

## **CHAPTER II**

### **REVIEW OF LITERATURES**

#### **A. Theoretical Framework**

This chapter presented the result of reviewing of related literature including The Teaching and Learning of English, Curriculum, 2013 Curriculum, Scientific Approach, Scientific Approach in 2013 Curriculum, Implementation of Scientific Approach in English instruction and some previous studies related to the topic of this study.

##### **1. The Teaching and Learning of English**

The definition of teaching cannot be separated from the definition of learning. The understanding towards the concepts of teaching and learning may underlie the success of language teaching and learning process. Therefore, the following presents a discussion on the notion of teaching and learning. Tomlinson (1998: 4) states that learning is normally considered to be a conscious process which consists of the committing to memory of information relevant to what is being learned. In addition, Murray and Christison (2011: 140), state that learning is a process that brings together cognitive, emotional, and environmental influences for the purpose of making changes in one's knowledge, skills, values, and worldviews. Learning also

refers to a relatively permanent change in behavior as a result of practice or experience.

#### A. Teaching English as a Foreign Language

By the end of the twentieth century, English was already well on its way to becoming a genuine lingua franca, that is a language used widely for communication between people who do not share the same first (or even second) language (Harmer, 2007 : 13). This rapid expansion of the use of English as an international language led its position including in Indonesia. In Indonesia, English might be categorized as a foreign language. It denotes that the learners of the language are the foreigners who study it for various purposes.

Supporting the above statement, Brown (2001:118) states that English increasingly used as a tool for interaction among non-native speakers. He adds that most of English language teacher across the globe are non-native English speaker. It means that their language is not monolinguals, but bilingualism. Instead, English as a second language has become a tool for international communication in transportation, education, commerce, banking, tourism, technology, diplomacy, scientific researcher in the world including in Indonesia.

In addition, Brown (2001:3) states that English as a foreign language always refers specifically to English taught in countries where English is not

a major language of commerce and education. They may be obtainable through language clubs, special media, opportunity books, or on occasional tourist, but efforts must be made to create such opportunities. Concerning the way in English teaching, Harmer (2001: 4) states that a foreign language does not have an immediate social and communication function within the community where it is learned.

It is mostly to communicate elsewhere. Furthermore, foreign languages are those in which the students do not have a readiness for communication beyond their classroom, they may be obtainable through language clubs, special media, or books. Based on those statements above, it is clear that teaching English in Indonesia is regarded as teaching English as a foreign language. English is spoken by Indonesian people neither informal nor in daily communication. In the daily life, English is learned in a very limited environment such as at school as one of the compulsory subjects.

## **2. Curriculum**

### **a. The Definition of Curriculum**

In Indonesia, definition of curriculum found in Pasal 1 butir 19 UU No. 20 th. 2003 about National Education system, that Curriculum is a set of plans and arrangements about the purpose, content, teaching materials and methods used to guide the implementation of learning activities to achieve specific educational goals (Imas and Berlin, 2014). The definition of the

curriculum is a device that used as a reference in developing a learning process that contains students activities to achieve a specific learning objectives and purpose of education in general.

b. The Function of Curriculum

Basically, curriculum serves as a guide or reference. For teachers, the curriculum serves as a guide in implementing the learning process. For Headmaster and supervisors, curriculum serves as a guideline in conducting supervision or oversight. For parents, the curriculum serves as a guide in guiding their children learn at home. For society, the curriculum serves as a guide to provide assistance to the educational process in schools. As for students, the curriculum serves as a study guide.

**3. 2013 Curriculum**

A curriculum is an important tool to get success in education. Without an appropriate curriculum, it is difficult to reach the goal of education. In the history of education in Indonesia, Indonesia has several times in held curriculum change. Indonesia has been implementing 2013 Curriculum as the revision of previous curriculum, School-Based Curriculum (KTSP). Curriculum change based on the awareness that development and change that occur in society in Indonesia, global challenge, development of science and technology. This continuous change requires the improvement of the national

education system, including the completion of the curriculum in realizing a society who is able to compete and adapt to the change.

