CHAPTER III
RESEARCH METODOLOGY

This chapter is intended to discuss the research methodology to find out the answers of the research questions. This chapter consists of research design and methods, research site and participants of the study that emphasizes on the place where the study was conducted and the participant were involved, data collection, data analysis techniques and concluding remark of this chapter.

3.1 Research Design and Methods

This research employs a qualitative research method since the main objective is to describe and analyze the English teachers' implementation of Scientific Approach in 2013 curriculum in the classes. Qualitative research fits to this study, as Creswell (2012, 16) argues that

> "A qualitative research explores a problem and develops a detail understanding of a central phenomenon, collects data based on words from a small number of individuals so that the participants' views are obtained, and analyzes the data for descriptions and themes using text analysis and interprets the larger meaning of the findings".

Qualitative reasearch helps to achieve deep understanding of research topics and phenomena (Wimmer & Dominic, 2006). The qualitative data are usually in the form of words and are common to be applied in lingistics and educational research (Huberman, 1994). Bogdan and Biklen (2007, cited in Fraenkel et al., 2012, 426) add that Qualitative describes that the natural setting is the direct source of data, the researcher is the key instrument, the data are collective in the form of words or pictures rather than number, the researchers are concerned with process as well as product and the research tends to analyze the data inductively and "meaning" is essential to the qualitative research.

This research is one of the qualitative research employing a case study. Creswell, (2012) "claims that a case study is an exploration of a bounded system" or a case (or multiple cases) over time through detailed, in-depth data collection involving multiple sources of information rich in context (e.g., observations, interviews, audiovisual material, and documents and reports). A case study

investigates to answer specific research questions and seek a range of different kinds of evidence which is there in the case setting and which has to be abstracted and collated to get the best possible answers to the research questions (Gillham, 2000, p.1-2). it strives to portray 'what it is like' to be in a particular situation, to catch the close up reality and 'thick description of participants' lived experiences of, thoughts about and feelings for a situation (Geertz 1973b, cited in Morrison et al., 2007, p.254).

According to Yin (2002, p.1) a case method is the "preferred strategy when "how" or "why" questions are being posed. The case was represented as a teaching approach consisting of steps to form sequential activities given to the students (Creswell, 2012, p.465, see also Merriam, 1988, p.13). There are four aspects in a case study, (1) a qualitative approach to studying a phenomenon; (2) focus on a unit of study, or a bounded system, (3) not a methodological choice, but a choice of what to study, and (4) an all-encompassing research method (Gay et al., 2009).

Case study was chosen for this research of some reasons. One of the goals of case study research is to develop an understanding of the bounded system. It investigated teachers' implementation of Scientific Approach in 2013 curriculum and discovered teachers' suitability in implementing Scientific Approach of English language teaching in 2013 curriculum and its conformation with the teaching lesson plan.

3.2 Site and Participants of the Research

The research was conducted in a state junior high school in Bandung. The place was chosen for several reasons. First, it is one of the favorite schools in Bandung Regency which has been popular and chosen to apply scientific approach for English learning and teaching since the 2013 curriculum was realised until now. It was supposed that the teachers are able to implement Scientific Approach well in English Language Teaching.

The participants who were involved in this research were three eleventh grade teachers. The teachers represent and become teacher models in implementing Scientific Approach in English Language Teaching. The teachers were trained on the 2013 curriculum by the government and one of them is a national intructor. The

researcher observed and videotaped the teachers, then their videos and lesson plans were analyzed. They were also interviewed to obtain further information regarding their responses towards the implementation of scientific approach in English teaching.

3.3 Data Collection

Since this study employed qualitative design which employed a case study, the data were collected through classroom observation and teachers' lesson plan. In addition, the interview was conducted as a supporting data, and finally the findings wre summarzed.

3.3.1 Classroom Observation

The first instrument is classroom observation. It is a research process that offers an investigator the opportunity to gather 'live' data from naturally occurring social situations (Morrison et al., 2007, p.396), provides a reality check and enables a researcher to look a fresh at everyday behaviour that otherwise might be taken for granted, expected or go unnoticed (Robson, 2002, p. 310).

