

CHAPTER III

METHODOLOGY

3.1. Research Design

The aim of this research is to develop and design the English language material for students of automotive at vocational school grade 10th. The material to be developed is based on English for specific purpose that focus on reading material. This study produces a product in the form of materials or learning resources that will be tested. Therefore, this research is categorized as research and development (R&D). Borg and Gall (1983) classify the kind of this research into educational research and development (R&D) which is defined as a study to develop and validate a product that is ready to be used in school.

3.2. Research Setting

This study is conducted in SMKN 1 Sidayu. SMKN 1 Sidayu is one of vocational school in Gresik regency which has four departments namely; fishery product processing engineering, automotive engineering, computer and network engineering, and electrical installation engineering. However, this study only focuses on the development of material for automotive department.

3.3. Research Subject

This research involves the automotive teacher, English teacher and the students of automotive department grade 10th at SMKN 1 Sidayu as a data source. In principle, the researcher chooses them who can give enough information about the object of research.

3.4. Research Instruments

The instruments used in this research are; document of curriculum, questionnaires and in-dept interview. In stage of need analysis, the researcher used in-depth interviews and need analysis questionnaire. In-depth interview instrument distributed to English teacher and automotive teacher to obtain information about the needs of the students. While the need analysis questionnaire distributed to students to know the needs of the students themselves. It is distributed to the students to analyse their needs, so it will be very useful in the process of developing material. Need analysis questionnaire framework is developed from several points as follows:

Table 3.1 : Need analysis questionnaire framework

Aspect Analysis	Item Analysis	Number in Questionnaire	Source
Target Situation	Necessities	2	Hutchinson and Waters (1987)
	Lacks	17	
	Wants	3	
Task Components	Goals	1	Nunan (1990)
	Input	4,5,6	
	Activities	8,9,11	
	Teacher Role	19	
	Students Role	20	
	Setting	12	
General opinions and views about learning materials framework	Variety of learning activities	16,18	Tomlinson (1998)
	Presentation of material	13,14,15	
	Content of material	7,10	

The questionnaire also distributed to the experts in order to get evaluation or opinions from the experts. Expert judgment questionnaire will be used by researcher to evaluate material that have been developed through the try out process. Expert judgment questionnaire that will be used is based on standard of BSNP (National Education Standards Agency) in 2011 formulated from the following points:

Aspect	Component	Item Number	Number of The Item
Content	The conformity of materials	4	1,2,3,4
	The depth of materials	2	5,6
	The accuracy of materials	4	7,8,9,10
Language	The conformity of language with the developmental level of students	3	11,12,13
	The communicative of language	1	14
	The accuracy of language	1	15
Presentation	The presentation technique of materials	5	16,17,18,19, 20
	The materials presentation of learning	7	21,22,23,24, 25,26,27
Lay out	Content lay out	4	28,29,30,31
	Typography	2	32,34

Table 3.2 : Expert judgment questionnaire framework.

3.5 Data Collection Technique

Mahsun states, the stage of data collection is the basis of the data analysis stage (2005: 85). Data collection techniques in this research as one of the activities in the study about how the data can be obtained.

This study uses the interview as an instrument to obtain qualitative data and questionnaire instruments to obtain quantitative data.

3.6 Data Analysis Technique

This study uses two kinds of data analysis ie; qualitative and quantitative analysis data. Qualitative data in this study is obtained from interview to the English teachers and automotive teachers of SMKN 1 Sidayu. For qualitative data analysis in this study, the researcher collects the data through several stages, among others; coding, ordering and displaying, and drawing the conclusion. While quantitative data in this study is obtained from questionnaires distributed to students in the stage of need analysis and a questionnaire given to the experts in the expert judgement stage of materials have been developed. In analyzing the quantitative data from needs analysis, the researcher uses percentages, while frequencies and descriptive analysis is used by researchers to analyze quantitative data obtained from expert judgment questionnaire.

3.6.1 Quantitative data analysis

Quantitative data in this study obtained from questionnaire. Here, the researcher uses two questionnaires which are distributed to students in order to obtain their needs and the other one distributed to the expert to obtain the valuation of material developed.

a. Data analysis from need analysis questionnaire

To analyse data from need analysis questionnaire. The researcher uses the percentage number of the subject from questionnaire data. According

to Arikunto (1998 : 246) to measure the percentage number can be calculated by using the formula as follows:

$$P = \frac{F}{N} \times 100 \%$$

Where: P = Percentage

F = Frequency (the number of the students who fulfilled the questionnaire).

N = Total number of respondents.

b. Data analysis from expert judgement questionnaire

In analysing data from expert judgement questionnaire, the researcher uses descriptive statistics define by Brown (2001) that descriptive statistics is a set of procedures that are used to describe or characterize the answers of a respondents to numerically coded questions. The central tendency measure which used in the research is mean. Suharto (2006) proposed five classifications of mean as the following tables :

Table 3.3 : Quantitative data Conversion

Scales	Categories	Interval of Mean	Score Criteria
5	Strongly Agree	4.20 – 5.00	Very Good
4	Agree	3.40 – 4.19	Good
3	Neither Agree or Disagree	2.60 – 3.39	Fair

2	Disagree	2.60 – 3.39	Poor
1	Strongly Disagree	1.00 – 1.79	Very Poor

3.6.2 Qualitative data analysis

As mentioned above that qualitative data in this research is obtained from interview process. According to Azad Isik (2009) there are several steps to analyze the data from interviewing in the following section:

a. Coding

In this step the researcher collects data by interviewing english teacher and automotive teacher in order to obtain their opinion about students' need.