The Decree of The Ministry of The latest curriculum used by education in Indonesia is 2013 Curriculum. The 2013 curriculum aims at preparing the Indonesia generation in order they are able to live as a faithful, productive, innovative, creative, effective, and contributive in life society, nation, state, and also civilization. Besides, one of the efforts to support the 2013 curriculum is preparing the teacher to face it. The way to make it real is the implementation of training toward the teacher in Indonesia about the 2013 curriculum. This training aims to produce the competent teacher in applying the scientific approach in 2013 curriculum when they are teaching. The main purpose of this curriculum is to shape the individuals who are faithful in God, good in characters, confident, successful in learning, responsible citizens and positive contributors to the civilization (Kemendikbud, 2013).

2013 Curriculum focuses on education based on competences and characters. Competence is a knowledge, skills, and abilities or capabilities that a person achieves. Students are able to perform particular cognitive, affective, and psychomotor behaviors. Mulyasa (2013) states that character in the 2013 Curriculum is a combination between manner or moral and knowledge based on competency standard in every educational unit. He also states that through the 2013 Curriculum, students are expected to increase

and use their knowledge independently and review character values and attitude to apply in daily behavior.

The 2013 Curriculum uses contextual method based on competences, characters, and lesson which concerns with skills developed by competence approach. There are two theoretical bases which become the reasons of it, those are individual learning and mastery learning (Kemendikbud, 2013). In individual learning, students are able to learn by their own way and based on their ability. In mastery learning, students are able to learn all materials with good evaluation based on appropriate learning system. In conclusion, the 2013 Curriculum forces the students to develop their knowledge based on their own potential. The students learn from what they get inside and outside learning process naturally.

#### a. Characteristics of 2013 Curriculum

The 2013 Curriculum has some characteristics as stated in the Minister of Education and Culture Decree No. 24/2016. It is stated that the objective of the 2013 Curriculum is to prepare Indonesian people to be devout, productive, creative, innovative, affective, and capable of contributing in social life, national, and world (Kemendikbud,2016c). To reach the objectives, the designed 2013 Curriculum has several characteristics as mentioned the Minister of Education and Culture Decree No. 59/2014.

First, it develops the balance between spiritual aspects, social attitude, knowledge, and skills. Second, school is a part of society that gives planned learning experience. The students apply what they learn at schools to society and use the society as a source of learning. Third, the 2013 Curriculum provides sufficient time to develop students' attitude, knowledge, and skills. Fourth, it develop the competence that is stated in core competence and broke it down into basic competence of each instruction. Fifth, it develop the core competence to become organized elements of basic competences, all of which and learning process are developed to reach core competence. Sixth, basic competence is developed based on accumulative principle, reinforce, and enrich the subjects of education level (Kemendikbud, 2014b).

The change aspects of the 2013 Curriculum are increasing and balancing soft and hard skills on graduate competency standard which includes attitude, knowledge, and skill competence.

The students are also forced to be more active and creative because the material and the process standard of the 2013 Curriculum uses Scientific Approach. This approach includes observing, questioning, associating, experimenting, and communicating as learning activities. The learning evaluation also changes. The previous assessment uses test by measuring knowledge competence based on the result.

#### 4. Scientific Approach

##### A. The Definition of Scientific Approach

Scientific Approach is particularly relevant to the three learning theories, namely the theory of Bruner, Piaget's theory, and the theory of Vygotsky. Bruner theory of learning is called discovery learning theory. There are four main things related to learning theories of Bruner by Carin (in Daryanto, 2014: 52). They are:

- a. Individuals learn and develop his mind only when he uses his mind.
- b. By doing cognitive processes in the discovery process, students will gain sensation and intellectual satisfaction which is an intrinsic reward.
- c. The only way that a person can learn the techniques of doing discovery is that it has the opportunity to conduct discovery.
- d. By making the discovery will strengthen memory retention.