The observation was employed to attain information about teaching learning activities in the classroom especially about teachers' competence in implementing Scientific Approach in English Languate Teaching in 2013 curriculum. According to Fraenkel & Wallen (2006), classroom observation is conducted to get more detail and accurate information of what students and teacher are doing in the class. Thus, by using these kinds of instrument, the researcher can capture all of the aspects and details in the lesson and also it will give a complete information for the researcher.

Classroom observation employs non-participant observation where the researcher acts as a complete observer, who does not participate in classroom activities (Fraenkel&Wallen, 2006, p.384). The researcher observed and recorded the whole process of teaching and learning activities that had been determined regarding to how the teachers implemented Scientific Approach in English Language Teaching based on 2013 curriculum.

Here is the Observation Time Table of Classroom Observation:

Table 3.3.1 Observation Time Table of Classroom Observation

No	Participant	Schedule	Class	Topic
1	First Teacher (A)	Friday, March 6th, 2015, 7:05:26 AM	A	What does it look like? (Describing things)
		Wednesday, March 11, 2015, 9:32:06 AM	B	What does it look like? (Describing things)
2	Second Teacher (B)	Monday, March 9, 2015, 9:16:15 AM	C	Describing idol
		Tuesday, March 17, 2015, 8:55:08 AM	D	Describing idol
		Friday, July 31th, 2015, 8:55:08 AM	E	Greeting
3	Third Teacher (C)	Wednesday, March 18, 2015, 10:46:26 AM	F	Instruction

As the data presented above, Classroom observation in this research began on March. Teacher A did the observation twice because the teacher A wanted to compare the approach and material in two different classes. Teacher A stated that class A was more active than class B.

Teacher B was observed three times. The first and second observation conducted the same materials and approach in two the different classes, and the third observation was done after following the national training of 2013 curriculum on July (KURNAS).

Teacher C was observed once because she remarked that one observation was enough. The observer took the video during the session.

According to Alwasilah (2015, p.123), observation does not only involve watching but it also includes investigating and observing in detail in the real setting. Thus, the researcher recorded the observation by taking teaching video and took note for underlying the important points during the observation.

3.3.2 Document Analysis

The implementation of scientific approach in 2013 curriculum was examined through documentation. Documentation is one of qualitative data collection methods conducted by viewing or analyzing documents created by the research subject or by others on the subject (Haris, cited in Khasanah, 2015, p.41). It can provide information about the state, rules, discipline, and may provide clues about the style of leadership (Moleong, 2009, cited in Khasanah 2015). Thus, lesson plan needs to be analyzed to determine whether the lesson plan is in line with the principles of 2013 Curriculum.

Document analysis was conducted to analyze the lesson plans collected from each teacher after conducting the observations. There were four lesson plans analyzed in this study. The first lesson plan labeled L1 for lesson plan made by Teacher A; L2 and L3 for lesson plans made by Teacher B; and L4 for lesson plan made by Teacher C. The two lesson plans were written in Indonesian. The teachers' lesson plans results were discussed in data findings and discussion as the document analysis of Government's file in 2013 curriculum.

3.3.3 Interview

The interview was employed in the research to find out deep information from the teachers. It is a process of exchanging information and idea through questions and responses, resulting in communication and joint construction of meaning about a particular topic (Esterberg, 2002). By providing access to what is 'inside a person's head', interview makes it possible to measure what a person knows (knowledge or information), what a person likes or dislikes (values and preferences), and what a person thinks (attitudes and beliefs) (Tuckman 1972, cited in Morrison et al., 2007, p.351).

The interview was done to each teacher after finishing conducting the classroom observations to gain detailed information and description about scientific approach in 2013 curriculum. The interview was conducted in Indonesian to make the teachers more comfortable in expressing their opinions regarding the implementation of Scientific Approach. It is hoped that the interview could add the collection of data from the observations. The researcher took a note to record the information.

