

CHAPTER 3

METHODOLOGY

This chapter elaborates the method employed in this research and describes the procedures of the study to answer the three questions stated in Chapter 1. It covers the formulation of the problems, research design, research site and participants, data collection, and data analysis.

3.1 Formulation of the Problems

1. How is Quantum Thinker implemented in teaching reading?
2. What are the benefits of using Quantum Thinker model in teaching reading?
3. How do students respond to the implementation of Quantum Thinker model in their reading activity?

3.2 Research Design

In order to answer the initial questions, this study employed qualitative method by involving a case study, to establish the meaning of a social phenomenon from the participants' view by identifying a culture-sharing group and studying how it developed shared schemes of behavior over time (Creswell, 2003). In relation to that definition, this study was conducted to find out how the implementation of Quantum Thinker is implemented, supports students' reading comprehension and benefits for teacher and students in teaching reading and how the students respond to the implementation of Quantum Thinker model. Those were indicated by classroom benefits, reading model benefits, and also to reveal their responses during the reading learning processes with this model.

To achieve depth information and understanding of Quantum Thinker reading model in reading process by using qualitative method. The Case Study method was chosen to answer the research questions in exploring Quantum Thinker model in teaching reading. This is in line with Stake's (1995) statement as cited by Creswell (2003) that case study is a qualitative method strategy in which

the researcher explores a program in-depth, an event, an activity, a process, or one or more individuals in-depth by collecting detailed information using a variety of data collection procedures over a sustained period of time. Merriam (1988) added that case study involves description, explanation, and people's individual judgments and collective social actions, beliefs, thoughts, and perception, so that it can be classified as an evaluated study. Since the teaching program is made and implemented by the teacher in order to evaluate its appropriateness, this study can also be categorized as a qualitative program evaluation (Nunan, 1992, as cited by Emilia, 2005). In relation with this, the teacher was also a participant observer since he took part in the research (Merriam, 1998).

Furthermore, the characteristics of an individual unit such as a child, a group, a class, a school, or a community is observed typically by the case study researcher (Nunan, 1992). Similarly, Emilia (2005) states that a case study design is employed in "a small scale, a single case" and "focus on one particular instance of educational experience or practice".

3.3 Research Site and Participants

The study was conducted in a public senior high school in Bandung. This school was chosen since the partnership is developed and supported which leads to the enhancement of the feasibility of the research (Bowen, et al., 2009) Moreover, nine eleventh grade students were involved as focused participants of the study because the curriculum of grade 11 is suitable for the purpose of the research, expecting students to learn English text such as Procedural text, Factual Report text, Analytical Exposition text, and short Biography text, and providing more opportunities and eases to conduct the research and gain focused data.

3.4 Data Collection

In order to collect the data, three instruments were used, those are, classroom observations, written documents (Lesson Plans, Students' Activities Checklists, Teacher's Field Notes, Students' worksheets, and video recording transcriptions),

and interview. Those instruments were aimed to gather the data accurately and to answer the proposed research questions.

The research was conducted in adjustment to the school timetable as can be seen at the Research Procedure section. The data were collected in three weeks. During the research, the writer took part and acted as participant researcher (teacher).

3.4.1 Instruments

The instruments used in this study were classroom observation, written documents, and interview. Those instruments were used in order to gain the data about the implementation of Quantum Thinker model in teaching reading, the benefits of using Quantum Thinker model in teaching reading and the students' responses of the implementation of Quantum Thinker model in their reading activity.

3.4.1.1 Classroom observation

In this study, classroom observation was used to gain data during the implementation of using Quantum Thinker model in teaching reading. The classroom observations were conducted five times. The type of the observation in this study was participant observation (Merriam, 1991) since the writer took part as the teacher in implementing the Quantum Thinker model in teaching reading. Nunan and Carter (2001) explained that participant observation is conducted by someone who is a member of the group under investigation (e.g. the teacher or student in the classroom). Each meeting spent 80 minutes and video recording was used in each meeting to be observed by the writer in order to gain more data about the reading process. Moreover, the following observations were also achieved by using students' activities checklist in observing reading process as described below.

