

CHAPTER III

METHODOLOGY OF RESEARCH

A. Research Design

This study focused on developing spinning wheel media in learning English vocabulary. The research design is Research and Development (R&D). Research and development are development model in which findings of research are used to design new products.²⁶ Research and development is a research method used to produce a product and test the feasibility of a product.²⁷ In addition, research and development is a systematic review to develop and validate products that are carried out in a study.²⁸

Before the product is produced, the researcher conducts a survey first, the survey conducted was a field survey. To get the product, analysis is used in accordance with the needs. In this research, the development of spinning wheel learning media that is board-based media, namely the spinning wheel learning media.

²⁶ Joyce P. Gall Meredith D. Gall and Walter R. Borg, "Educational Research An Introduction Seventh Edition" (New York, London: Longman, 2003), 569.

²⁷ Sugiyono, "Metode Penelitian Kuantitatif, Kualitatif Dan R&D," (Bandung: Alfabeta, 2013), 297.

²⁸ Muhammad Aswar Ahmad, "Metodologi Penelitian" (Makassar: Gunadarma Ilmu, 2018), 154.

B. Research and Development Procedure

Borg and Gall describes ten steps of carrying out research and development include potentials and problems, data collection, product design, design validation, design revision, product trial, product revisions, trial use, product revisions, and final products.²⁹ The research procedure carried out by the researcher in this development was adapted from the development steps by Borg and Gall with restrictions. Borg and Gall in Emzir stated that it is possible to limit research on a small scale, including limiting the steps of research. However, it is deemed to have fulfilled the core of development research. Research of development steps tailored to the needs of the researcher.³⁰ Given the limited time and funds owned by researchers, these steps are simplified into six development steps.

1. Need Analysis

The first step is need analysis, in this stage the researcher finds out the students need. To get the information what the students need, the researcher collected the information that carried out at MTs Ashabul Maimanah Sidayu by making observation and interview to the English teacher. Based on the observation that at the beginning of the covid-19

²⁹ Joyce P. Gall Meredith D. Gall and Walter R. Borg, "Educational Research An Introduction Seventh Edition", 571.

³⁰ Shinta Julia Citra, "Development of Interactive Multimedia with Macromedia Flash Material Nature of Building a Simple Space for Students," *Journal of Simki Pedagogia*, Vol. I, No. 8, (2017), 2.

pandemic, the learning process was carried out online and for learning the class took turns one week divided into two classes. Even at that time the students were divided into several groups and then the teacher came to the students' homes to do the learning. However, slowly the pandemic has begun to decline and the learning process in schools is currently full face-to-face.

Learning resources used were textbooks and student worksheets. Then, in the learning process the teacher rarely used learning media because there were no learning media in the school. For example, in vocabulary, the teacher only mentions and gives examples by showing objects in the classroom or around the school. The teaching technique used by the teacher was conventional method.

In observation and interview conducted to the English teacher at MTs Ashabul Maimanah Sidayu, the results obtained were the unavailability of learning media for appropriate and interesting vocabulary to use. The results of observation in the process of learning indicated that understanding of vocabulary was still difficult and the teacher conveyed that learning had not used learning media.

Based on the results of observation and interview, the researcher provided new learning innovation by developing spinning wheel media in learning English vocabulary in order to be interesting and fun learning. The existence of learning media using the spinning wheel

media is expected to help students in mastering English vocabulary. In addition, it can help the teachers in providing material so that students achieve better grades. The researcher hope that the spinning wheel media can provide a learning medium that teacher can use in learning English vocabulary and can make it easier for the teacher to teach an interesting way.

2. Product Development

In this step, the researcher prepared tools and materials to make products in the form of learning media tools for the spinning wheel. This product development is in the form of objects (hardware). In this step, the product produced is in the form of learning media for the spinning wheel with an initial design based on its own research design.

3. Expert Validation

Design validation to the experts they are media expert, material expert, and educational practitioner's expert (English teacher). Design validation is carried out to assess the feasibility of the media being developed before the product trial is carried out. In this research and development, the expert validation with three validators including the media expert validator, the material expert validator, and the educational practitioner's expert validator (English teacher).