3.4 Data Analysis

The data obtained from classroom observations, document analysis and interview were analyzed as followed:

3.4.1 Classroom observation

The recording of the classroom observation was transcribed into written form and stages, which were subseuenly categorized and analyzed in the form of observation sheets. The reseacher followed Ministry of Education rubric as showed on the table below. The following is the example of analysis using the rubric:

Table 3.4.1 Observation sheet

No	Participant	Topic	Observing	Questioning	Experimenting / Exploring	Assosiating	Networking/ Communicating
1	Teacher A	Describing things (What does it look like?)	The teacher presents monkey doll to be observed by the students.	· The teacher constructes active learning and encoureges the students to give and response the related questions based on the monkey doll's appearance.	- The teacher gives chance to explore more information from the discussion. - The students construct the knowledge to express the statements of describing the monkey doll. - The teacher pronounces the	· The teacher gives clear instruction to relate the students' current knowledge of describing the monkey doll and elaborate it to describe the tumbler or aids box).	- The teacher asks them to make a short description of tumbler or first aids box in the groups of two and present their chosen description in front of the class in the form of short conversations.

	· The teacher motivates the students to discuss, argue and develop their thinking skill ability.	words and they imitate the teacher's pronounciation. - The students try to apply the pattern of describing things.	· The teacher gives the chance to the students to relate their exploring knowledge to describe new media (tumbler or aids box) · The teacher asks the students to analyze the statements to describe the monkey doll and elaborate them to describe the tumbler or aids box. · The teacher asks them to conclude their findings.

3.4.2 Document Analysis

The teachers' lesson plans were analyzed in terms of components of lesson plan stated in the Decree of Minister of National Education no. 65/2013. The researcher analyzed the indicators, objectives, materials and media, and teaching procedures (Scientific Stages and its model).

3.4.2.1 Analyzing learning indicators, learning objectives and learning material

The written lesson plan was analyzed by clasiffying and defining the components of the observation rubric. The reseacher followed the Ministry of Education rubric as shown in the table below. The following is the example of analysis using the rubric:

Table 3.4.2.1 Learning indicators, objectives and material rubric

Core Competences				
Menghargai dan menghayati ajaran agama yang dianutnya.				
Menghargai dan menghayati perilaku jujur, disiplin, bertanggung-jawab, peduli (toleransi, gotong royong), santun, percaya diri, dalam berinteraksi secara efektif dengan lingkungan sosial dan alam dalam jangkauan pergaulan keberadaanya.				
Memahami pengetahuan (faktual, konseptual dan prosedural) berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni budaya terkait fenomena kejadian tampak mata.				
Basic Competence	Indicators	Learning Objectives	Learning Material	Learning Media
***Memahami (C2) fungsi sosial, struktur teks, dan unsur kebahasaan dari teks instruksi* (instruction), *tanda atau rambu* (short notice), *tanda peringatan* (warning/caution) *sesuai dengan penggunaanya*.**	*Mengidentifikasi (C2) unsur bahasa dalam kalimat instruksi* (instruction), *tanda atau rambu (short notice) dengan benar dan tepat.* *Note: Pada RPP ini dicantumkan indikator kecerdasan*	*Setelah melaksanakan kegiatan belajar mengajar **(C)** siswa **(A)** dapat menangkap makna **(B)** dari teks lisan **(D)** dalam memberi dan merespon suatu instruksi.* **tidak ada degree pengikat KI-2 (dengan...)*	Verb1+Object	The contextual object. Such as the students are asked to see the door: then the teacher says "open the door!" The student text book

