

## Development of BSM Interactive Multimedia Based on Construct 2 as an English Language Learning Media for Grade 3 MI

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### ABSTRACT

*This study aims to develop learning media in the form of an Android-based English educational game. For the presentation of the material using English subjects for class 3 MI, such as names of vegetables, fruits, animals, and colors. The development of learning media uses software construct 2 as an application for making English educational games. Learning media testing was carried out by 13 students of class 3 MI Mamba'ul Ma'arif. Data was collected by distributing test result questionnaires and response questionnaires. The research method used is the ADDIE method, by applying several stages, namely the first Analysis (analysis), the second Design (design), the third Development (development), the fourth Implementation (implementation), and the fifth Evaluation (evaluation). The results of the feasibility test of the material expert learning media show that it is very feasible by obtaining a value of 4.5. Media experts show it is very feasible with a score of 4.3. And the results of student trials obtained an average test score of 80.7, test 2 of 83.4, and test 3 of 91.1. Based on these results, it can be concluded that the learning media in the form of educational games is very interesting and suitable to be used to help students learn grade 3 MI.*

**Keywords:** Learning Media, Educational Games, Multimedia, Construct 2.

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### INTRODUCTION

The development of technology from year to year has become a challenge for the world of education, one of which is in primary school age education, whether it is SD or MI. Smartphones are an inseparable need in the daily life of children (Widya et al, 2021). There are many things they can do when accessing a smartphone, from watching YouTube, playing games, studying, and so on. However, many children are now more familiar with the game. The survey results as many as 79 percent of parents gave permission to their children to use gadgets for activities other than online learning. Meanwhile, only 21 percent of parents prohibit their children from using gadgets other than for online learning (Ferdin, dkk., 2018).

Currently, there are many games available that can be used for children's learning, one of which is educational games. Educational games themselves can be said as interactive learning media because this educational game does not only present games but also the learning process (Putra et al., 2021). Educational games are one type of media used to provide teaching, increase the knowledge of users through a unique and interesting medium (Fadil, dkk., 2020). Currently, educational games are gradually being used as learning media tools in the world of education that can be used as benchmarks to produce more effective and efficient learning methods (Ida, dkk., 2019).

English is so important because English has become one of the international languages where almost the entire world population uses English as a means of communication (Irsyadi, dkk, 2019). There are also inhibiting aspects for learning English, namely limited time to study, irrelevant learning methods, lack of attention from parents, playing more than studying, lack of reading, and others.

## METHOD

The method used is research and development (Ayu, & Ketut, 2020)., using the ADDIE model approach. The product resulting from this research is in the form of a learning media, namely an educational game, with English material for class 3 MI. To be able to produce a product that is effective for the learning motivation of grade 3 students, research and development methods are used to obtain information related to the product to be studied, so that it can function properly.

## RESULT AND DISCUSSION

### Result

- **Validation Results**

At this stage the researcher will explain the assessment related to learning media in the form of educational games. Starting from the results of assessments from experts in both media and materials, student media test results, and student questionnaire results.

**Table 1.** Material Expert Validation Test Results

No	Assessment Aspect	Material Expert Score	Total Score of Each Aspect	Number of Indicators
1.	Learning Design	4	13	10
		4		
		5		
2.	Appearance	5	14	
		5		
		4		
3.	Material	4	8	
		4		
4.	Content	5	10	
		5		
<b>Total score</b>			<b>45</b>	<b>10</b>
<b>Validation Result Assessment</b>			<b>4,5</b>	
<b>Validity Criteria</b>			<b>Very Valid</b>	

Based on table 1 of the assessment of the material experts above, it can be obtained that all aspects of the assessment obtained a value of 5.0, which is included in the criteria for the validity guidelines in the very valid category. So overall the material in English learning media for beginners is valid and suitable to be used as learning media.

**Table 2.** Media Expert Validation Test Results

No	Assessment Aspect	Media Expert Score	Total Score of Each Aspect	Number of Indicators
1.	Design	5	18	11
		5		
		4		
		4		
2.	Visual	4	13	
		5		
		4		
3.	Audio	3	7	
		4		
4.	Feature	5	10	
		5		
<b>Total score</b>			<b>48</b>	<b>11</b>
<b>Validation Result Assessment</b>			<b>4,3</b>	
<b>Validity Criteria</b>			<b>Very Valid</b>	

Based on table 2 of the assessment of the media experts above, it can be obtained that all aspects of the assessment obtained a value of 4.3, which is included in the criteria for the validity guidelines in the

very valid category. So overall the material in English learning media for beginners is valid and suitable to be used as learning media.