- a. The media expert validator is Mrs. Asmayawati, M.Pd as lecturer of an Early Childhood Education, Faculty of Education and

Teacher Training at UIN Sultan Maulana Hasanuddin Banten. She has skill in the development of media. Media experts examine the rules for the accuracy of the display of learning media with the characteristics of the material according to the age level of the students.

- b. The material expert validation is Mrs. Hj. Eulis Rahmawati, M.Pd as lecturer of English Education Department, Faculty of Education and Teacher Training at UIN Sultan Maulana Hasanuddin Banten. She has skill in the development of material. Material experts examine aspects of material presentation in the form of conformity of the material with the curriculum (content standards), correctness, adequacy, and accuracy of product content.
- c. The educational practitioner's expert is Mrs. Farhah, S.Pd as an English subject teacher of eighth grades at MTs Ashabul Maimanah Sidayu.

Assessment from educators in the field of study to respond to whether the learning media is feasible or not. After the initial product has been validated by experts, it can be seen the shortcomings of the learning media and then make an initial revision. The initial revision has been carried out and then re-validated by a team of experts to determine the feasibility of the media and provide questionnaires to students.

Table 3. 1 List of Product Validation Team

No.	Name	Areas of Expertise
1	Asmayawati M.Pd,	Media expert
2	Hj. Eulis Rahmawati, M.Pd	Material expert
3	Farhah, S.Pd	Educational Practitioner's Expert

4. Product Revision

In revision the product design, it will be tested for validity by media expert, material experts, and educational practitioner's expert. The experts considered the appropriateness of the media based on the product evaluation checklist. The expert's comments and suggestions were very beneficial for the product. Product revisions were carried out by the researcher.

5. Try Out

Try out of this product is carried out at the eighth grades students of MTs Ashabul Maimanah Sidayu. After using the media, the students were given a questionnaire to respond after using the media. Product trials are carried out in two stages, namely small group trials and large group trials. The trial stages to be carried out are as follows:

a. Small group trial

After the revision has been carried out, the product is then tested on a small group trial. Small group trials are conducted on students of class VIII-C of MTs Ashabul Maimanah Sidayu uses a random sample selection technique from 26 students divided into 5 random groups, and from each group 2 students are selected as a sample, so a sample of 10 out of 26 students are obtained. Small group trials focus on product revision according to the result of students questionnaire before large group trials are conducted.

b. Large group trials

After the small group trials, a large group trial was conducted. Large group trials are conducted to the students of class VIII-D of MTs Ashabul Maimanah Sidayu, amounting to 24 students.

6. Final Product

After the product design is validated by the experts, the weaknesses of the product can be identified. These weaknesses are then corrected to produce a better product. The final product is conduct after doing the final revision.

C. The Setting of the Research

The location of the research was carried out at MTs Ashabul Maimanah Sidayu Kec. Tirtayasa Kab. Serang-Banten. The school was

chosen as a research location by reason the results of a survey conducted by the researcher found some problems in English language teaching, and the students had difficulty in understanding English vocabulary. This school had not use learning media in the learning process and had not used the English vocabulary spinning wheel media in English learning. The research and development were done in March 2021 until August 2021.

D. The Subject of the Research

The subject of the research and development spinning wheel media are the students of class VIII-D at MTs Ashabul Maimanah Sidayu with 24 students consisting of 13 girls and 11 men. And also consists of three validator they were media expert, material expert, and practitioner expert.

E. Data Collection Techniques

In this research, the instruments in the data collection technique used by the researcher are observation, interview, checklist validation expert, questionnaire, and documentation.

1. Observation

The observation was conducted at the need analysis stage. The observations are focusses on the situations of teaching and learning process. The researcher can collect information that happened in the class during learning for need analysis. There are several guidelines for observation used:

Table 3. 2 Observation Grid during Learning

No.	Indicators	No. Item
1.	Availability of facilities and infrastructure.	1, 2, 3, 4
2.	Media use planning.	5, 6, 7, 8
3.	Materials, approaches, methods and strategies used.	9, 10, 11, 12, 13, 14, 15
4.	Evaluation of the use of learning media.	16, 17, 18, 19
5.	Understanding of students in mastering vocabulary	20

2. Interview

The interview is a data collection method that requires direct communication between the researcher and the informant. Interview for need analysis, the researcher conducted to the English teachers to determine the process of teaching and learning English especially in English vocabulary. The interview in this study used an unstructured interview. The following is a grid of interviews with teachers:

