CHAPTER III
RESEARCH METHODOLOGY

A. Research Methods and Research Design/Development

1. Research Method

Research and development are the methods of research that will use in this analysis. Research and development (R&D) are a research technique for collecting and testing items. According to Sugiyono (2016:297), Methods The research method is a scientific way to obtain data with specific purposes and uses. This research and development use the research and development (R&D) method by using flashcards media from scraps as learning media, producing learning media in interactive media. According to Putra (2015: 67), Research and Development (R&D) is a systematic, deliberate research process for finding, improving, developing, and producing superior, new, effective, reliable, profitable, and competitive products, models, and methods/strategy/method.

Based on the above definition, it can be concluded that the research and development method is a process or step to develop a new product or improve an existing product effectively and with quality and can be accounted for the product produced in this research and development is English learning media, the subject of which is vocabulary. Therefore, this research developing learning media uses flashcards media from scraps.

2. Research Design/Development

The thesis used is a 4D development model, followed by (Sugiyono 2016: 36) as suggested by education, Thiangrajan, Semmel, and Semmel in 1974. The 4D model consists of 4 stages: define, design, develop, and disseminate:

a. Defining Stage

The researcher analyzes potential and problems analysis and Compilation of information. (Sugiyono, 2017:413) stated that the

information gathered can be used as a resource for planning specific products that are expected to overcome these problems.

Based on the statement above, the research used to define the information collected can be used as a resource for planning specific products expected to address these issues.

b. Designing Stage

The researcher makes an initial design that includes, media selection, and initial media design. Product design must be embodied in drawings or charts to be used as a guide to assess and make it in education (Sugiyono:2016).

c. Developing Stage

The researcher validated the design and revised the media, and field trials. According to Sugiyono (2016:414), design validation is an activation process to assess whether a plan or new teaching method is reasonably practical and the old one is effective.

Therefore, Design review is an enabling process for evaluating whether a plan or new teaching method is effective enough or whether an existing one is effective.

d. Disseminating Stage

In the disseminating stage, that product that has been revised at the development stage is implemented on its real target. During implementation, the measurement of the achievement of the objectives and the product's effectiveness.

The research used is the (3-D) Development Model, suggested by Education Research Methodology Sugiyono in 2016. The 3-D model consists of 4 stages: define, design, and develop. Therefore, the research will use these stages that limit time and limited material.

The researcher adopted this framework and research procedure from Sugiyono's model (2017:298). In Sugiyono's model, there are ten stages. However, the researcher limited the development to the third stage because of the limited time. The stages included: 1) Define; 2)

Design; 3) Draft 1; 4) Validation; 5) Revision; 6) Draft 2; 7) Field Trail; 8) Revision; 9) Draft 3; 10) Field Trail; 11) Revision; and 12) Final Product. The researcher uses this model because this stage was appropriate in developing the media. The stages can be shown below:

Figure 3. 1 Research Design
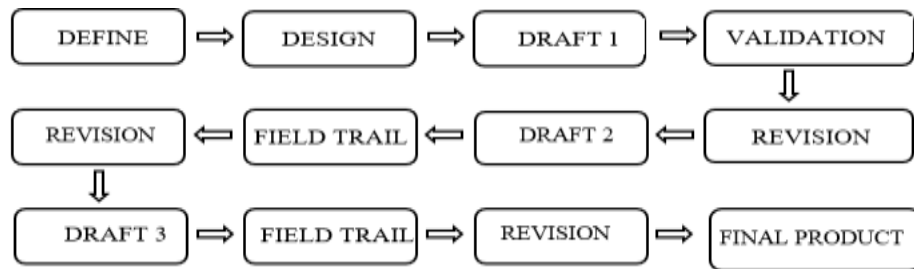
Cited in (Sugiyono 2017: 409

The implementation stage of developing flashcards media from scraps can be seen in figure 3.1. The researcher used the research design in this research study consists of several stages:

a. Define stage, Research and Development (R&D) can be the beginning of the define stage. The research will get information on the defined stage. Research is a needs analysis but can be based on Questionnaires.

b. Design stage includes making an initial design that includes media selection, draft or initial media design.

c. Develop stage is a validation of media, revision of media, field trial, draft and final product.

