media, display, layout, and content determination such as navigation buttons, page layout buttons, text placement, image placement, and other things. loaded in android-based learning media.

3. Development

The development stage is carried out by making Android-based learning media based on the storyboards and flowcharts that have been made.

4. Implementation

Implementation is the stage that is carried out after the Android-based learning media is properly revised, namely implementing it to students using Android-based learning media in learning. Implementation was carried out in class VII MTS Negeri 1 Pohuwato. This stage is carried out to find out how students respond to Android-based learning media that has been developed by giving questionnaires to students. The questionnaire provided consisted of 5 rating scales, namely 5 (Strongly Agree), 4 (Agree), 3 (Quite agree), 2 (Disagree), and 1 (Strongly disagree).

5. Evaluation

Evaluation is the final stage of the ADDIE model development step. Evaluation can be done at any stage of development. This stage evaluates the results of the media feasibility assessment by material experts and media experts. Evaluation of the media can also be done by looking at students' responses to the media that has been developed so that it can be concluded that the media that has been developed is feasible or not to be used.

3.1.3. Design

The first stage carried out to develop Android-based learning media is the design stage. The result of the design stage is to create a flowchart that describes the sequence and structure of the flow of learning media. The flowchart that has been made is then used as a guideline for designing a storyboard so that it can produce a planning design that is in accordance with the structure of the learning media. The following is the flowchart in Figure 1.

3.1.4. Quantitative Analysis

Quantitative analysis techniques in the form of assessment scores on questionnaire sheets for both validators and users with a Likert scale. The Likert scale is used to measure attitudes, opinions, and perceptions of a person or group of people about social phenomena

[13]. For the purposes of quantitative analysis with a Likert scale, it consists of 5 scale options which can be seen in table 1.

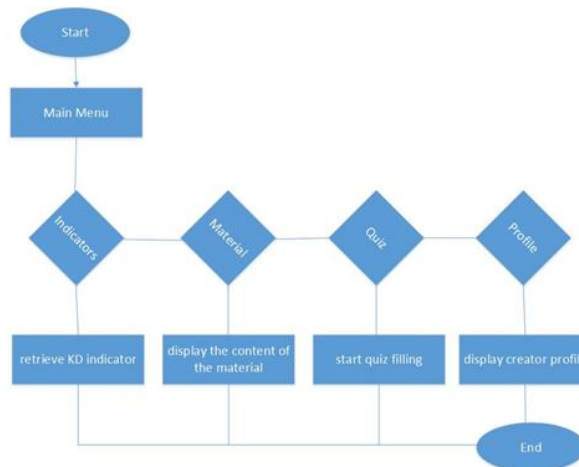


Figure 1 Learning media flowchart design.

Table 1. Measurement Scale.

Answer	Score
Strongly Agree (SS)	5
Agree (S)	4
Doubtful (RR)	3
Don't agree (TS)	2
Strongly Disagree (STS)	1

The feasibility level of product development research results is identified with the presentation score. The greater the presentation of the score on the results of data analysis, the better the feasibility level of the research and development product. Criteria for making decisions in validating android-based learning media can be seen in table 2.

NO	Percentage	Criteria
1.	80% - 100%	Good/Valid
2.	60% - 79.99%	Good Enough/Valid Enough
3.	50% - 59.99%	Less Good / Less Valid
4.	0% - 49.99%	Not Good (replaced)

Table 2. Criteria for eligibility of learning media.

3.1.5. Validation Results

Android application-based learning media on nun breadfruit and tanwin material in class VII Mts students were validated by 2 validators, namely the material expert validator and the media expert validator. In the following, a descriptive qualitative and quantitative descriptive explanation of material expert validators and learning media expert validators of android applications on nun breadfruit and tanwin material is presented.

3.1.5.1. Qualitative Data

Qualitative data analysis on learning media based on android applications on nun breadfruit and tanwin material was carried out with a description of the suggestions from the validator in accordance with the aspects of the application validation instrument. Suggestions from the validators are summarized in table 3.

Table 3 Instrument validation suggestions from validators.

Validators	Input	Repair
Material Expert	Give according to KD in making the application	It's been adjusted
	Indicators are listed as the main part of the menu	The indicator is already listed in the first part of the menu in the application
Media Expert indicator	Add instructions for using quizzes/questions	It's been added
	Add vector characters	It's been added
	Complete the profile by adding study programs and adding the name Copyright.	Copyright and study program have been added

3.1.5.2. Quantitative Data

a. Material Expert Validation Results

The percentage results obtained are then adjusted to the eligibility criteria. The results of the validation of the material validator can be seen in table 4.

Table 4. Validation results from the material validator.

No	Material validators	Observation score	Expected score	Aspect percentage	Validation percentage
1	Learning	9	10	90%	
2	Content material	28	30	93.3%	
Total		37	40	92.5%	91.67%

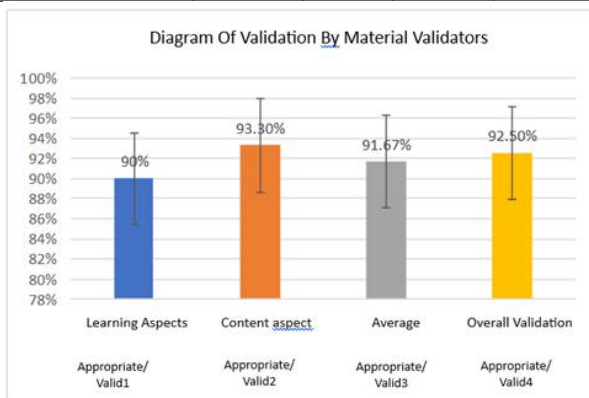


Figure 2 Diagram validation by material validator.

