



## **DEVELOPMENT OF RABBIT GOALS GAME TO INCREASE STUDENT MOTIVATION IN THEMATIC LEARNING AT PRIMARY SCHOOL**

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### **Abstract**

*Playing is an activity that cannot be separated in children's lives. Children's preference for playing needs attention so that the games they do support their competence. Especially with the development of technology in the era of the Industrial Revolution 4.0, it has changed the pattern of conventional games into digital-based games. So it is necessary to develop educational games that can meet the needs of children in playing and learning. The purpose of this study was to develop an educational game for thematic subjects called rabbit goals and to find out the impact of using this game on children's learning motivation. This research was conducted at MI Barokah At-Taahdzib for 2nd grade students. The results of this development are in the form of a game that contains thematic material and displays for 2nd grade students. The impact of using this educational game includes increasing student motivation, increasing student accuracy, improve students' ability in arithmetic operations, and build independent learning in students, because according to students learning by using rabbits is the goal to be more exciting and fun.*

**Keywords:** *rabbit goal, thematic, elementary school*

## **1. INTRODUCING**

Playing is a necessity as well as the most enjoyable activity for every child [1], [2]. Even when they don't have a game they will find a way to keep playing. There is no difference between colonial and millennial generation children in terms of their fondness for playing. But what gradually continues to change is the type of game they enjoy.

In the period before the development of technology, children preferred to play outside the house, playing with their friends, such as playing stilts, hide and seek, marbles, kites, gobak sodor and so on. After technology quickly developed and spread to all circles of society, the social culture of the community gradually underwent changes, including in terms of playing. Currently, it is rare to find a group of children playing traditional games, because most of them have now switched to games that use gadgets [3].

Millennial children prefer to play using gadgets because they are very practical, simply connected to the internet network, so children can easily access various kinds of toys on offer, ranging from educational games to less educative games for children [4]. This condition must be responded to by the implementation of education. Especially when MI/SD implements thematic learning of the 2013 curriculum. Theoretically, thematic learning is a learning concept by combining several subjects in a contextual theme [5]. Integrated thematic learning can also be understood as a form of learning that combines basic competencies and indicators from several subjects [6], [7].

Thematic learning is based on three philosophical schools, namely (1) progressivism, (2) constructivism, (3) humanism. The essence of the three philosophical schools is that learning is delivered contextually, holistically, and fun [8]. Students should be more enthusiastic and active in learning so that the learning carried out becomes meaningful.

Especially during a pandemic, where learning is carried out online, of course, the intensity of students in operating devices becomes more frequent. This will have a positive impact if the content that is accessed by students is educational content, one of which is educational games. Based on the results of observations at MI Al-Barokah Kras Kediri, the thematic learning that has been carried out has not made students enthusiastic and active in learning. This has an impact on student learning outcomes that are less than optimal.

Therefore, there is a need for innovation in the implementation of thematic learning, one of which is through the development of application games. As previous research conducted by [9] showed that educational games can stimulate thinking power and increase students' concentration. Similar research was also conducted by [10], who developed an educational game about recognizing animal names and their habitats in 3 languages. Almost the same as the game that will be developed by researchers, the difference is that if the game is used for language learning competencies, the game that will be developed by researchers is in thematic learning, which is then called rabbit goals.

Rabbit Goals is an educational game that contains thematic and multiplication learning materials. Choose the name



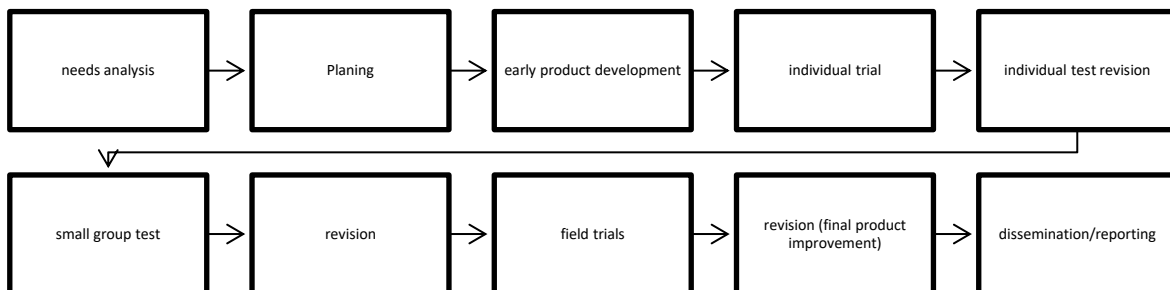
rabbit, because most children like rabbits. In this game the child must complete the questions that arise so that the rabbit can get to its destination. So with the animation, students feel they are playing, not just learning. Thus learning will be more fun and meaningful. Based on all the explanations that the researchers have described above, research on the development of Rabbit Goals media in thematic learning is very important to do.