B. Research Subjects

The subject of this study will be field-tested to the kampung Cerdas Rusunawa Pontianak Subjects in this study consisted of development subjects, namely experts (1 expert) and feasibility media experts from lecturers of the English education study program at IKIP-PGRI Pontianak. the subject of this

study will be field-tested for the young learner of the Kampung Cerdas Rusunawa Pontianak.

The technique used in selecting field test subjects, namely saturation sampling, according to Sugiyono (2014:85), is a sampling technique when all members of the population are used as samples. According to Hennink (2019), Saturation is generally used to determine pattern sizes in qualitative research, but there is little steerage on what influences saturation. The researcher aimed to assess saturation and become aware of parameters to estimate pattern sizes for cognizance organization studies earlier of information series. Therefore, the saturation sampling technique will collect the population of all members to use as sampling. The research will collect the information from the student.

C. Research Procedures

Some experts propose several development research procedures. One of them is the researcher who adopted the research procedures stated by Sugiyono (2016: 2016). This development research refers to the development research procedure to the researcher's needs.:

Figure 3. 2 Research Procedure
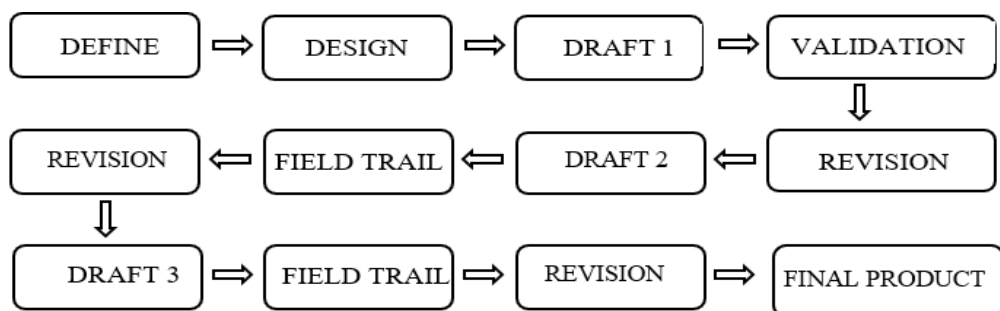
Based on the figure the research development procedures can be seen in figure 3.2, the researcher will use the research Procedure in this research study consists of several stages:

1. Define Stage

    The activities carried out in the definition stage include analyzing potential problems, and compiling information on observations. The following is an explanation of each stage:

a. Potential and Problems Analysis

This stage is completed via the researcher by undertaking indirect technique with the young learner of kampung Cerdas Rusunawa Pontianak.

b. Compilation of Information

After analyzing the potential and problems, then collect all the information obtained. Information collection is carried out as a source in product design to be developed.

2. Design Stage

This design stage includes making an initial design for media selection, and initial media design. The following is the explanation:

a. Media Selection

Media selection is adjusted to analyze potential problems because media makes it easier for students to understand the material and assignments. The media chose to be developed flashcards media from Scraps.

b. Initial Media Design

the initial design of flashcard media from scraps that were developed contain using media from scraps makes them easier to understand with flashcards media from using scraps made as attractive as possible

3. Develop Stage

These develop stages are media validation, limited trail, and field trial.

a. Media Validation

Flashcards media from scraps are submitted to the validator to be validated. The validator in this development consists of 1 expert, namely 1 English education lecturer at IKIP PGRI Pontianak, as an aspect of assessment and advice from each validator on flashcards media from scraps that were developed. The scoring score will measure the level of validity, and suggestions are used to revise the flashcards media. Validator statement regarding flashcards media from scraps includes not being able to be used, can be used with revisions,

can be used without revision, if it meets the valid criteria, then proceed with a limited trial.

b. Field Trial

Field trial was carried out in class for all students determined by the class teacher. The results of filling out the field note in the field trial were used to reveal is how is the feasibility of a flashcard from scraps that have been made.

