

## CHAPTER III

### RESEARCH METHODOLOGY

#### 3.1 Location of Research

The location of this research is one of bilingual school of PASIAD foundation that using special module in the learning activities. The special module that use is zambak modular system.

This research was conducted in 8<sup>th</sup> grade class. The subject material that used in this research is chemistry. It class chosen because in the 8<sup>th</sup> grade, student is starting to learn chemistry. So, the researcher want to investigating the implementation of zambak modular system in 8<sup>th</sup> grade class of chemistry subject.

#### 3.2 Design of Research

This research using qualitative descriptive research. Qualitative descriptive research is descriptive study was not intended to test a specific hypothesis but simply describing about something variable, symptoms, or object (Sugiyono: 2010). This is in line with the statement proposed by John W. Creswell in his book *Educational Research* (2008) that descriptive research is generally done with the main purpose, which describe systematically the facts and characteristics of the object or subject under study as appropriate. So the steps do not formulate research hypotheses. This method is based on the phenomenon, and subjects were analyzed. Descriptive technique is to present a board range of activities that have in common the purpose of describing situation or phenomena. Finally the method is expected to facilitate the researcher in drawing conclusions based on the findings of the research.

Qualitative descriptive research is chosen because the researcher conducting the research in natural settings, not manipulate or influence the situation. So the research design is quite flexible and tolerant of adjustments throughout the implementation of the study according to Siregar (1998). This research is investigating the implementation of module in 8<sup>th</sup> grade of bilingual

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school. To make successful research, to get the data that needed by researcher, so the method that used in gathering data which appropriate one is qualitative descriptive. In gathering the data, the researcher using multiple data collection method to make research become accurately. The use of multiple-data-collection methods contributes to the trustworthiness of the data. According to Glesne & Alan (1994) this method is commonly called "triangulation method" and may also involve the incorporation of multiple data sources, investigators, and theoretical perspectives in order to increase confidence in research findings. The data gathering techniques dominate in qualitative inquiry are participant observation, interviewing, and document collection. Those data technique are used in this research. To decreasing the bias of the research, cross check data is used in this research. Cross check data is used with the informant.

Therefore, a qualitative research design is often called design work (working design). Working design by Firman (2008) is beginning to plan an implementation of the study, in which it was decided on the subject of the study, the site learned, long time of data collection, variables are noted.

### 3.3 Operational Definition

1. Zambak modular system is the science module which is consist of two kinds format are text format and software format. So, the combination of those formats called zambak modular system.
2. Zambak modular system implementation can be interpreted as the implementation of zambak modular system in learning activities by teacher to increasing the ability of student in gaining the material of physical and chemical changes and the evidence of chemical reaction concepts in classroom.
3. Learning cycle is the learning cycle has been determined by observing that learning invariably follows a pattern that can be divided into three stages. Karplus argues that the learning cycle can begin at any one of the three points however, the following is the most often suggested pattern for the learning process:

### 1) Exploration

Exploration phase is known as the data-gathering and the exploring concept phase. This phase serves to stimulate curiosity, establish a need to know, raise questions, cause cognitive dissonance, or otherwise set the phase for more formal treatment of the concept, principle or relationship that is the focus of instruction by Karplus (1977). In the first phase, students work in small groups to explore the given problems and attempt to solve problems. The teacher acts as facilitator, posing questions and providing assistance as needed. Students have the opportunity to develop their own hypotheses and to test them through a hands-on experiment or observation.

### 2) Concept development

In the second phase of the learning cycle, the teacher leads the students through the introduction and development of the scientific concepts central to the lesson. This phase can be facilitated in a class discussion. The students may begin by sharing their observations and ideas from the exploration phase.

### 3) Concept application

The teacher now poses a new problem or situation for the students to solve based on their initial exploration and on the concepts they refined in the second phase. In this phase the students work individually or in small groups while the teacher acts as facilitator. The learning cycle may then begin again, as these hands-on activities become the starting point for the exploration and development of a related concept.

## 3.4 Stages of Research

Based on Sukmadinata (2010) generally, there are 3 stages that conducted in this research study, are:

### 1. Preliminary Stages

#### 1) Arranging draft of research

In this stage, during conduct the teaching practice (PPL) in one of bilingual school in Bandung, the researcher find the uniqueness of this school. The uniqueness is view at the sources of teaching material in the teaching learning process. All of the subject material of science such biology,

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physics, and also chemistry using a module as a main learning sources. Not only science but also for mathematics. The module called zambak modular system.

The result of using that module to the students is from their understanding in a concept. They have the deep understanding at a concept whereas the main sources is a module, beside that the using of module during teaching and learning occur is the other uniqueness from this school. So, that situation bring researcher to conduct the research to explore more about the module uses in this school.

#### 2) Selecting location of research

Based on the problems of research come, so the location that used to conduct the research as a data sources is the one of bilingual school in Bandung which is use zambak modular system.

#### 3) Set licensing of the research

To conduct the research, setting the licensing of the research to people in around the research location is very important to create the fluency of research. The licensing that conducted by researcher from of civitas academic of school such as headmaster, chief of academic curriculum, and teachers.

Table 3.1 The Time of Licensing of The Research

Day and date	Licensing of the research
Friday, 1 <sup>st</sup> February 2013	To the headmaster
Monday , 4 <sup>th</sup> February 2013	To the chief of curriculum To the chemistry teacher

#### 4) Explore and analyze the situation of research

After the researcher get the legalization, the next stage is the researcher explore and analyze the location. In qualitative, the researcher itself as main instrument. In the exploring the whole situation of research, civitas academic very receptive the researcher.