The formulation of the problem in this study includes:

- a. How is the process of developing the Rabbit Goals application game in the 2013 curriculum integrated thematic learning for grade 2 MI students during the pandemic?
- b. How is the feasibility of the Rabbit Goals application game in the 2013 curriculum integrated thematic learning for 2nd grade MI students during the pandemic?
- c. What is the impact of using the Rabbit Goals application game on integrated thematic learning of the 2013 curriculum for grade 2 MI students during the pandemic?

## 2. RESEARCH METHODS

This study uses a Research and Development (R&D) approach. R&D aims to produce products and test the effectiveness of these products [11]. In developing a good system, the researcher uses the Borg and Gall research stages, with the following steps:



**Figur 1.** Research Development Procedure

There are several stages in the development of the Rabbit Goals application game, including:

**a. Analysis**

The analysis was done by collecting data with literature study techniques, interviews, observations, and questionnaires. Literature study is used to collect data on product requirements to be developed. Interviews are used to collect data on product requirements that will be developed in the Rabbit Goals application game. Observation is used to collect data by engaging in the research field. Questionnaires were used to determine the implications of the product, students' interest in the product, and the effectiveness of the product in helping students learn.

**b. Design**

This study uses a checklist formular instrument and a validation sheet. The validation sheet in this study was used by researchers as a data collection tool regarding the feasibility of the developed media product. The purpose of this validation sheet is to get a score from the experts on the game that has been developed. The assessment obtained is used as the basis for the validity of the game that has been developed. In this study, the validation sheet was compiled based on the criteria for the assessment of the material grid and learning media. The following is a validation sheet from the material and media aspects:

**Table 1.** Material Expert Validation Sheet

No.	Assessed Criteria
1.	Compatibility of questions with KI and KD Thematic Learning for grade 2
2.	The questions in the Rabbit Goal Game are relevant to the material



3. The questions are in accordance with the learning indicators
4. The suitability of the questions with the learning objectives
5. The suitability of the questions according to the grade level in the semester achieved
6. There is only one correct answer
7. The suitability of the content of the learning description with the characteristics of scientific learning
8. The level of difficulty of proportional questions (easy, medium, difficult)
9. The editor of the question does not have a double meaning
10. The material presented in the game is able to stimulate students' curiosity
11. The questions developed are presented in a coherent manner
12. The questions compiled cover all subjects

**Table 2.** Media Expert Validation Sheet

No.	Assessed Criteria
1.	Accuracy of font size (can be read clearly)
2.	The accuracy of the selection of fonts (can be read clearly)
3.	The composition of the text color against the background color (background)
4.	The narrative displayed is easy to understand (clear)
5.	Games made easy to operate
6.	Materials in android-based learning media are presented systematically
7.	Using words, terms, and sentences consistently
8.	Use a consistent layout
9.	Easy to understand button layout and text
10.	Navigation to access the page presented is effectively used
11.	Effective entry and exit function
12.	Navigation function to menu options is effective

The data analysis used in this research is the percentage data analysis technique. To calculate the percentage of answers using the following formula equation:

$$P = \frac{\sum x}{N} \times 100\% \tag{1}$$

Description:

P : Percentage of Eligibility from media experts and material experts

$\sum x$ : total score of each criterion

N : the highest number of criteria scores

From the results of these calculations, a decision was then taken to revise with reference to the following percentage table [12]:

**Table 3.** Media Eligibility Criteria

Percentage	Feasibility Criteria
< 21%	Very Inappropriate
21% – 40%	Not Eligible
41% – 60%	Fairly Eligible
61% – 80%	Eligible
81% – 100%	Very Eligible

### 3. RESULTS AND DISCUSSIONS

#### a. *Game Rabbit Goals*

*Games*The educational game developed and used in this study was named Rabbit Goals, which is an educational game that contains interactive games with thematic material content as a development reference. The theme used is theme 1 which is Living in harmony and theme 2 is Playing in My Environment. The two themes are



thematic learning themes for grade 2 students. In addition, the Rabbit Goals game is also equipped with multiplication questions, as one of the competencies in mathematics.