• **Student Media Test Results**

**Table 3.** Student Knowledge Results

No. Student	Test Results 1	Test Results 2	Test Results 3
Student 1	80	75	95
Student 2	75	70	100
Student 3	70	80	100
Student 4	60	85	90
Student 5	95	85	90
Student 6	80	95	90
Student 7	100	90	100
Student 8	100	100	100
Student 9	65	70	70
Student 10	80	85	100
Student 11	90	90	95
Student 12	70	95	75
Student 13	85	75	80
<b>Total score</b>	<b>1050</b>	<b>1085</b>	<b>1185</b>
<b>Percentage</b>	<b>80,7</b>	<b>83,4</b>	<b>91,1</b>
<b>Criteria</b>	<b>Well</b>	<b>Very Good</b>	<b>Very Good</b>

Based on Table 3 of student knowledge, it can be obtained results from all aspects of assessment based on test 1, test 2, and test 3. It can be concluded that after the application of learning media students have an increase in understanding and can obtain a percentage of test 1 results of 80.7 while in test 2 is 83.4 and test 3 is 91.1.

• **Student Questionnaire Results**

**Table 4.** Results of the Student Learning Media Assessment Questionnaire

No	Question	Yes	Currently	No
1.	Does this learning media make learning English interesting and fun?	10	3	0
2.	Does this learning media make learning English easy to understand?	10	3	0
3.	Is this learning media in accordance with what I can in class?	13	0	0
4.	Does this learning media make me add basic knowledge related to English lessons?	7	6	0
5.	Are you motivated to learn English?	6	7	0
6.	Is the appearance of this teaching media interesting?	10	3	0
7.	Can character design help you in learning?	11	2	0
8.	Is the gameplay presented interesting?	9	4	0
<b>Total Score Of Each Aspect</b>		<b>67</b>	<b>24</b>	<b>0</b>
<b>Total Skor</b>		<b>91</b>		
<b>Rating Percentage</b>		<b>87,5</b>		
<b>Criteria</b>		<b>Very Good</b>		

Based on Table 4 of the questionnaire for assessing student learning media, it can be seen that the results of the questionnaire given to students related to learning media from the aspect of questions based on the effectiveness of the learning media. It can be concluded that after the application of learning media students get an assessment percentage of 87.5.

$$\begin{aligned} \sum \text{Criteria score} &= \text{maximum score} \times \text{number of question items} \times \text{number of respondents} \\ &= 1 \times 8 \times 13 = 104 \end{aligned}$$

$$\begin{aligned} \text{Percentage of student assessment} &= \frac{\sum \text{answer}}{\sum \text{Criteria score}} \times 100\% \\ &= \frac{91}{104} \times 100\% = 87,5 \end{aligned}$$

## Discussion

At this stage, researchers begin the process of translating or developing learning media in the form of educational games, for the process of course following the ADDIE model. using the following steps.

- **Analysis (analysis)**

- **Needs analysis**

Before carrying out the design of learning media development, it is necessary to have an analysis. The following is the analysis required, as follows.

- **Problem analysis**

This stage analyzes the problems that arise during the learning process at school, based on a questionnaire questionnaire and an interview with the supporting teacher, the conclusions of the problem analysis are as follows.

First, learning is done conventionally with the lecture method and students do practice questions. Second, students are less enthusiastic or pay less attention when the teacher explains in class. Third, there is no interesting media available, so students get bored quickly.

- **Media analysis**

In the preparation of the development of learning media, it is necessary to have a media. At this stage, the researcher decided to develop media in the form of educational games, in which the manufacturing process used software construct 2 as an application for making games and an Android smartphone as hardware that would be used as a trial of educational games.