Table 3.1 Students' Activities Checklist

LEARNING PROCESS	ACTIVITIES	YES	NO	EVIDENCE

There is Always Another Way	The students were motivated and engaged in the activity			
	The students were interested to the title of the text, knew its meaning and used the target language with ease			
Always Want to Know about Something	The students understood the reading instruction			
	The students grew enthusiasm in creating questions related to the title of the text			
Look for As Many Ideas	The students actively looked for ideas based on their knowledge toward the topic			
	The students faced several difficulties on relating the topic with their knowledge			
Find The Example In The Environment	The students actively looked for ideas based on their experience toward the topic			
	The students faced several difficulties on relating the topic with their experience			

Stay Focus on What is Wanted	The student read the text			
	The students faced several difficulties on reading the text			
	The students could comprehend the text			

Adapted from the principles of Quantum Thinker by DePorter (2009)

In connection with classroom observation, teacher field notes were also used during the observation in five meetings. Patton (1990) stated that field notes are beneficial in a qualitative research in order to achieve the content analysis. Therefore, the real-life teaching situation and reflection were recorded by these instrument. In addition, students' responses were also observed during the observation. It was analyzed by categorizing the students' activities checklists and teacher field notes into several codes of responses. Each students' response was presented by the evidence found during the teaching and learning activities in the class. The criteria which were used in order to analyze the students' responses of the implementation of Quantum Thinker model in teaching reading are as follows:

Table 3.2 Observed Students' Responses

Reading Process Procedure	Students' Responses
Observing (There is Always Another Way)	Enth = Enthusiastic Crea = Creative
Questioning (Always Want to Know About Something)	Re = Reluctant Con = Confused (+) AS = Longer Attention Span
Exploring (Look for As Many Ideas)	(-) AS = Shorter Attention Span
Associating (Find the Example in The Environment)	

Communicating (Stay Focus on What is Wanted)	
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3.4.1.2 Written documents

As one of the instruments of this research, written document was used to gather the data in answering the research questions. The written documents were in forms of 1) Lesson plans during the five meetings observation, 2) Students' activities checklists and teacher field notes, 3) Students' worksheet during the five meetings observation, and 4) Video recording transcriptions.

Teacher's field notes (see Appendix D) were analyzed to point out the teacher's perception toward the learning process in the class. Nunan & Carter (2001) stated that teacher's field notes provide a chronological comments on the events that occur in the class. Field notes provide a human, interpretive, dimension to observational data (Insani, 2014). Teacher's field notes were also used to evaluate the teacher and the students' performance in the implementation of Quantum Thinker model. Therefore, in order to gain more data of the observation, several notes were always written by the teacher. In addition, students' activities checklists would be analyzed to see how the students respond the learning process. Last, written document is video recording transcription (see Appendix F) that was transcribed from each meeting. Finally, several evidences related to the reading activities by implementing Quantum Thinker model was carried out by the writer.

3.4.1.3 Interview

In this study, interview with open- and close-ended questions was aimed to collect the information about the students' thoughts, feelings, responses, difficulties, and expectations towards the implementation of Quantum Thinker model in their reading activity during the observation. As Creswell (2003) stated that in qualitative research, open-ended interview is used to gain detailed views from participant. The focus group interview was conducted in this study to gain more insight from the students. Richardson and Rabiee (2001) described that focus

group interview is a technique which involves the use of in-depth group interview in which participants are selected because they are purposive. In addition, focus group interview provide a convenient situation to the students in order to gather the individual knowledge (Brown et al, 1989, p. 40) as cited in Patton (1990). Keegan (2009) added that group interview is conducted in order to create relaxed, versatile and open environment, foster creative forum, and enable diversity of response.

The interview was conducted to the students after the observations were done. It was delivered in Bahasa Indonesia in order to make students easier to answer and to gain in-depth responses from them. The focus group interview involves an informal situation. As stated by Patton (1990) that informal conversational interview is the most open-ended approach to interviewing since it is highly responsive to individual differences and situational changes. Moleong (2000) added that informal situation is involved in order to obtain sincere statements and answers from the answer. The interview guideline can be seen in Appendix C. The questions formulated in the interview were aimed to gain the data about reading as one of English skills, Quantum Thinker model implemented by the teacher and how it affects the students' reading skill, and the students' expectations of a better Quantum Thinker model.