*Grand Design* from the game Rabbit Goals is there is a rabbit who wants to get carrots. But to get the carrot he had to complete several challenges so that his mission/goal was achieved. Rabbit goals game is made using the scratch application, and several supporting software such as coreldraw and canva. This game product is in the form of a website-based application that can be shared easily through various media, and run on a PC or laptop device.



**Picture 1.** Rabbit Goals Game Initial View

Figure 1 is the initial page of the game rabbit goals when the game starts. In this initial view, there is a game logo consisting of the words rabbit goals and a picture of a rabbit, and there is a play button that is used to start the game. When the play button is clicked, a menu page will appear, where players can choose the type of game they want. and the play button, as shown in figure 2.



**Picture 2.** Rabbit Goal Game Menu Page

Figure 2 is a menu page where players can choose the type of game they want. On this page, players have 2 types of choices, namely games related to thematic learning materials, or games about multiplication. When the player clicks on the thematic game menu, several questions about thematic learning material will appear (picture 3) and if what is clicked is the multiplication button, several questions will appear about multiplication counting operations (figure 4).



**Picture 3.** Thematic Games

Figure 3 is a thematic game display. In this thematic game, there are two levels of play that students must complete in order for the rabbit to get carrots. At the first level, there are 13 questions from theme 1 (live in harmony) with various types of questions, including multiple choice, true false, and short answers. Of the 13 questions, if the student succeeds in answering 10 questions with the correct answer, the rabbit will jump on the big rock in front of him and get closer to the carrot that he will get. At this second level, there are 10 questions from theme 2 (playing in my environment). To be able to complete level 2 players must be able to answer 9 questions with the correct answer.



**Picture 4. Multiplication Games**

Figure 4 is the game display when the player selects the multiplication menu. The instructions given by the rabbit is how many  $axb$ . So to answer this, students need to see the numbers that appear in variables  $a$  and  $b$ . The numbers that appear on the two variables are in the range 1-10. This is adjusted to the content of the multiplication material for grade 2 elementary school students. In this multiplication game, it can be repeated, as many times as the player wants. But when it reaches 10 questions, the score will change to 0, which means that the multiplication game starts from the beginning again.



**b. Product Validation**

Before being tested in the field, it is necessary to validate the developed media[13]. Validation is an activity to collect data or information from experts in their field (validators) to determine whether or not the media being developed is valid. The purpose of validation is to determine the level of feasibility / quality of the application game developed [14]before the media is used in general. The results of this activity are input for the improvement of the Rabbit Goal application game.

Product validation was carried out by 2 validators consisting of 1 Tulungagung University lecturer and 1 Class 2 MI Barokah teacher. Validation data is obtained from an assessment questionnaire given by the validator. In addition to providing an assessment, the validator also provides criticism and suggestions for product development at the end of the questionnaire.

The material expert in this study is a grade 2 teacher at MI Barokah and the media expert is an IT expert from Tulungagung University. The selection of material expert validators is based on the consideration that the classroom teacher knows more about the competencies and learning objectives to be achieved, so that the expectations listed in the Rabbit Goals game are in accordance with these competencies and goals. While the selection of media expert validators is based on the consideration that IT experts, especially in this case developing a program, will better know the suitability of the design and coding system used.