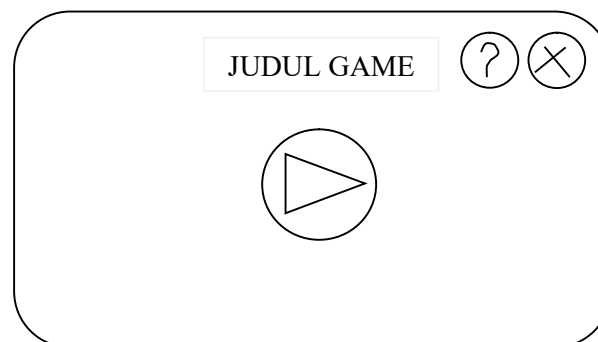
- **Design (design)**

At the design stage, the researcher will design starting from the concept, flow, and asset creation. More details as follows.

- **Concept or idea**

At this stage the researcher determines the concept or idea of the teaching media that will be made. At this stage the researcher also determines the design of the learning media. The concept or idea that will be created is in the form of an English educational game. Here is a mockup or interface design of an English educational game.

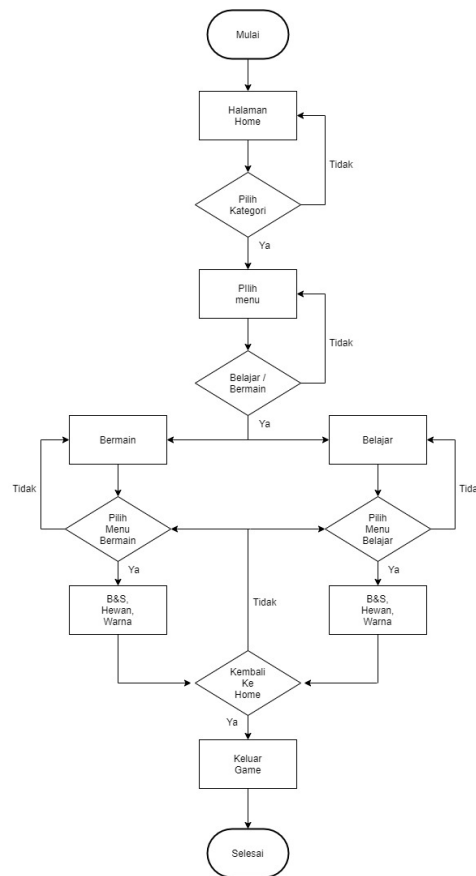
In Figure 1 is the home page contained in the BSM game. On the home page there are 3 buttons, namely: Play button, About button, and Exit button. An example of Figure 1 is as follows.



**Figure 1** Home Page

- **Design of learning media flow**

At this stage the researcher determines the flow of the learning media or can be called a flowchart to be made, such as how the flow or the course of a game will be made.



**Figure 2.** Learning media flowchart

- **Asset creation**

At this stage the researcher determines the creation of assets needed for the development of game media. We can make assets ourselves through applications, such as adobe photoshop, coreldraw, adobe illustrator, etc. We can also take advantage of free assets on the internet for gaming needs.

- **Development (development)**

At the development stage, the researcher begins the process of making or translating, from the results at the design stage and conducting the validation process to experts, both media and materials. More details as follows.

- **Home Page Display**

In Figure 1 is the home page contained in the BSM game. On the home page there are 3 buttons, namely: The Play button functions to start the game. The About button is used to view information about the game's creator. The Exit button is used to exit the game. The display after going through the revision of the experts is as follows.



**Figure 3.** Home Page Display

- **About Page View**

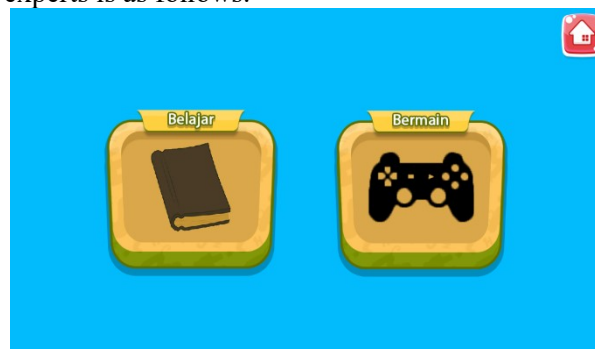
In Figure 2 is a page about the BSM game. In the about page there is 1 button, namely: the exit button functions to return to the home page. The display after going through the revision of the experts is as follows.