Table 3. 3 Interview Grid for Teacher

Aspect	Indicators	No. Item
Response and process of how to teach teachers in the process of learning English	a. Teaching and learning process	1
	b. The teacher barriers in teaching English	2
	c. Characteristics of students in the class	3
	d. The learning method used	4
	e. The existence of learning media in the teaching and learning process of English	5, 6
	f. Learning resources used in the learning process	7

3. Checklist validation expert

The checklist validation will be given to the experts to validate the product. The following is a grid for assessing the feasibility of spinning wheel media by media expert:

**Table 3. 4 Grid for Assessing the Feasibility of Spinning Wheel
Media by Media Expert**

No.	Aspects	Indicators	No. Item
1	Practicality	Media is easy to use, include: <ol style="list-style-type: none"> 1) Learning media can be used without other media 2) Can be used regularly 3) Clarity of an instruction manual 4) Efficiency in terms of time, cost, and energy. 	1
		Instructions for using the media are easy to understand <ol style="list-style-type: none"> 1) Instructions for use are clear 2) Using unambiguous sentences 3) Using simple sentences 4) Using communicative sentences 	2
		Can be used by students without being accompanied by a teacher. <ol style="list-style-type: none"> 1) Learning is done in groups with 	3

		<p>peers</p> <p>2) Provide completeness and ease of learning without the help of teachers/parents</p> <p>3) Provide equal opportunities for students to learn independently</p> <p>4) Submission of learning materials accompanied by instructions</p>	
		<p>The advantages of learning media.</p> <p>1) Types of popular learning</p> <p>2)</p> <p>3)</p> <p>4)</p> <p>5) Learning media can be used many times Learning media is able to attract students' attention.</p>	4
2	Display	<p>Attractive design</p> <p>1) Attractive design according to</p>	5

	<p>characteristics</p> <p>2) general student</p> <p>3) Simple and clear design and appearance</p> <p>4) Combining colors, images (illustrations), shapes, and appropriate font sizes.</p>	
	<p>The writing is clear and easy to read</p> <p>1) The writing reads well</p> <p>2) Correct font</p> <p>3) Proportional font size</p>	6
	<p>Clear image print</p> <p>1) Image color is clear</p> <p>2) Clear image shape</p> <p>3) Nice contrast</p> <p>4) Suitable image size</p>	7
	<p>Image selection accuracy</p> <p>1) Image clarity</p> <p>2) Image attraction</p>	8

		3) Image color clarity 4) The suitability of the image with the material	
		Material selection 1) The exact type of paper used 2) The accuracy of the paper size used 3) Material safety for children 4) Durability of the materials used	9
		Card print quality 1) Clean paper print 2) Sharp color 3) Readable pictures and text 4) Appropriate contrast	10

The following is a grid for assessing the feasibility of spinning wheel media by material expert:

**Table 3. 5 Grid for Assessing the Feasibility of Spinning Wheel
Media by Material Expert**

No.	Aspects	Indicators	No. Item
1	Material	Completeness of material / theme. 1) The material/theme used supports learning achievement 2) The material/theme used is in accordance with the education level of the students 3) Materials/themes according to the curriculum 4) Meet the competencies that must be mastered by students 5) Completeness of the material / theme according to the level of development of students	1
		Relevant to the content of the material / theme. 1) The material/theme is relevant to the learning objectives to be	2

	<p>achieved</p> <p>2) The description of the material is sufficient to meet the purpose</p> <p>3) The depth of the material/theme is in accordance with the level of student development</p> <p>4) Interest/suitability for student life</p>	
	<p>The suitability of the image with the material or theme.</p> <p>1) The picture in the learning media is clear</p> <p>2) The selection of images in the right learning media</p> <p>3)</p> <p>4) Pictures can explain the material/theme</p>	3
	<p>Grammatical accuracy.</p> <p>1)</p>	4