3.4.2 Research procedures

3.4.2.1 Teacher's activity before the program

Before starting the research, the researcher who was also the teacher prepared the lesson by following several points proposed by Paul (2003). In analyzing the lesson plans, the lesson activities were read by the researcher to see the sequences between each activity and implemented the Quantum thinker model in the lesson plan to support the classroom activities.

1) The core target for the lesson

The general target of the lesson was to give students chances to express their ideas toward the text that is learned by questioning, answering, reading, and discussing. The lesson was also used to engage students in their reading process,

so that their ideas toward the text were expected to be the information consisted in the text. At the end of the program, the teacher would like to find out the students' development in reading English as a foreign language.

2) The equipment and lesson material that would be needed

Since the reading model used was Quantum Thinker model, the main equipments of the lesson were pictures and students handout. The pictures were used in order to trigger the students' prior knowledge toward the topic at the beginning of the lesson. Therefore, the pictures were varied in each meeting due to the different topic based on the lesson plan (see Appendix A) such as pictures of bicycle, lightning, cigarette, fast food, and B. J. Habibie. Meanwhile, the students handouts were used by students to note their questions and answers toward the text learned in each meeting that later, after they read the text, the students handouts would be marked for questions and answers that appeared in the text. Furthermore, the students handouts were in a form of table that consists of prediction column (questions and answers) and mark column.

Regarding the material given, the material was chosen by the researcher that closely related to students' daily life and environment. The material also was in line with the curriculum and syllabus at the school. After choosing the materials and arranging the activities, the researcher started to design the lesson plan and prepared the teaching media.

3) The activities that will be used

Generally, the technique used in teaching reading was stages based on the curriculum 2013, namely Observing, Questioning, Exploring, Associating, and Communicating. Those stages of activity were conducted by the teacher in each meeting.

3.4.2.2 Teacher and Students' Activity: Implementing the Lesson

In implementing the lesson, the teacher combined the curriculum 2013 stages and Quantum Thinker model that consist of Observing (*There is Always Another Way*), Questioning (*Always Want to Know About Something*), Exploring (*Look for*

as Many Ideas), Associating (*Find The Example in The Environment*), and Communicating (*Stay Focus on What is Wanted*).

The following Table 3.3 shows the research timetable conducted in this research.

Table 3.3 The Research Timetable

No.	Activities	Meeting(s)				
		1	2	3	4	5
1	Intriduction and Classroom Observation 1	√				
2	Classroom Observation 2		√			
3	Classroom Observation 3			√		
4	Classroom Observation 4				√	
5	Classroom Observation 5 and Interview					√

The following is the summary table of the lesson conducted during the observations.

Table 3.4 Lesson Summary

Meeting	Topic	Lesson Objective	Reading Model (Quantum Thinker)
1 (5 th September, 2014)	How to Ride a Bicycle (Procedural Text)	<ul style="list-style-type: none"> Identifying the social function and elements of Procedural Text. Arranging jumbled steps of Procedural Text. Writing tips in Procedural Text. 	The Quantum Thinker
2 (12 th September, 2014)	What is Lightning and Thunder? (Factual Report Text)	<ul style="list-style-type: none"> Identifying the social function and elements of Factual Report 	

		<p>Text.</p> <ul style="list-style-type: none"> • Identifying main topic, detailed information, and certain information of Factual Report Text. • Note taking of Factual Report Texts. 	<p>model was used similarly in each meeting and associated with the topic and lesson objectives in each meeting. See appendix A for further information.</p>
<p>3 (19th September, 2014)</p>	<p>Fast Food (Junk Food) is Never Good for Our Health! (Analytical Exposition Text)</p>	<ul style="list-style-type: none"> • Identifying the social function and elements of Analytical Exposition Text. • Identifying main topic, detailed information, and certain information of Analytical Exposition Text. • Creating a Mind Map from a topic in Analytical Exposition Text. 	
<p>4 (26th September, 2014)</p>	<p>The Dangerous of Smoking (Analytical Exposition)</p>	<ul style="list-style-type: none"> • Identifying the social function and elements of Analytical Exposition Text. 	