	spiritual dan sosial - *Melakukan kegiatan berdoa sebelum belajar.* - *Memperlihatkan semangat tinggi, tanggung jawab dan rasa ingin tahu.* - *Mengikuti kegiatan belajar mengajar.*			
Mencoba, mengolah, dan menyaji ***dalam ranah konkret (menggunakan, mengurai, merangkai, memodifikasi, dan membuat) dan ranah abstrak (menulis, membaca, menghitung, menggambar, dan mengarang) sesuai dengan yang dipelajari di sekolah dan sumber lain yang sama dalam sudut pandang/teori***				
Basic Competence	Indicators	Learning Objectives	Learning Material	Learning media
4.10. Menangkap makna teks instruksi (instruction), tanda atau rambu (short notice), tanda peringatan (warning/caution) lisan dan tulis, sangat	*Mengungkapkan (P2) instruksi (instruction), tanda atau rambu (short notice) dengan benar.*	- *Setelah melaksanakan kegiatan belajar mengajar siswa dapat mengucapkan kata-kata yang berkaitan dengan memberi dan merespon suatu instruksi.* - *Setelah melaksanakan kegiatan belajar*	Exspresion of instruction Open the door! Clean the white board, please! Swep the floor! Come forward! Read the text loudly! Etc. Response Ok	Teacher's pronounciation

pendek dan sederhana.	*mengajar siswa dapat mengucapkan kalimat-kalimat yang berkaitan dengan memberi dan merespon instruksi.*	Sure My pleasure Never mind!

3.4.2.2 Analyzing model of learning

The written lesson plan was analyzed by clasiffying and defining the matrix guidence of learning model syntax and Scientific process from the Ministry of Education files. The basic competence to the learning objectives will be presented in Indonesian because those are taken from the teachers' lesson plan while the stages being exxplained in English. The table below is the example of anlayzing teacher's model of learning.

Table 3.4.2.2 Learning model and scientific process rubric.

Particip ant	**Model Syntax**	**Scientific Approach Stages**				
		Observing	**Questioning**	**Experimenting**	**Associating**	**Communicating**
Teacher A	(Discov ery elarning, Inquiry learning, PBL or PjBL)	- The teacher expresses some instruction and the students listen to the expression carefully. - The teacher asks the students to take a note to record their observaton.	- The teacher stimulate the students to offer questions.	- The students are requested to use students' textbooks, the students search the examples of instruction. - The students identify the language features of instruction.	- The teacher gives an examples to pronounce the instruction and the stduents imitate the expression modeled.	

3.4.2.3 Analyzing learning assessment

The learning analysis based on the authentic assessment of 2013 curriculum. The variety of 2013 curriculum assessments (Permendikbud No.66, 2013) consists of: (1) attitude assessment (observation, self-assessment, peer-assessment, and journal), (2) knowledge assessment (written test, verbal test, and task), (3) skill assessment (performance-assessment, portofolio-assessment, and project-assessment).

3.4.3 Interview

Interview was conducted after the classroom teaching process finished. It was done to ask more about the teachers' opinion and ideas (Sugiyono, 2010). Their opinion and perspectivee towarded the Scientific implementation was aimed at adding some extra information. The data was categorized as supplemented to answer research questions related to the implementation of Scientific Approach in 2013 curriculum.

The interview consists of six questions which are specifically organized on the following guideline:

Table. 3.4.3 Interview's Questions

Types of questions	**Number of the questions**
Teachers' background	1
Teachers' opinion about scientific approach and its implementation	2-4
Teachers' experiences in implementing scientific approach	5-6

3.5 Data Valididy

Testing the validity of the data should be done before analysing the data by employing credibility, transferability, dependability, and confirmability (Sugiyono, 2015). The techniques to test the credibility of the data in the qualitative research include doing longer observation, increasing diligence in research, triangulation, peers discussion, negative case analysis, and member check (Sugiyono, 2015, p.368). In this study, the researcher employed triangulation for testing the validity of the data. Wiliam Wiersma (1986) claims that:

> Triangulation is qualitative cross-validation. It assesses the sufficiency of the data according to the convergence of multiple data sources or multiple data collection procedures.

According to the definition, the researcher is able to check the finding by comparing the data gained from multiple techniques.

3.6 Concluding Remark

This chapter has presented the design and methodology of the research which is aimed to investigate the implementation of Scientific Approach in 2013 curriculum.

This chapter has explained the research design and method, site and participants, data collection, and data analysis. After explaining the research methodology, the next chapter is going to discuss and analyze the data gained from the data collection.