D. Techniques and Data Collection Tools

1. Data Collection Techniques

Data collection techniques are all the methods used by researchers in collecting and processing data. In this study, the researcher will use a questionnaire to analyze the needs of Kampung Cerdas participants. Techniques of data collection are the most strategic step in research because the primary purpose of research is to obtain data. According to Sugiyono (2019: 296), data analysis techniques are related to calculations to answer the proposed problem formulation and hypothesis testing. Primary and secondary data sources are the two categories used in data gathering procedures. Primary sources supply data directly to data collectors, whereas secondary sources provide data indirectly, such as through other persons or documents.

2. Tools of Data Collection

Data collection is one of the processes in research in the form of collecting the necessary data using specific tools called instruments. According to Arikunto (2019: 203), research instruments are tools used to collect data so that research results become better, accurate, complete, and systematic so that it is easier to process. The researcher, namely field notes and questionnaires.

a. Field Note

In addition to providing questionnaires to analyze the material and student needs, the researcher also used field notes to record how the English learning activities were going using the modules provided by

the researcher. When the research activities are carried out. Field notes consist of several parts, namely opening activities, learning core, closing activities, and conclusions.

1) Opening activities

   In this section, the researcher will observe the opening process of learning activities organized by the teaching teacher.

2) Main activities

   In this section, the researcher observes the main learning process activities, including elaborating the material and the exercises provided in the flashcard from scraps.

3) Closing activities

   The researcher will observe the closing process of learning activities carried out by teachers regarding learning activities that have been completed. One of the critical pieces of information needed by the researcher is students' opinions about the flashcard learning media. they have used in the form of obstacles and satisfaction in using flashcards from scraps.

4) Conclusion

   In this section, the researcher formulated and conclude the whole of the observed learning process. How does the process of teaching and learning activities use flashcards from scraps and students' opinions about the flashcard from scraps they have used.

b. Questionnaire

   The researcher will use questionnaires to determine the level of needs of learning participants and media models that are suitable for them. The questionnaire used in data collection consisted of a questionnaire for teachers and students to measure the practicality of flashcards media from scraps developed. A questionnaire is a fact collection method via written questions to attain information or records from records sources or respondents (Syahrum, 2014:135). This study

has two questionnaires: a needs analysis questionnaire and an expert judgment questionnaire.

1) A Needs Analysis Questionnaire

A needs analysis questionnaire was circulated to assess students' needs in learning English. A needs analysis questionnaire aims to gather information about the learners' needs. In the need analysis made by the researcher, the researcher asked students to choose the learning media they need and which they find interesting. The following is a list of these media.

Table 3. 1 List of Media

1	Poster	6	Module
2	Word card	7	Photo
3	Picture	8	Record
4	Flashcard	9	Ppt
5	Charts	10	Tape Record

Cited in (Arsyad: 2019)

Based on table 3.1 list of media that the data from the first Questionnaire will be analyzed by using the formula below to calculate the percentage of each response on the Questionnaire:

The formula will be used (Sugiyono: 2019):

$$P = \frac{f}{n} x \ 100\%$$

Information:

P = percentage of participant response toward Questionnaire

f = frequency of the same answer

n = number of participants

The students' propensity to the condition is based on the highest percentage of correct answers to each question.

2) An Expert Judgment Questionnaire

The expert or validator used is 1 English lecturer at IKIP PGRI Pontianak. The lecturer of the English study program examines aspects of the study of flashcards from Scraps.

Table 3. 2 Expert Validation Assessment Criteria

Answer	Skills	Score
5	Very good	5
4	Good	4
3	Fairly good	3
2	Less good	2
1	Not good	1

Based on table 3.2 The Questionnaire used in data collection consisted of a questionnaire for teachers and students to measure the feasibility of flashcard media from scraps developed and how it developed flashcard media from scraps to teach young learners. A questionnaire is a fact collection method via written questions to attain information or records from records sources or respondents (Syahrum, 2014:135). Therefore, the researcher used a questionnaire who know the feasibility of the flashcard media from scraps to the young learner of Kampung Cerdas Rusunawa Pontianak.