**Figure 4.** About Page View

- **Category Page View**

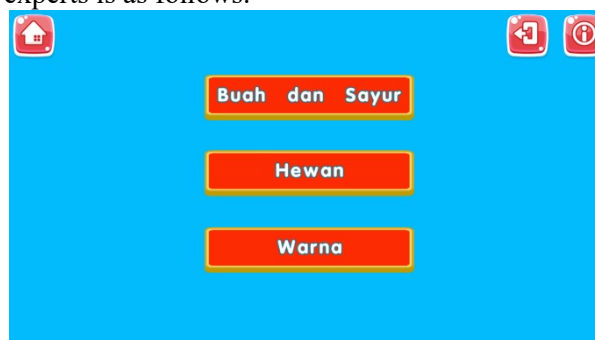
In Figure 3 is the category page contained in the BSM game. In the category page there are 3 buttons, namely: The home button functions to return to the home page. The klearning button serves to go to the study list page. The ktbermain button serves to go to the play list page. The display after going through the revision of the experts is as follows.



**Figure 5.** Category Page View

- **Learn and Play List Page Display**

In Figure 4 is the list page for learning and playing contained in the BSM game. In the learning and playing list page there are 6 buttons, namely: The info button functions to see how to learn and play. The back button is used to go to the category page. The home button is used to go to the home page. The fruit and vegetable material/question button functions to go to the fruit and vegetable material/question page. The material/animal question button serves to go to the animal material/question page. The material / color question button functions to go to the material / color question page. The display after going through the revision of the experts is as follows.



**Figure 6.** Learn and Play List Page Display

- **Learn and Play Info Page Display**

In Figure 5 is an information page on how to learn and play contained in the BSM game. In the information page there is 1 button, namely: the exit button functions to return to the list page. The display after going through the revision of the experts is as follows.



Figure 7. Learn and Play Info Page Display

- **Study Page View**

In Figure 6 is the learning page contained in the BSM game. In the study page there are 4 buttons, namely: The home button functions to go to the home page. The back button is used to go to the list page. The left and right buttons are used to view the material after and before. The red button serves to listen to the material. Display of one of the learning list menus. The display after going through the revision of the experts is as follows.



Figure 8. Study Page View

- **Guessing Game Page View**

Figure 7 is a guessing game menu in the BSM game. In the game menu there are 2 buttons, namely the red button serves to select the answer. The pause button functions to stop the game, in the pause button there are 2 buttons, namely: The continue button functions to continue the game. The main menu button is used to go to the home page. Display of one of the play list menus. The display after going through the revision of the experts is as follows.



Figure 9. Guessing Game Page View

- **Score Page View**

In Figure 8 is the score page contained in the BSM game. In the score page there are 3 buttons, namely: The home button functions to go to the home page. The back button is used to go to the category page. The repeat button is used to repeat the game. The display after going through the revision of the experts is as follows.



**Figure 10.** Score Page View

- **Implementation**

This stage, after the learning media is declared feasible by the experts and the researchers have finished making revisions according to suggestions from experts, both media experts and material experts. Next is the process of testing learning media in the form of educational games. The test was carried out on 3rd grade students of MI Mamba'ul Ma'arif, each student will take 3 tests from each menu, namely fruits and vegetables, animals, and colors. After completion, students who are accompanied by their parents will fill out an assessment questionnaire related to learning media.

- **Evaluation (evaluation)**

At this stage, after the learning media has passed the trial stage, an analysis will be carried out. The analysis here is related to input from students who are accompanied by parents and supporting teachers who fill out assessment questionnaires from learning media. Next is the revision process carried out by the researcher in accordance with the assessment questionnaire.

## CONCLUSION

The research method used is the ADDIE method. The process of developing this learning media goes through several stages, namely the first stage of analysis (analysis) explaining the needs of students, student problems when learning takes place, and problems in the subject itself. The second stage of design (design) describes the interface design or story broad, game flow, game concepts or ideas, research or visual analysis, and game assets from the learning media that will be created. the third stage of development (development) of the translation process or the manufacture of learning media that have been designed previously. the fourth stage of implementation (implementation) process where the learning media will be tested to students and the distribution of response questionnaires regarding learning media in the form of educational games. and the fifth stage of evaluation (evaluation) process of analysis and revision of learning media after the trial.

The service of learning media in the form of educational games can be seen as follows. a. the assessment of the material expert received a score of 4.5 and was categorized as very feasible. b. the assessment of the media expert got a score of 4.3 and was categorized as very feasible. c. the results of the student media test concluded that the test results of grade 3 students obtained an average test score of 80.7, test 2 of 83.4, and test 3 of 91.1.

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