		<p>2) The use of language is easy to understand</p> <p>3) The language used according to the correct spelling</p> <p>4) Using straightforward language (whatever they are)</p> <p>5) Using language that is appropriate to the student's mastery</p>	
2	Learning	<p>The correctness of writing English vocabulary.</p> <p>1) Use of correct spelling</p> <p>2) The use of words according to the meaning of the message conveyed</p> <p>3) Letters and punctuation according to the rules of writing</p> <p>4) The accuracy of the arrangement of sentence structure</p>	5

		<p>Cultivate curiosity.</p> <ol style="list-style-type: none"> 1) Encourage student curiosity 2) Can challenge and encourage student activities 3) Can stimulate student creativity 4) Can encourage students to think critically 	6
		<p>Make it easier to learn English vocabulary</p> <ol style="list-style-type: none"> 1) Ability to help students understand information 2) As a tool in student learning 3) Able to attract students' attention 4) Can be used anywhere and anytime 	7
		<p>Motivate students to learn</p> <ol style="list-style-type: none"> 1) Generating students' enjoyment when using it 	8

		<ul style="list-style-type: none"> 2) Provide learning stimulus for students 3) Generating student learning interest 4) Creating interesting learning 	
		<p>Student involvement</p> <ul style="list-style-type: none"> 1) Encouraging student involvement in the learning process more effectively 2) Students play an active role in the learning process 3) Students play a direct role in the learning process 4) Able to focus students to follow the learning process 	9
		<p>Interactive communication between students</p> <ul style="list-style-type: none"> 1) Interactive and participatory 2) Encourage students to stgroups 3) Student involvement in 	10

		learning activities	
		4) The ability of students to respond to all activities in the learning process	

A grid for assessing the feasibility of spinning wheel media by educational practitioner's expert is a combination with the grid for media expert and material expert, namely the aspects assessed include aspect of practicality, aspect of display, aspect of material and aspect of learning.

4. Questionnaire

The questionnaire is a technique of data collection is carried out by giving a set of questions or written statements to the respondent's, which the researcher do not ask the respondents directly. In this research, a questionnaire will be given to the students. The following is a grid of student responses to the media spinning wheel:

Table 3. 6 Students Assessment Questionnaire Grid for Spinning Wheel Media

No.	Aspects	Indicators	No. Item
1	Learning	Easy to memorize English	8

	Design	vocabulary after using the media	
		Independent learning with the help of media	9
		Interest in learning with using media	10
		Not boring in learning English using the media	7
2	Operational	Availability and clarity of instructions for use media	2
		Ease of instructions in media operation	6
3	Visual Communication	Media preview	1
		The suitability of the typeface in the media	3
		Display of images contained in the media	4
		Languages used in the media	5

5. Documentation

The researcher use documentation as the last instrument to complete the research by taking the pictures during the process of the research, all of which give more information to the research process.

F. Data Analysis Techniques

The data analysis technique in research and development uses descriptive analysis. Descriptive analysis is used to analyze the assessment result data the feasibility is by calculating the average. As the data collected got two kinds of data, namely qualitative data and quantitative data. The qualitative data spelled out by description, there are the result of observation and interview during the analysis, and suggestions from the experts. While the quantitative data consists of the result of the feasibility questionnaire by the experts and students' respond questionnaire.

After the questionnaire was validated by the validator, then the questionnaire was analyzed and presented. The results of data analysis were used as the basis for revising the developed product. In this data analysis the steps used *Likert Scale* assessments on the questionnaire. The categories of scores on Likert Scale are described in the following table:

Table 3. 7 Assessment Score on Answer Choices³¹

Category	Score
Very Good	5
Good	4
Fair	3
Poor	2
Very Poor	1

To determine the percentage of the result of Likert Scale using the calculation formula obtained by the following formula:

$$Ps = \frac{S}{N} \times 100\%$$

Note:

Ps = Percentage

S = Number of respondents' answers in 1 item

N = The number of ideal values in the item

Furthermore, the percentage of the analyzed data obtained is then interpreted into the feasibility category based on the following table:

³¹ Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif dan R&D*, 93.

Table 3. 8 Feasibility criteria for percentage analysis for media and material expert validation³²

Feasibility Score	Criteria
0% - 20% Max score.	Not feasible
21% Max score - 40% Max score.	Not worth it
41% Max score - 60% Max score.	Enough
61% Max score - 80% Max score.	Worthy
81% Max score - 100% Max score.	Very worth it

³² Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif dan R&D*, 95.