The instruments used in this research are check list forms and validation sheets. The validation sheet in this study was used by researchers as a data collection tool regarding the feasibility of the developed media product. The purpose of this validation sheet is to get value from the experts on the media that has been developed. The assessment obtained is used as the basis for the validity of the media that has been developed. In this study, the validation sheet was prepared based on the criteria for assessing the material and learning media. The instrument grid validation sheet is as follows:

The following are the validation results from material experts:

**Table 1** Validation Results for Material Expert

No.	Assessed Criteria	Score
1.	Compatibility of questions with KI and KD Thematic Learning for grade 2	4
2.	The questions in the Rabbit Goal Game are relevant to the material	4
3.	The questions are in accordance with the learning indicators	3
4.	The suitability of the questions with the learning objectives	5
5.	The suitability of the questions according to the grade level in the semester achieved	4
6.	There is only one correct answer	5
7.	The suitability of the content of the learning description with the characteristics of scientific learning	4
8.	The level of difficulty of proportional questions (easy, medium, difficult)	4
9.	The editor of the question does not have a double meaning	4
10.	The material presented in the game is able to stimulate students' curiosity	4
11.	The questions developed are presented in a coherent manner	5
12.	The questions compiled cover all subjects	4
<b>Total</b>		<b>50</b>

Following are the validation results from media experts:

**Table 2** Validation Results Media Expert

No.	Assessed Criteria	Score
1.	Accuracy of font size (can be read clearly)	5
2.	The accuracy of the selection of fonts (can be read clearly)	5
3.	The composition of the text color against the background color (background)	4
4.	The narrative displayed is easy to understand (clear)	4
5.	Gamesmade easy to operate	5
6.	Materials in android-based learning media are presented	4



	systematically	
7.	Using words, terms, and sentences consistently	4
8.	Use a consistent layout	5
9.	Easy to understand button layout and text	4
10.	Navigation to access the page presented is effectively used	4
11.	Effective entry and exit function	4
12.	Navigation function to menu options is effective	4
<b>TOTAL</b>		<b>52</b>

The table shows that the results of the assessment of material experts are 83.33%. Meanwhile, from the validation of media experts, a total of 86.67% was obtained. This shows that the Rabbit Goals educational game from the material aspect meets the eligibility criteria as a learning medium. From the aspect of media design, Rabbit Goals game also meets the eligibility criteria for learning media.

After being validated, this game was then tested on a small group. The product trial aims to collect data that can be used as a basis for making improvements in order to achieve the maximum level of validity and feasibility[15]. This trial was conducted on 5 students who were in grade 2. The five students were selected randomly, there were no certain criteria.

### c. Testing Against Students

Testing the game rabbit goals on students was done by using observation and interview methods. The aim is to find out whether this game is easy to operate by students and has a positive impact on the competency development of grade 2 madrasah ibtidiyah students. This game was tested on 23 grade 2 students of MI Barokah At-Tahdzib located in Kediri, East Java.

Based on the observations, it was found that students were very interested in playing the game. With a little instruction from the researcher, students can operate the game rabbit goals well. Of the 21 students who played this game, there were no students who had difficulty playing the game. This shows that the rabbit goals game is easy to use by grade 2 students.

*Rabbit goals game* It has several positive impacts on students, including:

1. Increase students' learning motivation on thematic subjects. The use of rabbit goals game makes students happy when invited to solve problems, even when they can't do it they don't give up, and try to find out the answer to the question. This is reinforced by students' statements that playing with the rabbit goal game is very exciting and fun. This is in line with research conducted by [15], [16], that interesting learning media will be able to increase student motivation.
2. Improve students' accuracy. Rabbit goals game consists of several types of questions, including multiple choice, true false, and short answers. So that students must be able to type answers according to the types of questions that arise. For example, when students know the answer to the question of the symbol of Indonesia being the eagle, then they must be able to write down the answer completely and carefully, because if only one letter is missed, the answer will be considered wrong.
3. Improve students' ability in multiplication counting operations. Multiplication exercises presented in the form of games encourage students to be able to calculate multiplication operations correctly. The existence of music that sent the game made students not get bored quickly in answering the existing multiplication questions.
4. Build student independence in learning. Media design in the form of games can stimulate students to want to learn independently. As, the results of observations in class, without being accompanied by a teacher, students were able to independently solve the questions, even the students scrambled to repeat playing the Rabbit Goals game. In other words, the use of media/games in learning is able to train students' independence in learning [17].

## 4. CONCLUSION

Based on the description above, the Rabbit Goals game is suitable to be used as an alternative learning media that can be accessed independently by students, so that it really supports students in learning both in class and at home. The use of rabbit goals game in thematic learning has a positive impact on students. The impacts include being able to increase students' learning motivation, increase student accuracy, increase students' ability in multiplication arithmetic operations, and build independent learning in students.

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