

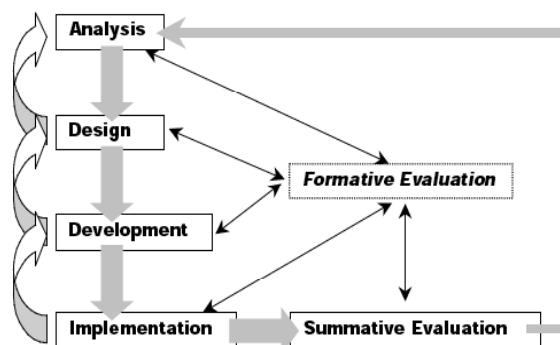
## CHAPTER III

### METHODOLOGY

#### 3.1. Research Design

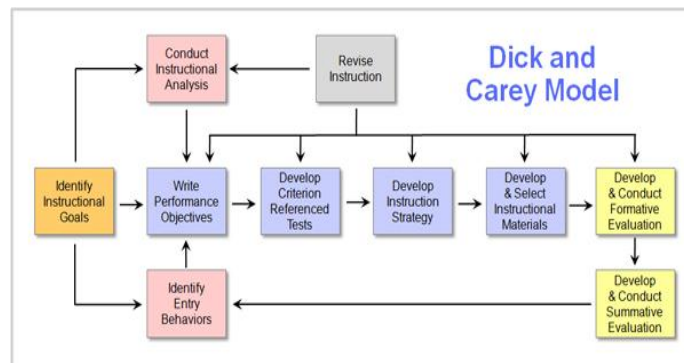
The design of this study is Research and Development study and it is in line with the objective of this study which is aimed to develop reading material using Macromedia Flash for mentally retarded students. As stated by Hall (2006) that Research and Development (R&D) is the term commonly used to explain the activities in order to create new or improved products and processes. In developing reading material for mentally retarded students, the researcher needs to do such kind of steps in order to complete the development of reading material.

According to McGriff (2000), ADDIE model stands for Analysis, Design, Development, Implementation, and Evaluation.



Source: McGriff (2000). *Instructional System Design*.

The second is Dick and Carey Model (2014), the phases are Instructional Goals, Instructional Analysis, Entry Behaviours and Learner Characteristics, Performance Objectives, Criterion-Referenced Test Items, Instructional Strategy, Develop and select instructional 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 which are matching with the condition of the participants. The steps of developing reading material are Analysis, Design, Development, Validation, Implementation (Try Out), Evaluation, and Final Product.

The researcher chooses this model because she thinks 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

The subject of this study is 9 students from all grades of Junior High students because the English teacher mixes the grades into one class when teaching English. This study will utilize Macromedia Flash to support developing reading materials for mentally retarded students.

### 3.3. Instrument of the Study

The researcher uses several instruments to collect data. First, the researcher gives questionnaire to Junior High – mentally retarded students. Second, the researcher conducts interviews to the English teacher to get deeper

information. These are done to know their target need and learning need about reading material. 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 reading material which is developed by the researcher before trying out the product. The researcher will revise the product after doing the expert validation. Next, the researcher will try out the product to mentally retarded students. The last activities after mentally retarded students got and learned reading material using macromedia flash, they will be given questionnaire as well. It is done to know their comments about reading material using macromedia flash.

### **3.4. Procedure of Development**

#### **3.4.1. Analysis (Need Analysis)**

In this part, need analysis is divided into two, which are target needs and learning needs. Target needs are connected to the content of the materials to develop. Learning needs are related to the way students learn reading materials. The researcher conducts an interview to the English teacher at SLB Negeri Cerme and a questionnaire for mentally retarded students to get some information about need analysis in order to develop reading material.

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

1. the curriculum which is applied in teaching English,
2. the textbook which is used in teaching English,
3. the media which is used in teaching reading,

4. the motivation and difficulties in learning reading,
5. the appropriate tasks for the material, and
6. the strategy/method in teaching reading to the students.

The second step to do need analysis is to give questionnaire to the students (see appendix 1), this study uses a closed questionnaire in which the respondents could directly choose the appropriate answer provided. The language of the questionnaire used is Indonesian language in order to they be able to understand and answer the question based on their needs. The points of questionnaire for the students can be broken down:

**Table 3.2.1. The Organization of Questionnaire**

No.	Dimension	Number of items	Operational definition	Indicator
<b>Target Need</b>				
1.	Necessities	1, 2	To find out what needs of mentally retarded students in reading	<ol style="list-style-type: none"> <li>1. To know the goal of mentally retarded students in learning reading</li> <li>2. To know whether reading material is needed or not</li> </ol>
2.	Lacks	3, 4	To find out the gap between and the required level for mentally retarded students in reading	To know the difficulties of mentally retarded students in learning reading
3.	Wants	5, 6	To find out what mentally retarded students' wants that can be included in reading materials	To know the students' desire in learning English, especially reading
4.	<b>Learning Need</b>	7, 8, 9, 10	To find out learning need of mentally retarded students in the classroom	To tell the way mentally retarded students learn reading material

*Adapted from Hutchinson & Waters (1978), Putri, Dyah A. W. (2016)*

### 3.4.2. Design

In this phase, the researcher will make design of the prototype, create a prototype draft as a framework used in developing syllabus and application. The

prototype is related to the general framework, and specific draft for detail of task activities. It is included the internal aspects and external aspects. Internal aspect of the program contains the material and the interface of the software 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 prototype 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.

### **3.4.3. Development**

In this major step, researcher develops the material based on the syllabus which is used by the school and uses macromedia flash application 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 appropriate and fitted with the needs. Other software, such as Format Factory, Text-to-speech, etc., are also used to convert the audio or pictures file which are not suitable with Macromedia Flash.

Creating multimedia is begun with drawing of the background using Macromedia Flash. The entire menu of pages are created in different scenes and files. The material and some tasks are typed. Some supporting media such as video and audio files are imported in the project.

### **3.4.4. Validation**

This step is aimed to measure up the appropriateness of the product professionally. By involving the experts in the process, the product would be even much reliable. Moreover, the experts can check the mistake or error in the product

which could be minimized. The experts are an English teacher of SLB Negeri Cerme and an Informatic teacher of SLB Negeri Cerme. 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 assess 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 assess software aspect, visual communication aspect, and advantage aspect (see appendix 3).

#### **3.4.5. Implementation (Try out)**

In this step, the researcher will try out the product which has been developed by the researcher. The product will be implemented in the classroom to find out how the product will work for mentally retarded students. The first and second meetings, the students start learning about numbers 11-20. The third and fourth meetings, they will learn about expression agree and disagree. The last meeting, the students learn about part of house. The researcher and the teacher will give score of the students by using observation checklist which the criteria are guided by PBL strategy (see Appendix 4).

#### **3.4.6. Evaluation**

In this phase, the researcher will evaluate the learning process and outcomes. The instruction will not be completed until it shows that 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 reading material may not cover all the wants of mentally retarded students and any other reason of why the material need to be revised. If there is no part that should be revised, then the researcher will go to the next step which is final product.

#### **3.4.7. Final Product**

After completing the revision, this final product is in the form of developing reading material application for mentally retarded students. The application comes with colourful cover, text, and audio which are expected to make mentally retarded students interested in learning English reading. At the beginning of the application, there are a cover and an introduction from the creator. Then, the students will see the next page which consists of topics, there are some activities that present. The researcher will ask the students to fill the questionnaire in order to know their comment about the material. It has the purpose to know whether reading material is interesting and easy to learn or not. The questionnaire students' response also uses Indonesian language to be answered by mentally retarded students.