1. Questionnaire Responses of Expert Media.

English lecture of IKIP PGRI Pontianak response questionnaire from the researcher aimed to see the feasibility of flashcards media from scraps; this Questionnaire was given to the English lecture of IKIP PGRI Pontianak.

The researcher used the questionnaires above using the Likert scale.

Table 3. 3 Feasibility Level Qualifications by Percentage

Percentage %	Feasibility Level	Description
81% < score ≤ 100%	Very Feasibility	Not revision
61% < score ≤ 80%	Feasibility	Not revision
41% < score ≤ 60%	Feasibility	Some revision
21% < score ≤ 40%	Less Feasibility	Revision
0% < score ≤ 20%	Not Feasibility	Revision

Cited in (Riduwan 2013: 15)

E. The Technique of Data Analysis

The technique of data analysis is a step by step or procedure used by a researcher to analyze the data that has been collected as something that must be passed before concluding. The data analysis technique used in this study is a descriptive analysis technique carried out using descriptive statistics, namely analytical techniques qualitative. According to Sugiyono (2014: 244), data analysis is the process of systematically compiling data obtained from interviews, field notes, and documentation by organizing data into categories, describing it into units, synthesizing, arrange into patterns, choose which ones are important and which will be studied, and draw conclusions so that they are easily understood by oneself and others. Based on the number of questionnaires used, two data analysis techniques are learning needs analysis and expert judgment analysis.

1. Qualitative Analysis

   Qualitative analysis was used to describe the quality of the media based on the assessment of media experts and student responses and to describe student learning outcomes, namely the results after using flashcards media from scraps when used in learning.

   a. Field Note

      In learning needs analysis, the researcher will analyze the number of material themes chosen by students, and the researcher will select the pieces that students most choose. According to Miles & Huberman (1994, p: 10), the analysis consists of three activities: data reduction, data display, and conclusions drawing/ verification. The three lines will be discussed further as follows:

      1) Data Reduction

         According to Miles & Huberman (1994, p: 10), Data reduction refers to selecting, focusing, simplifying, abstracting, and transforming the data in written-up field notes or transcriptions. As data collection proceeds, further episodes of data reduction occur (writing summaries, coding, teasing out themes, making clusters, making partitions, writing memos). Data reduction is part of the analysis. With data reduction, the researcher can eliminate unnecessary parts and organize data to get conclusions drawn and verified.

      2) Data Display

         A display is an organized, compressed assembly of information that permits conclusion drawing and action. (Miles & Huberman, 1994, p: 11). They believe that better data display is the primary means for accurate qualitative analysis, consisting of various types of matrices, graphics, networks, and charts. All of it is designed to combine information that is arranged in a coherent and easily accessible form. Thus, an analyst can see what is happening and determine whether to draw the correct conclusions or continue to

carry out the analysis according to the suggestions told by the presentation as something that might be useful.

3) Conclusion Drawing/ Verification

According to Miles & Huberman (1994, p: 11), the conclusion is only half of a Gemini configuration. The conclusion is also verified as the analyst proceeds. When during data collection, the researcher had a brief conclusion. To conclude, it cannot be done haphazardly; it must go back to see the data to be verified. The conclusions occur not only during the data collection process but need to be verified so that they are truly accountable.

b. Questionnaire

To answer the formulation of problem 2, namely the level of Feasible, the data to be processed consists of one media expert validation, namely media experts or validator media. The following are the steps to analyze the data of the media validation assessment.

1) Calculate the score of the media assessment. so that the total of a validator is obtained.

2) Calculating the index percentage, the percentage formula used in this study is as follows

Index Percentage % $= \frac{\text{The total score obtained}}{\text{The highest score total}}$ X100%

3) Then match the index percentage data with the following qualifying table.

Table 3. 4 Feasibility Qualification Level by Percentage

Percentage %	The Feasibility level	Description
81% < score ≤ 100%	Very Feasibility	Not Rivision
61% < score ≤ 80%	Feasibility	Not Rivision
41% < score ≤ 60%	Feasibility	Some revision
21% < score ≤ 40%	Less Feasibility	Revision
0% < score ≤ 20%	Not Feasibility	Revision

Cited in (Riduwan 2013: 15)

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