According to Piaget theory, Baldwin in Daryanto (2014: 52), states that the study related to the formation of developmental schema (plural schemata). The scheme is a mental structure/ her cognitive structure a person intellectually adapts and coordinates the surrounding environment. The scheme has never stopped changing; child schemata will develop into adults. The process which led to the adaptation program called schemata.

The process of formation of this adaptation can be done in two ways: assimilation and accommodation. Assimilation is the cognitive process in the



presence of someone who can be a stimulus to integrate perception, concepts, laws, principles or experience scheme existing in the mind. Accommodation may include the formation of a new scheme that can match the characteristics of the existing stimulus or modifying an existing scheme that matches the characteristics of existing stimulus. In the learning, it is necessary to balance or equilibrate between assimilation and accommodation.

Vygotsky's theory in Daryanto (2014: 52-53), states that learning occurs when students work or study dealing with the tasks learned, but the tasks were still within the range of abilities or tasks that are in a zone of proximal development area is located between the current level of child development are defined as a problem-solving abilities under the guidance of an adult or more capable peers.

The objective and the principles of learning by using Scientific Approach. There are six learning objectives of scientific approach by Daryanto (2014: 54), they are:

- a. To improve the ability of intellect, especially high-level thinking skills of students.
- b. To establish the ability of students to solve a problem systematically.
- c. The creation of the conditions of learning in which students feel that learning is a necessity.
- d. Obtaining a high learning result.

- e. To train students in communicating ideas, especially in writing a scientific article.
- f. To develop students character.

Whereas, the principles of Scientific Learning Approach by Daryanto (2014: 58) are:

- a. Student-centered learning.
- b. Built students self concept learning.
- c. Avoid verbalism learning.
- d. Provides opportunities for students to assimilate and accommodate the concepts, laws, and principles.
- e. Learning leads to increase students' thinking skills.
- f. Lessons improve student motivation and motivate teachers to teach.
- g. Provide an opportunity for students to practice abilities in communication.
- h. The existence of process validation of concepts, laws, and principles that students constructed in cognitive structure.

### **5. Scientific Approach in 2013 Curriculum**

A scientific approach is an approach which methodically acquires the knowledge based on fact rather than trusty. The revision of curriculum absolutely brings the new concept, such as the learning method, learning process, and assessment process. 2013 curriculum stressed on the pedagogic dimension in the learning which is called a scientific approach (Majid, 2013).

The scientific approach is a science process-based approach that is done through the process of observing, questioning, exploring/experimenting, associating, and communicating (Permendikbud,2013). The scientific approach helps the teacher to focus on the material of the topic that related to the students' real life and needs. This scientific approach allows teachers or curriculum developers to improve the learning process, namely by breaking the process into steps or stages in detail which contains instructions for the students carry out learning activities. The above definition shows there are specific steps in the scientific approach. The stages must be ordered and every step has a different purpose. Kemendikbud (2013) state that scientific approach is a learning process that can stimulate students to do the following skill: observing, questioning, Associating, experimenting, and networking.

There are seven criteria to determine whether a method of teaching is scientific or not. They are as follow;

- 1) The teaching materials are based on facts or phenomena which can be logically or reasonably explained. They are not based on prediction, approximation, imagination, legend, or myth.
- 2) The teachers' explanation, students' responses, and teacher-student interaction are not based on subjectivity and wrong logic.

- 3) The teaching materials support and inspire students to be critical in thinking and analyzing, and accurate in identifying, understanding, and resolving problems, and applying the materials learned.
- 4) The learning materials foster and inspire students to hypothetically think when seeing diversities, similarities, and links in the learning materials.
- 5) The learning materials foster and inspire students to understand, apply, and develop objectivity and rational thinking in responding to the learning materials.
- 6) The materials are built on the basis of empirically valid concepts, theories, and facts.
- 7) The formulation of learning objectives is simple, clear, but attractive. (Kemendikbud,2013:295) .