In this step the researcher records the result of interview

b. Ordering and Displaying

In this step, the researcher analyzes the data by paraphrasing the result of interview.

c. Drawing Conclusion

In this step, the researcher concludes all of data from interview process.

3.7 Steps of the Study

In research and development, there are several models of framework stages in the research process, one of models is ADDIE models designed by Stevens J. McGriff (2000). ADDIE model is an instructional design which is the result of formative evaluation of every stage can be the first instructional designer back to the stage before. In this study, the researcher adopts a modified model of

ADDIE which is quoted from unpublished thesis by Candra HA (2012) as follows:

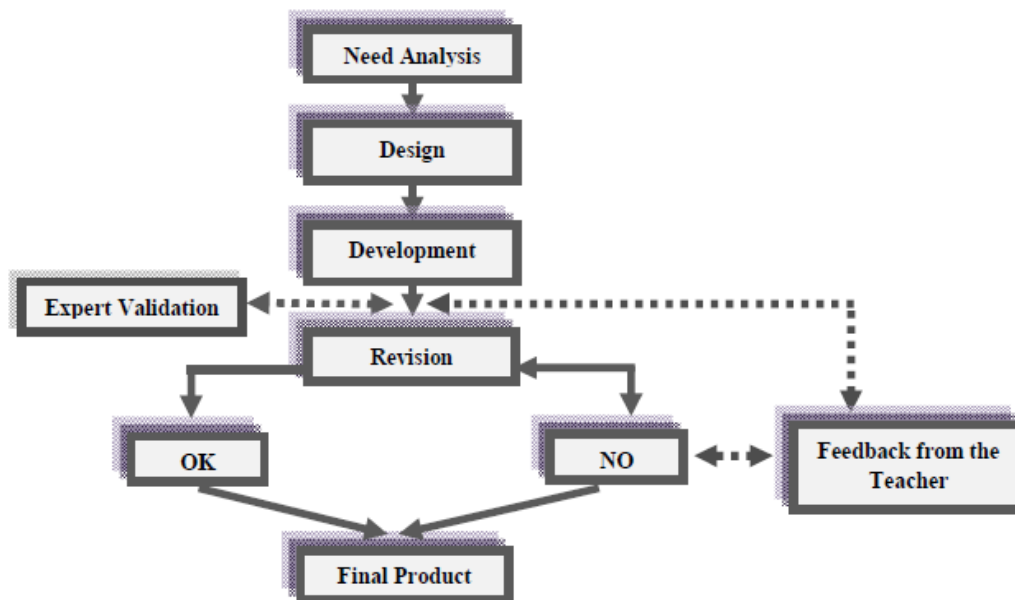


Figure 3.1 : The modified ADDIE model of the research procedure (Chandra HA : 2012)

Here in detail, The researcher described briefly about the research procedure used in this research process.

1. Conducting Needs Analysis

This stage is conducted by the researcher in the early stage of this research. Strategies of need analysis are used to gather information as a basis for the development of course referring to the need of the students in learning English. The subject in the collection of this information are; English teacher, Automotive teachers, and Students.

a. Collecting data from English teacher

The collection of information from English teacher by using the instrument in the form of interview. Point of questions asked by researcher to the English teacher is related to students' learning needs.

b. Collecting data from Automotive teacher

The collection of information from automotive teacher by using the instrument in the form of interview. Point of questions asked by researcher to the automotive teacher is related to students' target needs.

c. Collecting data from Students

The information which collected from the students are quantitative data in the form of questionnaire. The Information will be obtained by researcher from the students are related to student's learning need and target need.

2. Designing course grid

The results of need analysis will be used by the researcher as the basis in developing course grid or syllabus. The course grid or syllabus will be developed by the researcher also guided by the recent curriculum. In this step the researcher consult to the expert.

3. Developing Material

In this step, the researcher writes the first draft of material. In writing first draft of material, the researcher does some adaptation, modification, and tasks development. The material need to be conformed with the objective of learning.

4. Evaluating Material

After the first draft of material are created, the next stage is evaluating the material. The first draft of material will be evaluated by the expert. The material evaluation conducted by asking the expert to fill questionnaire which contain of the valuation criteria to judge the first draft of material developed. The expert in this evaluation is Automotive teacher. The researcher points automotive teacher as the expert because the researcher assumes that the automotive teacher better understand the topics of automotive learning material. After the expert judgment is done, the first draft is ready to be tried out. After being tried out, the researcher asks the English teacher to give feed back and suggestion about the weaknesses of first draft of material developed.

5. Revising and Writing Final draft

After the evaluation process and the researcher gets suggestions from the expert and the English teacher, the first draft of material developed which are going to be implemented will be revised based on the recommendations that are derived based on expert judgment questionnaire and the teacher feedbacks. The researcher revises the material which are inappropriate or considered to be ineffective material during the try-out. This is the final step of this research.