From the table of results of the validator, the feasibility of the android application in the opinion of the material experts reached an average value of 91.67% which indicates the android application is in the "Eligible/Valid" category.

b. Media Expert Validation Results

The percentage results obtained are then adjusted to the eligibility criteria. The validation results from the media validator can be seen in table 5.

Table 5 Validation results from the media validator.

No	Material validators	Observation score	Expected score	Aspect percentage	Validation percentage
1	Appearance	40	45	88.89	
2	Programming	9	10	90.00	
Total		49	55	89.09	89.44
Criteria				Eligible /valid	Eligible /valid

From the table of results of the validation assessment the material validator has received an average value of 89.4% which is categorized as "Eligible/Valid".

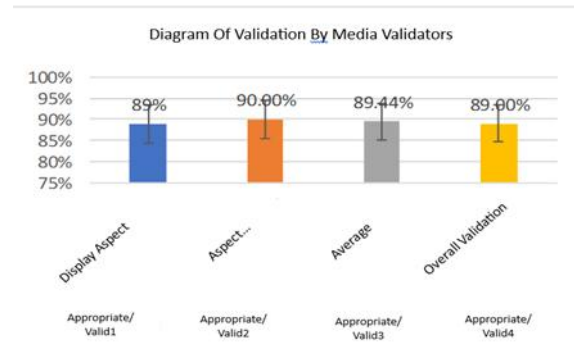


Figure 3 Validation diagram by media validators.

The students' responses to Android-based learning media as a whole can be seen in table 6.

Table 6. Results of practicality of student respondents.

No	Aspect	Observed score	Expected score	Aspect Percentage	Practical Percentage
1	Interest	360	400	90%	
2	Material	282	300	94%	
3	Language	189	200	94.5%	
Total		831	900	92.3%	92.83%
Criteria				Very Practical	Very Practical

Based on the table of practicality results for student respondents, the data obtained from the results of trials

on students, the overall practicality result is 92.3% in the "Very Practical" Criteria. So that overall Android-based learning media does not need to be revised again.

From the data listed in the practicality assessment of the respondents, it can be seen in the form of a bar chart as shown in Figure 4.

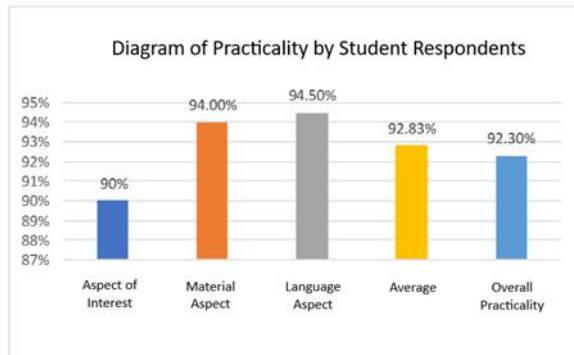


Figure 4 Practicality diagram by respondents.

4. DISCUSSION

The results of the feasibility analysis that has been carried out show that from the material experts obtained a feasibility assessment of 92.5% with the criteria of "Decent", from the Media Expert obtained an assessment of the feasibility of 89% with the criteria of "Easy", and from the results of the Respondents by 20 students obtained a presentation value of 92.3% with "Eligible" criteria. Based on the data listed in the feasibility assessment of all aspects of the assessment, it can be seen in the form of a bar chart as shown in Figure 5.

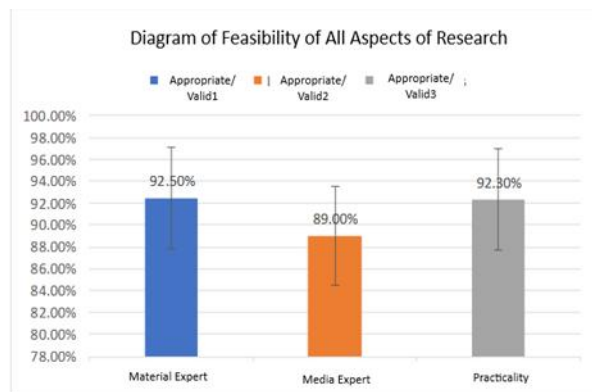


Figure 5 Feasibility diagram for all aspects of research.

Based on the feasibility diagram for all aspects of the research, it can be concluded that the android-based nun breadfruit and tanwin learning media that have been developed are suitable for use in the learning process in class VII in the subject of Islamic Religious Education at MTS Negeri 1 Pohuwato. This result is in accordance with research conducted by Mahisarani et al which stated that the level of practicality of web-based

learning media on the nun mat and tanwin law recitation material has met practical criteria [16].

CONCLUSION

Based on the implementation and results of the tests that have been carried out, it can be concluded that this Android-based learning media is running well according to its function. This learning media runs on an Android-based smartphone which is basically a learning application and has been able to teach terms related to nun breadfruit and tanwin material. Adding interest and knowledge in material on nun breadfruit and tanwin. And most importantly can be a means of learning in teaching activities. Learning Media that has been developed meets the following requirements:

1. Android-based learning media on nun breadfruit and tanwin material are very valid for use in schools, according to the results of the assessment of two experts, namely material experts, media experts, with successive percentages of 92.5% and 89%.
2. The results of students' responses to Android-based learning media on nun breadfruit and tanwin material were "Decent", with a percentage of 92.3%.

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