Based on these characteristics, scientific approach is believed to be the golden ways of the development of attitudes, skills, and knowledge of learners in the approach or work process that meets the scientific criteria. It makes the learning close to the real condition, and it is hoped make the students more active.

The general steps in the scientific approach in learning process include observing, questioning, associating, experimenting, and communicating (Permendikbud 81A, 2013).

The explanations of each skill are as follow:

### 1. Observing

The first thing to do in the scientific approach is observing. In this step, the students must observe something related to the materials. The teachers must provide the object that direct students to the materials. In this case the teacher presents a learning object. In the activity of observing the students can be invited to explore on the object to be studied. Suharyadi (2013) explained students and teachers are provided with objects, real objects, or phenomena. The activities in this step not only observing but it also includes listening, reading, and seeking information. They use this step to evoke students' curiosity. The students can guess what they learn based on the observation. When they are getting confused, it brings them to the next step. The example of this step, in the activity of observing, the teacher presents the topic or object that would be discussed. Students can be invited to explore on the object to be studied.

### 2. Questioning

The second step is questioning. Questioning can be used by both teachers and students in the classroom. The teacher gives questions to help the students construct their idea or to confirm their understanding. The students use a questioning process to solve their confusion in the

observing process. It helps them to complete information and give them more opportunity to be active.

The activities in a questioning process such as discussion, group working, and class discussion. It gives the students a freedom in proposing their idea. This process makes the students have critical thinking skill which logic and systematic. In this learning activity, students do the learning. From the material, students will ask the teacher or their classmates about its content and also how to answer questions. In this step, the environment of a successful learning is the discussion active communication of a subject matter. Students will ask and answer to each other; such as about the meaning of a word that is not yet understood.

### 3. Experimenting

Experimenting or collecting data is the third step of the processes in the learning of a scientific approach. To obtain the result of real or authentic learning, learners have to try or experiment, especially for material or substance that is appropriate. Application of the experimental method is intended to develop various domains of learning objectives, namely attitudes, skills, and knowledge. This activity serves to enable teachers and students to be active in learning. In this activity the students should find as much information from internet or other resources.

#### 4. Associating

To get the real or authentic learning, learners have to do experiments. For example, students should understand the concepts of greeting and parting then practice it in the real situation. They can do conversation with their friends use the expression they have learned. Associating helps the students develop knowledge about the environment, and make them able to use the scientific method and scientific attitude to solve the problems they face in everyday life. In these activities, each student is required to try to analyze what is learned.

The teacher asks the students to work in groups to discuss for understand content of the material. The first activity of this study is process the information that has been collected. Second, after processing the information gathered is looking for a solution from a variety of sources which have a different opinion.

#### 5. Communicating

The last step in scientific approach is communicating. The students should communicate what they have learned. They deliver the result of their observation, the conclusion which they have got from the deep analysis. They can deliver the result orally or in the form of a written report or other media. Communicating process as explained by Kemendikbud (2013:289) expand the honesty, accuracy, tolerance,

systematic thinking skill, expressing an opinion, and it also develops good speaking skill. At this stage, students presented their capabilities about what they have learned while other students respond. Another student response can include questions, refutation or support of presentation materials. The teacher serves as a facilitator of this activity. The above-structured steps are designed in order to make the learning process more directed. The scientific approach's steps help the students attain all aspects. The activity in each step gives lessons to the students.

#### **6. Implementing Scientific Approach in English Instruction.**

The 2013 Curriculum has purpose to create independent learners and improve motivation to learn. Regarding to these purposes, in the learning process the lesson plan is designed to develop the students' motivation, interest, curiosity, creativity, initiative, inspiration, autonomy, learning skill, and learning habit. In this context, the government beliefs that Scientific Approach is suitable to be implemented in learning process (Mulyoto, 2013). Scientific Approach is applied to all levels of studies during the learning process. This approach is also used in all subjects including English (Mulyasa, 2013).