		<ul style="list-style-type: none"> • Identifying main topic, detailed information, and certain information of Analytical Exposition Text. • Creating a Mind Map from a topic in Analytical Exposition Text. 	
5 (3 rd October, 2014)	Bacharuddin Jusuf Habibie (Biography)	<ul style="list-style-type: none"> • Identifying the social function and elements of Biography Text. • Identifying main topic, detailed information, and certain information of Biography Text. • Writing moral values from an Indonesian Role Model. 	
<p>NOTE:</p> <p>The activities were based on the lesson objectives. See Appendix A for further details.</p>			

3.5 Data Analysis

Data collection from classroom observation, written documents, and interview above had no meaning until it was classified, organized, and interpreted

(Alwasilah, 2000). Alwasilah (2000) further explained that to interpret the raw data, the data were analyzed in three steps: coding, categorization, and interpreting the data. Those instruments will be presented in a form of descriptive explanation. Moreover, in order to enhance research reliability and validity, the data gained from three instruments were cross-checked by using triangulation (Vidovich, 2003). Triangulation is the use of multiple-data-collection methods which contribute to the worthiness of the data and it can increase confidence in research findings (Glesne and Peshkin, 1992). The statement is supported by Denzin (1970) as cited in Patton (1990) that triangulation is useful to overcome the intrinsic bias that comes from single-methods, single-observer, and single-theory-studies.

3.5.1 Analysis of classroom observation

In this study, the data observation were analyzed from the recorded videos during the activities in the class, particularly reading activities. The recorded videos were very beneficial to see the real situation in the class and to support the data from the students' activities checklists and teacher field notes. The recorded videos were played back in times to gain analysis in details. Several notes were written based on the students' behavior toward Quantum Thinker model's learning activities (see Appendix D). Then, those notes were interpreted into some categories to address the research questions (see Appendix E). The result of analysis will be explained comprehensively.

3.5.2 Analysis of written documents

In order to achieve in-depth insight of the situation from several aspects, students' activities checklists and teacher field notes (see Appendix D), and transcription of recorded video were used. Written documents analysis was also used to describe student learning related to the concept development, self-confident, social interaction, communication, etc.

In addition, teacher's field notes and students' activities checklists were very beneficial to comprehend teacher's perspective towards the learning process.

The writer could note what should be evaluated and improved from the lesson plan in each meeting. In order to fully comprehend the field notes, teacher's field notes were read repeatedly, categorized into several aspects related to the research questions, and paired with relevant theories explained in Chapter II.

In order to find out evidences of appropriateness in implementing Quantum Thinker model, transcription of recorded video was also analyzed. The transcription was aimed to seek the implementation of Quantum Thinker model whether it run appropriately or not during the observations. Then, the transcription was compared to the students' activities checklists and teacher's field notes in order to gain the real situation and feeling of participants during the class observation.

From these instruments, the data gained were very beneficial in supporting the data from focus group interview and were associated with relevant literature that is presented in the next chapter.

3.5.3 Analysis of interview

In order to answer the third research question about students' responses of the implementation of Quantum Thinker model in their reading activity, the result of the interview session was analyzed by the writer. Interview is "constructed" by researchers, therefore it is not naturally occurred and the direct access to the experiences of the ones studied is not provided (Silverman, 1998).

In analyzing the data from interview, firstly, the data from interview were transcribed by the writer into the written data. Secondly, the written data of interview were examined by relating the development of students' reading comprehension and students' responses to the implementation of Quantum Thinker model. Thirdly, the results of interview will be explained in relation with the research questions and relevant literature that is presented in the next chapter.

The results of data analysis derived from classroom observation, written documents, and interview were cross-checked by using Triangulation. Triangulation is the use of multiple-data-collection methods which contribute to the worthiness of the data and it can increase confidence in research findings

(Glesne and Peshkin, 1992). Duff (2008) explains that theory may be triangulated when the same phenomenon is examined through different view of literature and from the perspective of researchers in different fields, data collection techniques and results can be triangulated (e.g., observation, interviews, document analysis).

Those data were contrasted and were matched in order to gain the relationship of Quantum Thinker model and students' responses in the teaching learning. Therefore, the events or facts of case study are supported by more than single source of evidence by triangulating the data (Yin, 2003). Merriam (1998) adds that triangulation strengthen the reliability and the internal validity in multiple methods of data collection and analysis.