CHAPTER III

RESEARCH METHOD

This chapter discusses several things such as research design, and steps of applied Research (Developing Research). Those things are very important for the research in conducting the study and obtaining the empirical result of the study.

3.1 Research Design

The design of this study is Research and Development study and it is in line with the objective of this study which is aimed to develop writing material using Mind Mapping for multimedia students in Vocational High School at SMK NU Gresik. As stated by Hall (2006) that Research and Development (R&D) is the term commonly used to explain the activities in order to create new or improved products and processes. In developing writing material for Multimedia Students, the researcher needs to do such kind of steps in order to complete the development of writing material.

According to McGriff (2000), ADDIE model stands for analysis, Design, Development, Implementation, and Evaluation.
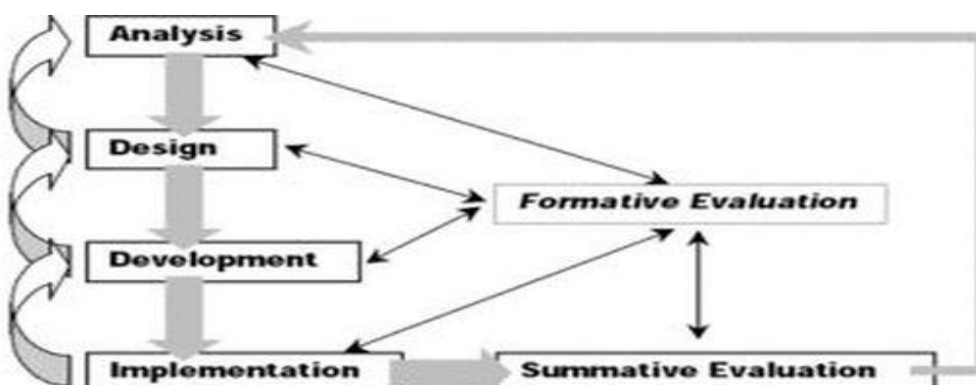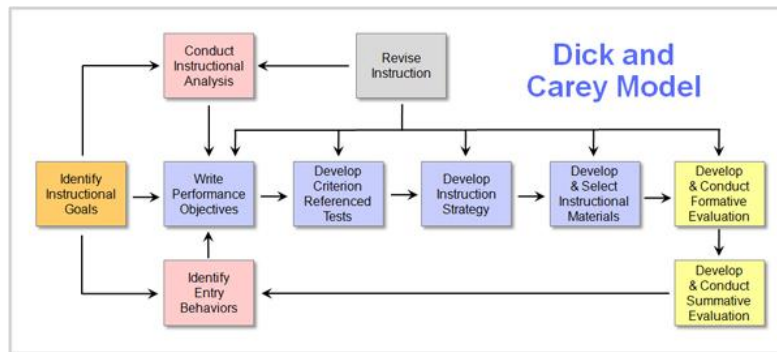
Figure 3.1.1 StevenJ. Mcgriff's ADDIE model Instructional Design.

The second is Dick and Carey Model (2014), the phase are intsructional Goals, Intrucional Analysis, Entry Behaviors and Learner Characteristic, Performance Objectives, Criterion-Referenced Test Items, Instructional Strategy, Develop and select instruction materials, Formative Evaluation , and Summative Evaluation.

Source: Dick, Carey, and Carey. The Systematic Design of Instruction.

According to the two models above, the researcher attempts to adapt the ADDIE model with some changes with are matching with the condition of the participants. The steps of developing writing material are Analysis, Design, Development, Validation, Implementation (Try Out), Evaluation, and Final Product.

The researcher chooses this model because she thinks that that she is not the expert. Therefore, she needs experts to validate her learning product. This model will be used to develop this study.

3.2 Subject of the Study

This study would optimize a new media which is approite with the target needs. It would take 30 students from eleventh grade student as population. The students were 30 because the school only had a class in every vocation, and it consist of 30-34 students. This study will utilize Interactive multimedia to support developing writing materials for Multimedia Students.

3.3 Instrument of the study

The reseacrher used some instruments to collect the data. And the instruments are as follows;

1. Questionare: The researcher gives some questionare to Multimedia students in 11th grade of Vocational High School, to know how the response of the students and to strengthen the result of previous instruments. In this study, the researcher uses structured item in close and open ended questionare based on type of analysis.

 2. Interview: The researcher conducts interviews to the English teacher and students to get deeper information. These are done to know their target need and learning need of Multimedia at SMK NU Trate Gresik.

3. Validity checklist: After the researcher develops the product, the researcher provides validity checklist for the experts. Here, the expert duty is to give score, comment and suggestion toward writing material which is develop by the researcher before trying out the product. The reseracher will revise the product after doing the expert validation.

3.4 Data Collection Technique

The data in this research are collected through interview, questionnaire, expert judgmenr and checklist. The researcher does the interview to support the data of questionnaire. And questionnaire sheet will given to the students to answer the question related to the target need and learnign needs. The result of the questionnaire data will calculated by the following formula bellow:

$$P (\%) = f / N (100)$$

Notes : N = Total of respondes

F = Frequency

P = Percentage

3.5 Procedure of Development

3.5.1 Need Analysis

In this part, need analysis is divided into two, which are target needs and learning needs. Target nees are connected to the content of the materials to develop. Learning needs are related to the way students lern writing materials. The researcher conducts an interview to the English teacher at SMK NU Gresik and a questionare for Multimedia Students to get some information about need analysis in order to develop writing material.