The learning process must touch the three competences, namely attitude, skill and knowledge. Attitude relates to the question of "why". Skill refers to the question of "how". In addition, knowledge deals with the question of



“what”. The Ministry of Educational and Culture (2013) also explains that this curriculum elaborates the steps of developing language teaching and learning activity by using Scientific Approach as the following:

### 1. Observing

The activity conducted in this step is the activity which uses the five senses like seeing, hearing, watching, listening and also reading. The thing observed is the material in the form of facts, concepts, and also procedures. The material form of facts like interpersonal or transactional text, special text, functional text, and language feature in the form of text, video, or audio recording. The material in the form of concept can be the material like social function of a certain texts and also the generic structure. The alternative activity in the process of observing can be activity like watching conversation video, watching simple movie, read story book, newspaper, magazine, brochures, leaflets, banner, and poster writing in English. According to Priyana (2014) in this stage, teacher has some rules, they are:

- a) Assisting students to list items to know to get comprehension and produce the target text.
- b) Providing list of the materials from which students can be select.

### 2. Questioning

Questioning is the process of constructing knowledge. It is the concept of asking about social function of a text and the generic structure though group

or class discussion. In the process of questioning, students' curiosity and critical thinking should be developed. So that their questions will be highly thinking questions. Questioning also demands the active participation of the students. In order to make questioning activity well conducted and the goal is achieved, the teacher should prepare questioning guide in the form of the steps which have to be passed by the students.

The Ministry of Education and Culture explain the activities carried out in this stage are:

- a) Providing opportunity to students to conduct question – answer
- b) Asking students to formulate question based on the identified material in observation
- c) Encouraging students to propose temporary answer based on the knowledge. According to Priyana, (2014) the role of the teacher in this stage are the teachers assists students to make questions and teacher provides a number of questions, then the students can start to ask several questions.

### 3. Experimenting

Experimenting activity is the activity to internalize knowledge and the skill learned by the student. In this process, the students try to express the newly learned knowledge and use language ability in the real world through the activity like simulation, role play, presentation, discussion, and playing game. The activities carried out in this stage are as follows:

- a) Student collects the fact, and then they can go to communicate.
- b) Students explore and construct experimenting in order to get vocabularies, structure and other language to get the communicating in the context.
- c) Teacher pays attention, gives feedback, or asks the peer's presentation in order to enrich the understanding of the text. d) Students communicate the statements orally.
- e) Students write each statement in the students' own notebook.

According to the Ministry of Educational and Culture 2013 the conducted activities are able to be done by conducting role play, simulation, presentation, discussion and playing game. The role of teacher in this stage is providing worksheet and learning resource for students (Priyana, 2014). Worksheet is necessary to help students to explore the material. Learning resource is going to assist students to collect the information to answer their formulated questions.

#### 4. Associating

Associating activity is the process of the developing the ability to classify and compare ideas and phenomena and to be a part of memories. For English, in this step, the students are guided to classify and compare text based on the social function, text structure, and language feature and connect information inter-texts for enrichment to create text. The activities can be role play, writing, and communicating the fact or contextual.

The role of the teacher in this stage is to help students to see pattern on material to answer question. Then teacher help student draw conclusion (Priyana, 2014)

#### 5. Communicating

Communicating aims to develop ability to express or present all the knowledge and skill learned. In this activity, not only knowledge and skill will be presented but also the problems and success in the learning process. This activity describes completely students' ability of attitude, knowledge, and skill. The activities that can be conducted in communicating process are presenting their material or works in front of the class, writing the report, publish their writing wall magazine or social media.

