CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter presents the references from the experts which are useful to give relevant knowledge in the field of the study for the next chapter. The researcher is going to describe theories and review some relevant research findings. These explanations can be shown as follows.

2.1. Reading

2.1.1. The Nature of Reading

One of crucial English skills to be mastered by the students is reading. According to Mart (2012) reading is crucial for language acquisition and it is a good method of understanding. In general, reading in education is the most major object to recognize all about the contents of English material. Reading is to understand the written text, it consists of distinguishing the words and comprehending. Meanwhile, Alyousef (2006) stated that reading is an interacting process involved a reader and a text that points to reading fluency.

Grellet (1999) stated that reading is assigning meaning and extracting information from the written texts. Klingner, et.al (2007) argued that reading is a process of building meaning which can be attained through dynamic instruction suggested by the text, and the context of reading situation. Reading belongs to a receptive skill of English which means that it deals with responding rather than creating a text (Harmer, 2007). By some definitions and explanations from the

experts, it can be determined that reading is included in receptive skill which has an essential role in enhancing information from the text.

2.1.2. Purpose of Reading

As we know, reading has an essential role in gaining an information, not only that, the reader also should know what is actually her/his purpose in reading. According to Smith (2004), the meaning of reading does not hang on what the reader reading is but his purpose of reading. One of the keys to reach comprehension is by knowing the goal of reading. Grabe and Stoller (2002) stated that reading has four objectives in general: 1) to look for the simple information and reading to skim, it means the readers classically scan the text for specific information and skim the text for general understanding. 2) To learn from the texts, it arises in the contexts of academic and professional that the readers require to study a number of information from the text. 3) To integrate information, write and criticism the texts, which require the additional decision of the readers about the significance of the information from some sources, especially supporting one, and restructuring their own concept.4) reading for general comprehension, the readers require to have ability in arranging the general meaning that represents of the core ideas. By some explanations from the experts above related to the reading purposes, it can take the conclusion that the reader should know their goal of reading before they get the comprehension of the text itself, even it also look for simple, skim, learn, write, critique the information for general comprehension.

2.2. Mentally Retarded Students

2.2.1. The Nature of Mentally Retarded Students

Mentally retarded students are difficult in social communication and they have low level of IQ. According to Vig & Jedrysek (2004), the characteristic of mental retardation are having trouble in intellectual functioning and adaptive behaviour. Besides, Armatas (2009) added that mental retardation is also included in a genetic disorder which has below average of IQ and lack of adaptive behaviour.

Factors of genetic such as Down syndrome condition and premature birth are included to the causes of mentally retarded. Moreover, children who have IQs below 50 are also defined as mental retardation (Vig & Jedrysek, 2004). Factors of environmental, genetic or multiple can influence mentally retarded (Armatas, 2009).

2.2.2. Reading for Mentally Retarded Students

Educationally, reading is also taught for disability students, especially for the students of mentally retarded. According to Alqahtani (2013) stated that the students of mentally retarded have difficulty in stuttering, lack of words, in which do not suit their mental age. Teaching language skills for mentally retarded students are difficult because they have remarkably low IQ and cognitive skills. According to Alqahtani (2013), problem of having limited reading ability will block the students to have a normal standard of life. It will be hard to get vocational opportunities (Alnahdi, 2015). Mentally retarded students have problems with expressive language, poor short-term memory, low level meta-cognition skills, and poor use of logic and organization (Thurlow, et.al, 2009).

Teaching English for mentally retarded students does not require to be taught deeply but it emphasizes more on daily or in application for daily communication. According to Myreddi & Narayon (1998), teaching reading for mentally retarded students, the first is focusing on the imagery level which refers to the ease with that a word evokes a concrete picture. The imagery level is divided into two, high imagery (concrete and include nouns, *e.g. fan, computer, ball, etc.*) and low imagery (abstract terms, *e.g. sweet, beautiful, etc.*). Those imagery levels can be combined through word in context, *e.g. my dress is beautiful. I eat mango and it is sweet*. Matching the words with the pictures is also the activity which be able to support and improve mentally retarded students in learning English, especially reading. The second is the students learn to transfer the pictures' meaning to the written words, then they learn reading the words and form sentences.

Besides, Langone (1986) stated that teaching reading for mentally retarded students can be taught through sight-word which related to the words and pictures, also to understand the meaning to the written words. It is needed special consideration to adapt for the disability students (Mpofu & Chimhenga, 2013). Based on Saad, et.al (2014), mentally retarded students can learn best with the use of different methodologies that engage their senses, such as using images, sounds and clips.

