CHAPTER III

METHODS OF DEVELOPMENT

A. Research Design

This study applies modified research and development (R&D) cycle¹. The method is chosen because: first the objective of this development is to develop, test, and validate instructional products and the R&D cycle is the appropriate method suitable with the abovementioned objectives, second R&D cycle has several appropriate characteristics about developing ideal instructional products. Those characteristics are: R&D cycle is able to create sustainable collaboration between practitioners and researchers; and R&D cycle could bridge the gap between theory and practice.

The reseacher describe the procedure of developing memory game maker to create vocabulary exercise for students, in the end these study has output software that can be used to get the goals of learning. To get the goal of these study the reseacher has designed some cycles descriptive, eksperiment and evaluative. Descriptive is used to describe the condition of tool that be used to make software exercise and also the caracteristic of good voçabulary exercise and software exercise. Experiment is used to test the benefit of product when it applays to test the students. Evaluative is used to evaluate process of developing the software and the products².

¹ Borg & Gall (1983: 772)

²Sujadi, Metodologi Penelitian Pendidikan. (Rineka Cipta. Jakarta: 2003) page 164

B. Developing Procedure

1. Planing Design

The strengh of education needs new materials or products that can help students and teachers in learning and teaching process specially in learning vocabulary. Because learning vocabulary is easy if there is material that supports the target of the learning. The reseacher makes vocabulary exercise to help students and teachers in learning vocabulary. The reseacher creates three kinds of activity, those are matching game maker,tetris game maker and comprehension game maker. The exercises are created using text or word and picture with the meaning or synonym and using voice recordings with the word, the researcher creates five questions in every kind of activity, the materials are taken from the course book that is used by students and the pictures are taken from goggle images. The researcher makes those exercises based on the criterion of good software that have been discussed in chapter II. Three kinds of activity are collected in portal maker, so student can choose activity by her/ himself. After that the researcher saves in to disc as html, because it can be opened both of on and off line, so students can open and do exercises in everywhere and every time.

2. Prelimenary Development

To develop vocabulary exercise, a tool that has good characteristic of software exercise is needed. The writer chooses memory game maker as tool because it has qualification as good software exercise including

Functionality, Technology, Software Vendor, Implementation Vendor/VAR, Maintenance and Support³. Next the researcher makes three kinds of activity in chapter 1, there are five questions in every activity, after that they are tested at students eight grade of junior high school. Vocabulary exercises are created based on criteria of good vocabulary exercise that has been discussed in chapter II.

3. Testing Product

In this step, the researcher does testing the products in the class, there are two aims of testing the products. First the researcher gets students' and teachers' suggestion, opinion and advising to the product, in the end the researcher uses the data to revise the products. Second the researcher knows students' responses to the products.

There are three kinds of activity, those are Matching game, Tetris game, and Comprehension task maker. There are five questions in every activity that are done by 36 students. This product is tested in VIII-C class students of SMPN 2, Tanggulangin. There are 36 computers in laboratory computer, so one student gets one computer. To know the product can be operated in every windows, the researcher installs those computers in to four kinds of windows, 9 computers are installed by using windows 2000, 9 computers are installed by using windows XP, 9 computers are installed by using windows 7. The researcher distributes those exercises by the user that has been

³Fisher. R. Chad" software evaluation criteria"(<u>http://EzineArtiles.com</u>, accessed on may 20,2012)

connected with 36 clients in the laboratory computer. First the exercises are put at the server then the researcher shares them to 36 clients.

4. Reflection

Based on teachers' and students' suggestion, opinion and advising after testing the products. There are some shortages that need to be revised. The researcher evaluates those shortages as reference to revise the product.

5. Product Revision

Based on testing the researcher does evaluating the shortages of products, and then he complets with some additionals and adaptation to his products based on students' and teachers' suggestion, opinion and advising. The researcher does it to get the good product that can be applied for students.

C. Trying Out of Product

1. Try Out Design

The result product development is tested in. The development activities, the researcher only test the product once, this depends on urgency and the required data through the test. The researcher makes three kinds of activity, Matching game maker, Tetris game maker, and comprehension task maker. Those exercises are created by combining text, word, voice and picture with the meaning or synonym. Every exercise has five questions.

The product is tested off line because it is more suitable for students without connection with internet, the exercises are distributed by the researcher using central computer, it shares the exercises to 36 clients in laboratory computer. After doing exercise the students get the score directly. Then the researcher gives questionnaire in a paper to the students and teachers, they answer the question. And also they give advising, suggestion and opinion. The data is used by the researcher to revise the product, so in the end the researcher gets good product. The data also answers research question about students' response to the product.

2. Setting of Try Out

Time

The product only tests once.

Place

The testing takes place in C class of eight grades SMPN 2 Tanggulangin.

Population and sample

This testing chooses 36 students from C class in first semester of eightgrade at SMP N 2 Tanggulangin.

3. Data Collection Technique.

The techniques are used in collecting the data in this study. First observation is done by the researcher to collect the data. The data is collected by observing the students' interaction during doing vocabulary

exercises using questionares. Second questionnaire is done by the researcher to know students' response, the questions are given to the students after doing vocabulary exercise. Those questions are also given to the teachers in this school.

After getting the data from testing, the researcher revises the product based on students' and teachers' opinion, suggestion and advising. To get the qualified good product, the data that is gotten from questionnaire, it is used to answer students' respon to the products.

4. Data Collection Instrument.

Research instruments of the data collection are questionnaires and field note.

a. Questionnaire

The next instrument is questionnaires. The researcher develops the questions based on criteria good software exercise, it is used to get information from the students and teachers. This instrument is the way to collect the data about students' and teachers' suggestion, opinion and advising, they are used to revise the product. Questionnaire is also to collect the data about students' and teachers' responses to the product.

b. Field note

Note taking is done to take the additional data, while testing the product. It is used to anticipate the phenomena that may happen in the testing product.

5. Data Analyzis Technique

In analyzing the data in this study, the result of questionnaire is analyzed by researcher in numerical and percentage. The researcher uses them as a fundamental to revise the product. Meanwhile,to analyzing students' response, the researcher arrange based on the formula that used is:

Number of each type

X 100%

Total number of students

The researcher compares the result from those calculating with data from field note to give additional information about phenomena that happen while testing product. The result of questionnaires is used by researcher to revise the products.