## **B. Relevant Studies**

In conducting this study, the relevant studies are needed and the researcher put some studies done before. The researcher evaluated these following previous studies in attempting to strengthen this thesis.

The first, the study by M.Zaim (2017), examined the implementation of discovery learning method based on the Scientific Approach in Padang. This research was conducted by interviewing the teachers and the students in two senior high school. The findings showed that in teaching learning process in implementing 2013 Curriculum, there was among the five steps of scientific approach, the teachers were not able to implement the observing and questioning steps optimally yet. Based on the English teachers' opinion, the implementation of 2013 Curriculum seemed to be in a rush. Teachers were not ready to implement the Scientific Approach in 2013 Curriculum.

The second, the previous study was conducted by Ashar, Irmawati (2016) this research had purposes on finding out how the implemented of assessment based on Scientific Approach in learning process SMKN 1 Bantaeng. This research was conducted by interviewing four English teachers of SMKN 1. The result found the implementation of assessment process on English learning based on the 2013 Curriculum at SMK 1 Bantaeng did not run well. Referring to the result of interview, the situation was in line with the complaints of these teachers. All of them complained the assessment system

of the 2013 Curriculum. They assumed that the assessment system was too many, complicated, time consuming, and difficult to apply.

The third, the relevant study was conducted by Yulia Nur Ekawati (2017). This research was aimed to investigate the teachers' problem in applying Curriculum 2013 at vocational high school in Tegal. Four English teachers were observed and interviewed to obtain data. Her analysis have shown that the problem happened when teachers applied the steps of scientific approach. The students were passive in the classroom. They also regarded English as a difficult subject to learn. In addition, they also got difficulty in giving score when observing students attitude and speaking skill because it needed a lot of time.

The fourth, was conducted by Suci (2015). This research was aimed to find out the tehinques of the implementation of Scientific Approach at SMP Muhammadiyah 4 Surakarta. The teacher was observed and interviewed to obtain data. Her analysis shown that there are three phases in teaching learning process of scientific approach namely; pre-teaching, whilst-teaching, and post-teaching. Whilst-teaching consists of five phases, namely observing, questioning, gathering experimenting, associating, and communicating.

The fifth, was conducted by Pahlevi (2013). This research was aimed to find out the implementation of Scientific Approach in teaching writing based on the 2013 Curriculum in junior high school. His analysis shown that the

teacher implemented learning in scientific approach. They are observing, questioning, experimenting, associating, and communicating. The teacher did not apply the questioning and associating was less effective. The students' response in the implementation scientific approach was informative enough. It can be seen from the students' response were effective in the three learning, they are observing, experimenting, and communicating. In contrast, the students' responses to questioning and associating show that they could not learn well due to the less creativity of the teacher.

Those studies related to the Scientific Approach and were helpful as their existences as data for supporting the researcher's study. The previous relevant studies did not have the same form but through the findings, those can give contributions to explain about the teaching process with Scientific Approach. While, this study aimed to find out the implementation of Scientific Approach in teaching English process.