There are some examples of teaching steps that mentally retarded students be able to read and understand ten lines of text by Lundberg & Reichenberg (2013), those are placing the pictures correctly, answering the questions by choosing the correct words, and placing the words in the correct order. Most of mentally retarded students are able to read simple by connecting the text to the

meaning (Allor, et.al, 2010). In addition, Fajardo (2014) established the baseline of reading skill which mentally retarded students were measured reading comprehension that the average sentence length of 100 words and accompanied by literal and inferential questions. The teacher also should pay attention to the readability of reading for mentally retarded students. The stories should contain short sentences which be derived from the children's experiences. Those should contain only theree or four sentences (Walton, 1960).

2.3. Project-Based Learning

2.3.1. The Nature of Project-Based Learning

The students learn more when they are responsible for their own learning. Project-based learning emphasizes educational opportunities. PBL learning activities are long-term, interdisciplinary, student-centred, and integrated with real-world issues and practices (Yusoff, 2006). PBL takes teachers out of the centre of instruction and allows the students to work collaboratively to demonstrate creatively their understanding of the content. Project Based Learning involves literacy skills of students, from reading, writing, speaking, and synthesis of information (Walsh, 2010).

Project-Based Learning (PBL) is a student-centered model that organizes learning and studying around projects (Du & Han, 2016). Project is an extended task which usually integrates language skills through a number of activities (Hedge, 1993).

2.3.2. The Principle of Project-Based Learning

There are six steps to Project-based Learning issues (Yusoff, 2006):
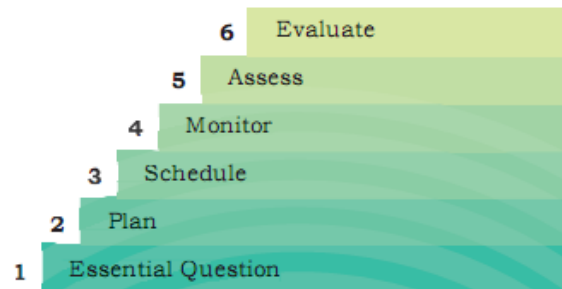

Figure 2.3.1.2. Steps of PBL Strategy

❖ Step 1, Essential Question

- Take a real-world topic and begin an in-depth investigation,

- Question is based on situations or topics that are authentic,

- Make students feel that they are making an impact by answering the question or solving the problem,

- Make the question relevant for students, and

- The questions should have meaning in their lives at the moment of time.

❖ Step 2, Design a plan

Select activities that support the question. Materials and resources are made accessible to students.

❖ Step 3, Create a Schedule

Design a timeline for project components. Realize that changes to the schedule will happen. Guide students when they appear to be going in a direction that has no connection to the project.

❖ Step 4, Monitor Students and Project Progress

Teach students how to work collaboratively. Let students choose their primary roles but assume responsibility and interactivity for other group roles.

❖ Step 5, Assess the Outcome

Assessment provides diagnostic feedback and helps educators set standards. It gives students feedback on how well they understand the information and what they need to improve on. Assessment also helps teacher design instruction to teach more effectively.

❖ Step 6, Evaluate the Experience

Share feelings and experiences, and discuss what worked well and what need change. Share ideas that will lead to new questions thus new project.

2.4. Developing Material

In language teaching, materials are terms for the teachers or learners to facilitate language learning. Those are linguistic, visual-auditory and be showed in a print, form of an audio or a video, on CD-ROMS, on Internet or through live performance or display (Richards & Schmidt, 2002). Since a material can facilitate teachers and students in conducting the teaching-learning process, it becomes an enough aspect. Based on Tomlinson (2012), the materials for language-learning will be taken to be something facilitating the teaching-learning of a language, such as course books, videos, flash cards and games. Most of literatures focus on the printed materials.

For developing test, the researcher must observe instructional development models according to ADDIE model which is adapted from some experts. Instructional design is defined as a procedure of developing an instructional system which can provide a good, efficient and valuable skill for the learners (McGriff, S.J., 2000). These steps are including how an instruction can fulfil the

needs of the learner, propose the objective of the study and also help to improve the learners' ability. According to McGriff (2000) ADDIE model stands for Analysis, Design, Development, Implementation, and Evaluation.
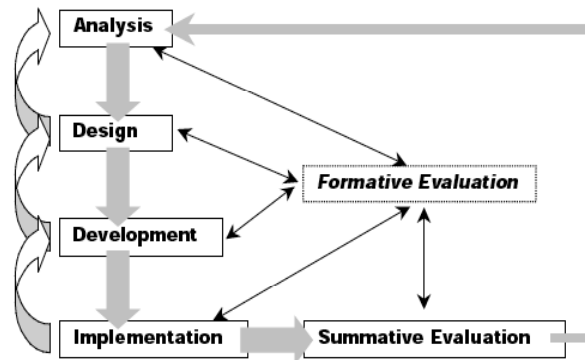
Source: McGriff (2000). *Instructional System Design.*