The first step is to conduct interview to the English teacher, the points for this interview of theacher are as follow:

1. the curriculum which is applied in theaching English,

2. the text book which is used in teaching English,

3. the media which is used in theaching writing,

4. the difficulties in theaching writing,

5. the appropiate task for the material, and

6. the strategy/method in teaching writing to the stiudents.

The second step to do need analysis is to give questionare to the students, this study uses a closed questionare in which the respondents could directly choose the appropiate answer provided. The language of the questionare used is Indonesia language in order to they be able to understand and answer the question based on their needs.

3.5.1.1 Target Need

The researcher asked several question to the English teacher to know the target need of this school in studying writing. Firstly, the researcher interviewed English teacher, and from the interview, the researche was given some questions realted to how the teaching strategy for tenth gvrade, what were the material had taught un the class, the weaknees of the students in learning,the teacher opinion in teaching strategy of writing skill and media that was used in teaching writing material, and how the student response with teaching writing without media. Then, reseracher also asked to the teacher about syllabus, student's book and material taught to adapt the material so it could be matched. The researcher listed material that was taught in first semester. After that she began to make a draft. So, the researcher had a target that the student could improve their comprehension and undestanding with good content and interesting design.

Aspect	The purpose of the questions	Indicator

Necessities	To find out the type of needs by the demands of the target situation.	1. To know the goal of Multimedia Students in learning writing 2. To know wheter writing material is needed or not
Lacks	To find out the gap between learners' proficiency and the demand of the target situation.	To know the difficulties of Multimedia students in learning writing.
Wants	To find out the learners' needs of learning English.	To know the students' desire in learning English, especially writing.
Goal	To find out the reason of learning English	To tell the way multimedia students learn writing material

Figure of the need analysis.

3.5.1.2 Learning Need

Students are the main system in a teaching process. They are not only the participants that only receive everything that was given by teacher. Analyzing learning need is important in order to get more information about the students. Hutchinson & Waters suggest a

framework for analyzing learning needs which consists of several questions, each divided into more detailed questions. The framework proposed by Hutchinson & Waters (1987) for analysis of learning needs are why are the students taking the course?,how do the students learn?, what sources are available?, who are the students?. Those questions are needed to know the students' condition also their need in the process of learning.

3.5.2 Design

In this phase, the researcher will make design of prtototype, create a prototype draft as a framework used in developing syllabus and applications. The prototype is related to the general framework, and specific draft for detail of task activies. It is include the material aspects and external aspects. Internal aspects of the program contains the material and the interface of the siftware while the external aspect will be the physical form of the software. The physical system can be in the form of Compact Disk. After the protoype is finished, the researcher tries to find out what has been left in the design and she will improve it again for the development phase.

3.5.3 Development

In this major step, researcher develops the material based on the syllabus which is used by the school and uses mind mapping apllication to deliver the lessons. This step is aimed to create the first product which will be tested by computer to make sure that the product is appropiate and fitted with the needs..

a. Material Collecting

The texts, pictures, animations, audio and videos were collected. In order to get the input, the developer analyzed the textbooks used in the NU Trate Vocational High School Gresik.

b. Integrating the material into the program

After the researcher created the course grid, the draft of the material, the flowchart and the storyboard of the program, the researchercollect the detailed materials including texts, audio, graphics, animation and video. After that, the materials are integrated into the program using Macromedia flash 8. The first design of the interactive multimedia consists of three main components. They are namely Start Page, Home Page and Menu Page.

3.5.4 Validation

This step is aimed to measure up the appropriteness of the product professionally. By involving the experts in the process, the product would be even much reliable. Moreover, the experts can be can check the mistake or error in the product which could be minimized. The experts are an English teacher of Multimedia Students of SMK NU Gresik. The experts will get a checklist of the courseware in giving comment related to the product. Then, the researcher finds out the aspect that should be revised or developed more.

The first expert will asses the conformity of material, the depth of material, the accuracy of material, and the communicative of language, the accuracy of language, and the material presentation of learning. The second expert will asses software aspect, visual communication aspect, and advantage aspect.

3.5.5 Try Out of Material (Implementation)

In this step, the researcher will try out the product which has been developed by the researcher. The product will be implement in the computer laboratory to find out the

product will work for Multimedia students. It taken in computer laboratory because it needs a part of computer to implements this material. The mechanism of doing try out is, first the participants read the selected chapter; the second mechanism is participants are asked to do the exercise in the materials to check their understanding.

In the end of try out, the researcher also gives the questionare for the participants to know what is the missing part of the material. The important purpose of giving the questionare is to get the feed back from the participants toward the application and for the better improvement.

3.5.6 Evaluation

In this phase, the researcher will evaluate the learning process and outcomes. The instruction will not be completed until it shows thet the learners can reach the instructional goals. If there are some lacks related to the material and media points, there will be any possibilities of doing the revision. The revision might happen because writing material may not all the wants of multimedia students and any other reason of why the material need to be revised. If there is no part that should revised, then the reasearcher will go to the next step which is final product.

3.5.7 Final Product

After completing the revision, this final product is the form of developing writing material application for multimedia students. The application comes with colorful cover, text and image which are expected to make multimedia students interested in learning English writing. At the begining of the application, there are there a cover and introduction from the creator. Then, the students will see the next page which consist of topics.The researcher will ask the students to fill the questionnare in order to know their comment

about the material. It has the purpose to know whether writing material is interesting and easy to learn or not. The questionnare students' response also uses Indonesian language to be answered by multimedia students.