### **C. Conceptual Framework**

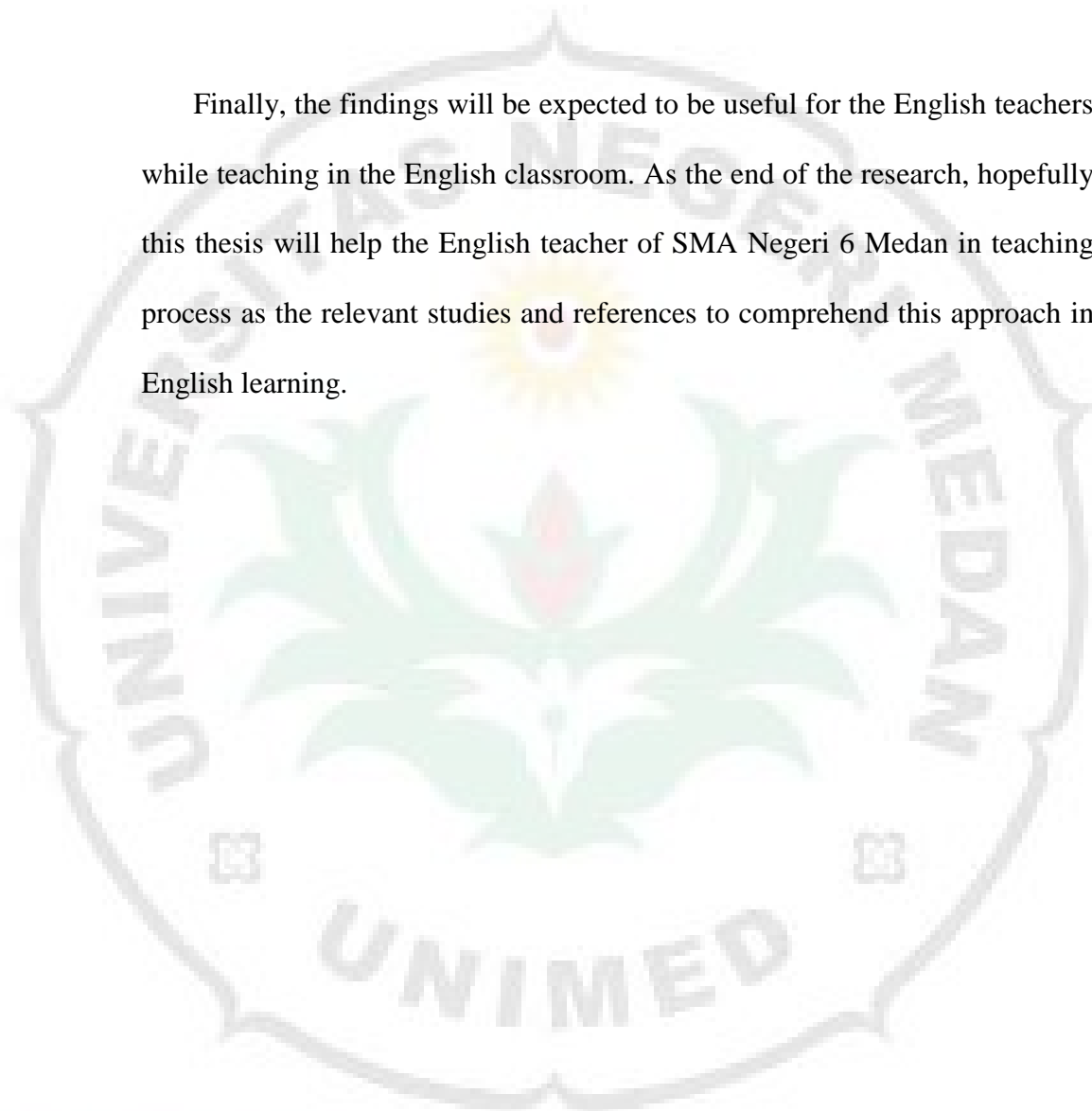
Scientific Approach based on Curriculum 2013 is being implemented in senior high school now. With this approach, the government expects that the learners will be able to develop their critical thinking and apply the scientific method in solving any problems of life. To achieve these goals. Teachers use all the stages in Scientific Approach in teaching English process. In Scientific Approach, the main teaching process resources is teacher. That means, the teacher are expected to be a facilitator of learning process according to 2013 curriculum.

Even though, in reality not all English teachers of Senior High School apply this approach in teaching English. Some of the teachers do not understand this approach. To solve the problem, the aim of this research is to gave the teachers the information about the scientific approach in teaching English process. This study conducted by using a descriptive qualitative method. Therefore, to find out the answer of the problems of this research, it could be used by observing, video recording and interviewing.

This research intended to find out how the teachers comprehensive the concepts of the Scientific Approach and to explain how the five steps of Scientific Approach being implement in teaching English Process at SMAN 6 Medan.