The second is Dick and Carey Model. The model was formerly published in 1978 by Walter Dick and Lou Carey in their book entitled *The Systematic Design of Instruction*. Dick and Carey made a significant contribution to the instructional design field by supporting a systems view of instruction. Based on Dick, Carey, and Carey (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.
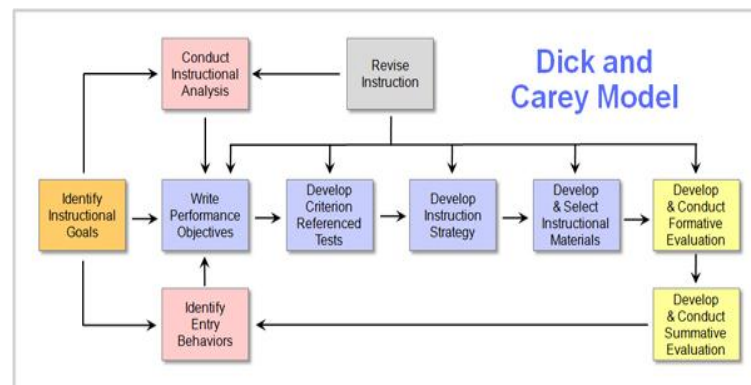
Source: Dick, Carey, and Carey. *The Systematic Design of Instruction*.

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 expert to validate her learning product. This model will be used to develop this study. The detail explanation of ADDIE model in each phase as follow:

2.4.1. ADDIE Model

2.4.1.1. Analyse

This phase is to define the problem, identify the problem source and determine possible solutions (McGriff, 2000). There are two types of needs which should be analysed (Hutchinson and Waters, 1987). Thus, the need analysis focuses on the need into two majors, target needs and learning needs. The target needs, where the researcher identifies and analyses what learners need in target situation. The learning needs, where the researcher as an observer to analyse what the learners need to support their learning activities. The explanation is below:

2.4.1.1.1. Target Needs and Learning Needs

Target needs are one of analysis that should be investigated to understand what the learners need to do in target situation. Target needs is more useful to look at the target situation in the terms of necessities, lacks, and wants

(Hutchinson and Waters, 1987). Necessities are the type of need which is determined by the demands of the target situation, that is, what student has to know in order to function effectively in the target situation. In this research, as the mentally retarded learners have to know the language related to their needs, such as reading text, knowing the meaning of terms, understanding the content whether about daily or environment, and so on. Necessities are closely linked to the situation where the learners take place.

Lacks are defined as the gap occurs between the difficulties and the necessities (Hutchinson & Waters, 1987). Every learners must have problems in the English learning such as the lack of proficiency, vocabulary, grammar, and it is also very possible if one student has different problem with others. When learners cannot reach the necessities that concern the demanded knowledge, there are lacks that become the reasons. For example, mentally retarded students do not aware with some words related to the text that make them feel difficult when doing the instruction. Meanwhile, wants mean an awareness of need that characterizes the ESP situation. This refers to wants in which learners are also given a chance to be active in deciding the needs because people can have their own thought that can be different from what the necessities require.

Besides conducting needs analysis through necessities, lacks, and wants which to find out the learners' target needs, course designers also have to know what learning needs are. Learning needs refer to what the pupils should do to achieve the target situation. When learners have already known what their goal of study, the difficulties they have, and other things they want to know, there should be a route or road to associate them. Through knowing the learning needs,

a course designer should consider some other aspects such as the situation of learning condition, the existing knowledge and skills, and the motivation of learning English. Learning needs also tell which learning methods and learning materials students have to learn in order to achieve the target situation.

2.4.1.2. Design

In this phase, instructional designers begin to create a framework and create the project in order to meet the goals which is identified in analyse phase (McGriff, 2000). The researcher uses Project Based Learning (PBL) strategy to develop the activities of reading material.

2.4.1.3. Development

In this third phase, the instructional designer integrates the technology with the educational setting and process in order to develop reading material.