The researcher are:

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## 5) Preparing for research

1. The researcher as main instrument
2. Arrange the interview notes briefly for teacher
3. Preparing the camera cord or handy camera

## 2. Data Collection Stages

In this stage, researcher conducts many activities such as:

## 1) Observations

Conducting an observation to the teaching and learning process. Observation is done by using handy camera. During observation, a researcher writing the field notes.

Table 3.2 The Time Conducting the Observation

Day and date	Conducting observation
Wednesday, 13 <sup>th</sup> March 2013	1 <sup>st</sup> observation using handy camera
Wednesday, 27 <sup>th</sup> March 2013	2 <sup>nd</sup> observation using handy camera
Wednesday, 3 <sup>rd</sup> April 2013	3 <sup>rd</sup> observation using handy camera
Wednesday, 10 <sup>th</sup> April 2013	4 <sup>th</sup> observation using handy camera

## 2) Field notes

Writing field notes during observing the teaching and learning process. Field notes are come from teacher notes that giving to the students, something that cannot be obtained by handy came, write the other important information.

## 3) Interviews

Conduct the interview to the teacher (Thursday, 11<sup>th</sup> April 2013)

## 4) Documentation

1. Analyzing the whole content of zambak modular system
2. Analyze the chemistry annual plan of one in 8<sup>th</sup> grade class
3. Analyzing the worksheets of students

## 3. Data Processing Stages

After researcher has the data from collecting data stages, the next steps is processing the data. The data will be process by:

- 1) Transcript of the video data from observation learning process and interview field notes data
- 2) Writing the result of analyzing documents  
Transcript the interview of teacher
- 3) Analysis all of the transcript and documents
- 4) Take the conclusion, verification
- 5) Result of narration



### 3.5 Research Design

Research design is a guideline of research study and make researcher more focus on the stages of research. In this research the research design data based on the research stages. Research design is help to describe the pattern that conducted in this research.

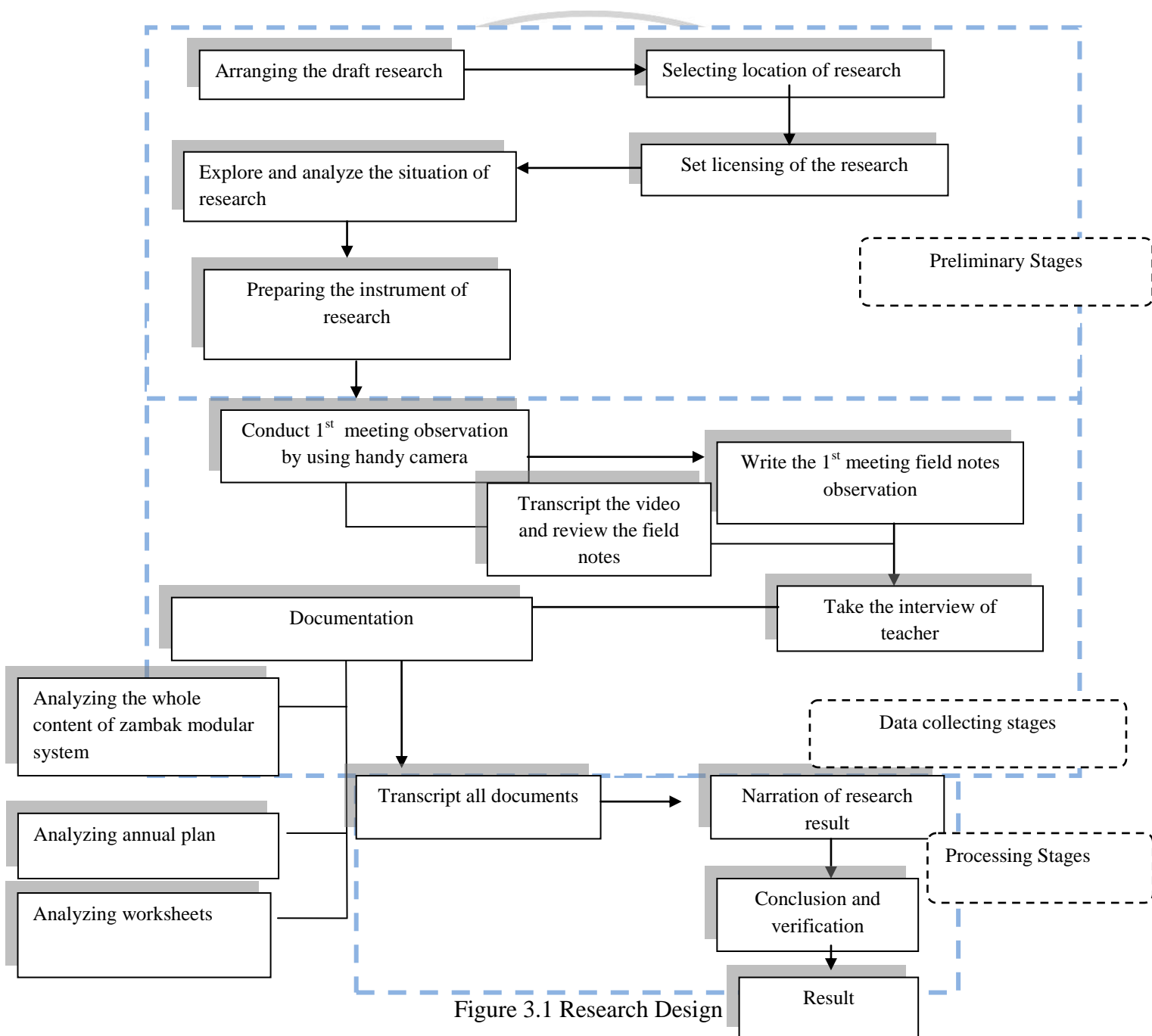


Figure 3.1 Research Design