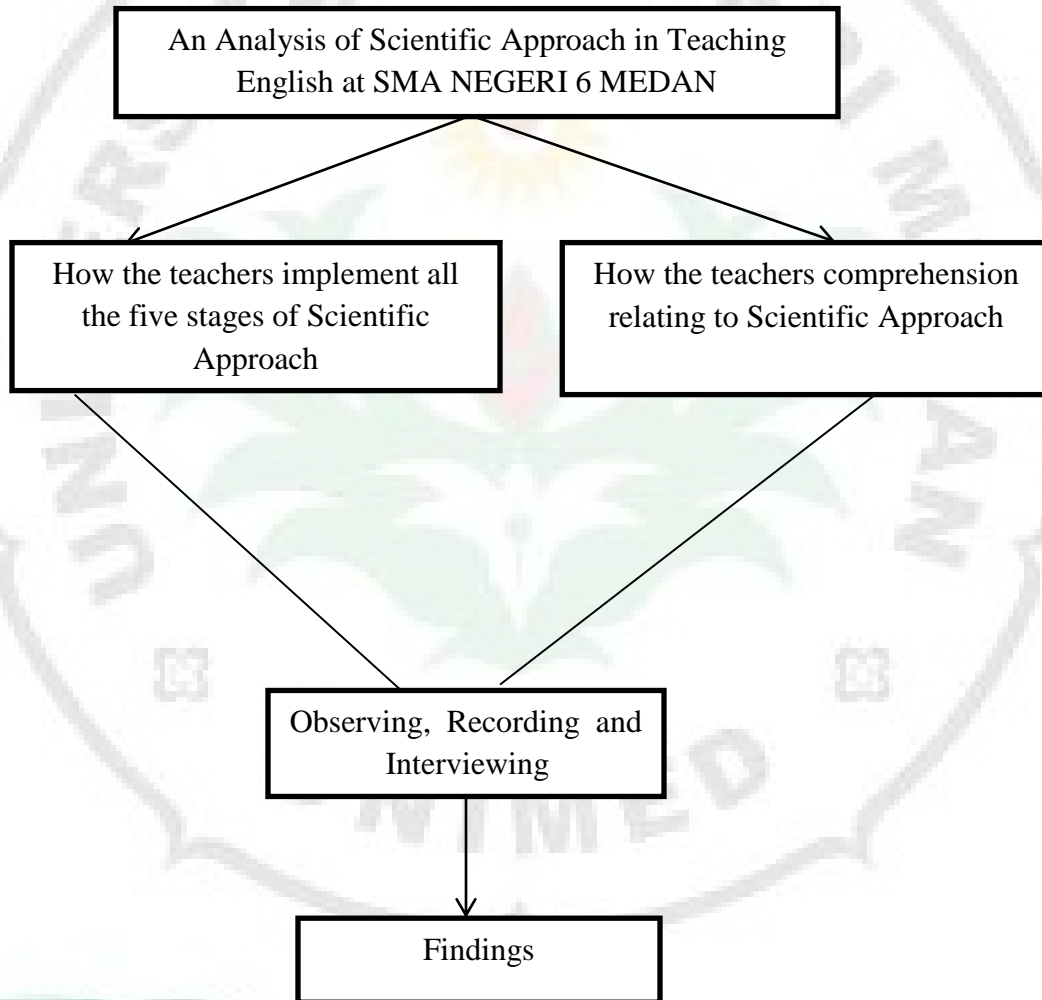


Finally, the findings will be expected to be useful for the English teachers while teaching in the English classroom. As the end of the research, hopefully this thesis will help the English teacher of SMA Negeri 6 Medan in teaching process as the relevant studies and references to comprehend this approach in English learning.



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The conceptual framework illustrated in the figure 2.1 as follows:



**Figure 2.1 Figure of Conceptual Framework**