2.4.1.3.1. Multimedia

Richards and Schmidt (2002) explain multimedia as the use of several different kinds of media for a single purpose, e.g. as in a video that uses film, audio, sound effects, and graphic images. They also enhance that multimedia is a collection of computer controlled or computer mediated technologies that permits people to access and use data in a diversity of forms: text, sound, and still-moving images. Multimedia is used to refer the text combination and images on a display's computer (Rockwell & Mactavish, 2004).

The use of multimedia in teaching of reading is expected to help the students attaining the competence. Besides, it is also expected to enhance the

students' interest in learning reading and improve their reading skill. Multimedia in teaching-learning process is regularly related with Computer-Assisted Language Learning (CALL). CALL has come to encompass issues of materials design, technologies, pedagogical theories, and modes of the instruction (Halimah, 2015). There are some available software that included to multimedia. They are Macromedia, Adobe Flash Player, Corel Draw, Lectora Inspire, Adobe Photoshop, Microsoft Power Point, etc. From those explanation, it can take the conclusion that multimedia is an interactive tool of CALL that consists of video, picture, audio, etc. to support the teaching reading. Multimedia application is a collection of some software to create a product. In this study, the researcher uses Macromedia Flash.

2.4.1.3.1.1. Macromedia Flash

Macromedia flash is a package used to design, presentation and publication. The program is the supporting usage in picture, sound, text, video, and animation (Saputra & Tiarina, 2013). According to Lisda, et.al (2015), Macromedia flash learning method is learning system using software-hardware which facilitates the data process in the form of picture, video, photography, graphic, and animation, in collaboration with sound, text, and voice data interactively controlled by computer. It is also providing a sort of quiz which will contribute for teaching-learning process more interesting than before. Explaining and delivering lesson through picture, video, in collaboration with text attractively will make hearing-impaired learners are more interested in learning and comprehending the material of reading.

2.4.1.4. Expert 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.

2.4.1.5.Implementation

This phase is about transforming our plan into action. We have to consider three major steps, which are training the instructors, preparing the learners, and organizing the learning environment.

2.4.1.6. Evaluation

The next process in ADDIE model is Evaluation phase. It is very important to evaluate each step in order to make sure that we achieve our purposes using the instructional design and materials to meet the learner needs.

2.4.1.7. Final Product

After completing the revision, this final product is in the form of developing reading material application for mentally retarded students.

2.5. Previous Studies

The researcher relates this study with the previous researches in order to avoid replication. The first previous study, Sundari, et.al (2015), the researcher developed the application "Gredio" for learning reading for six mentally retarded

students through phonetic method which the materials focused on introducing the syllabes that arranged on each chapters. The methodologies of this study by doing ADDIE which the researcher did a survey to see need analysis. Even though, it was not clear enough explanation in methodology. The result showed that the application can help the students to read. The researcher suggested to the further researcher to provide more other materials, such as pronouncing sentences. The similarities of the researcher's study that it is RnD research and the subject is mentally retarded students. The different is that the researcher focuses on developing reading material, using Macromedia Flash as a media, and PBL strategy to be used.

The second study, Diwangkara, et.al (2016) also did a study to design interactive 3D animation learning media for reading and writing which was used by mentally retarded students. The researcher used Adobe Flash to create 3D animation. This study used RnD and RAD method. The researcher did a survey and interview to find out the need analysis. The result showed very positive based on the questionnaire decision. Meanwhile, the researcher suggested that it was needed to develop more related to reading words and sentences. The similarity between this study and the researcher's study is on the design of study, flash multimedia as media and the subject. The difference is that the researcher focuses developing reading material and using PBL as a strategy.

Guven & Duman (2007) conducted a study to determine the effectiveness of a project-based learning program delivered to children with mild mental disabilities. Seven children of a public elementary school are as the subject in this experimental research. The researcher did pre-test and post-test which the topic is

in general and in all subtests (point to the patisserie, point to the foods/drinks, point to the workers, point to the things at the patisserie, what we give to the waiter before leaving and proper behaviour at the patisserie). The results showed the importance of project-based learning for the children. The similarities between this study and the researcher's research are the subject and strategy. The different from the researcher's research is that the researcher focuses on reading skill and uses media which is Macromedia Flash.

The fourth study, Nurcahyoko (2011) did a study to develop reading material of public tolerance through interactive multimedia using flash player for the fourth grade students of elementary school. The researcher conducts the research in the school of special needs and attempts to use ADDIE model. The methods are Need Analysis, design of the prototype, developing material, implementation, questionnaire to the learners, to evaluate the learning processes and outcomes. The result showed that the multimedia reading material is significant for helping the students to understand the material. The similarities between this study and the researcher's research are developing material and using flash player. The different from the researcher's research that the researcher focuses on mentally retarded students.