CHAPTER II

THEORETICAL REVIEW

A. Definition of Scientific Approach

The scientific approach is closely related to the scientific method. Scientific method generally involve the observation and or experimental activities needed to formulate hypotheses or collect data (Sani, 2017: 50-51). According to McLelland (2006: 1), the scientific method could be said as a way of learning or a process of using comparative critical thinking.

The scientific approach is a learning approach used through scientific processes. What students learn and get is done with their own senses and minds so that they experience directly in the process of gaining knowledge (Fadlillah, 2016: 175). According to Daryanto (2014: 51), the scientific approach is a learning process that is designed so that students actively construct concepts, laws or principles through stages of observing (to identify or find problems), formulate problems, propose or formulating hypotheses, collecting data with various techniques, analyzing data, drawing conclusions and communicating concepts, laws or principles that are "discovered". The scientific approach is intended to provide understanding to students in knowing, understanding various materials using a scientific approach, that information can come from where course, anytime does not depend on unidirectional information from the teacher. Therefore the expected learning conditions created are directed to encourage

students in finding out from various sources through observation, and not just being told.

In sort, scientific approach can be said as a learning approach that requires students to learrn in scientific way. So with students getting knowledge directly through this scientific process they are expected to be able to better understand the science being studied and how it can be applied in life. This approach has been implemented Indonesia along with K-13.

B. Characteristics of Scientific Approach

The learning process is called scientific if it meets two criteria, namely substance or learning material based on facts or phenomena that can be explained with certain logic or reasoning, not limited to guesswork, fantasy, legend, or fairytale. Then the learning process must be avoided from non-scientific traits or values which include intuition, common sense, prejudice, discovery through trial and error, and the origin of critical thinking (Daryanto, 2014: 56).

According to Musfiqon and Nurdyansyah (2015: 58-59), a learning process that is encouraged by an educator in his class can be called scientific if the learning process meets the following criteria:

1. The substance or learning material is really based on facts or phenomena that can be explained with certain logic or reasoning; not limited to guesswork, fantasy, legend, or fairytale.

2. Explanation of educators, students' responses, and educative interactions between educators and learners must be free from sudden prejudice, subjective thinking, or reasoning that deviates from the flow of logical thinking.
3. Encourage and inspire students to think critically, analytically, and precisely in identifying, understanding, solving problems, and applying the substance or learning material.
4. Encourage and inspire students to be able to think hypothetically (make guesses) in seeing differences, similarities, and links to one another from the substance or learning material.
5. Encourage and inspire students to be able to understand, apply, and develop rational and objective thinking patterns in responding to the substance or learning material.
6. Based on concepts, theories, and empirical facts that can be accounted for.
7. Learning objectives are formulated in a simple, clear, and attractive presentation system.

Scientific approach does not only emphasize learning outcomes as the end result, but also the learning process as the important consideration. Therefore, this approach highlights the quest of knowledge rather than the knowledge itself. The students need to be actively involved in the learning process to present the information which is acquired not only from the teachers but also from various resources (Ratnaningsih, 2017: 34).

In essence the scientific approach has characteristics that are oriented towards students, involves scientific methods to stimulate the development of the intellect, specifically students' higher-order thinking skills and can also develop student characters.

C. Steps of Scientific Approach

There are the five stages in the learning activity that must be done so that students will be able to learn and think more scientifically and critically. Minister of Education and Culture Regulation Number 81A/2013 Attachment IV explain the detail procedures as follow:

1. Observing

In observing activities, the teacher opens widely and varied opportunities for students to do observation through activities: seeing, listening, and reading. The teacher facilitates students to make observations, train them for pay attention (see, read, hear) the thing important of an object. Sani (2017: 54-55) explains that observation is to use the five senses to obtain information. An object can be observed to determine its characteristics, for example: color, shape, temperature, volume, weight, odor, sound, and texture. Objects can show different characteristics if subject to environmental influences. Human behavior can also be observed to determine the nature, habits, responses, opinions, and other characteristics. Observations can be done qualitatively or quantitatively. Qualitative observations rely on the five senses and the results are described

narratively. Meanwhile, quantitative observations to see the characteristics of objects in general use a measuring instrument because it is described using numbers. Quantitative observations to see human or animal behavior are carried out using a count of the number of events.

Daryanto (2014: 60-61) explains in more detail that the method of observing prioritizes meaningful learning. This method has certain advantages, such as presenting real media objects, happy and challenged students, and easy implementation. Of course observing activities in the context of learning usually requires a long and mature preparation time, relatively large costs and energy, and if not controlled will obscure the meaning and purpose of learning. The method of observing is very useful for the fulfillment of students' curiosity, so that the learning process has a high meaningfulness. With the method of observation, student found the fact that there is a relationship between the object being analyzed with the learning material used by the teacher. Observing activities in the learning process can be done by taking steps as follows:

a. Determine what objects will be observed
b. Make observation guidelines in accordance with the scope of the object to be observed
c. Clearly determine what data needs to be observed, both primary and secondary
d. Determine where the object to be observed

e. Clearly determine how observations will be made to collect data so that it runs easily and smoothly

f. Determine ways and take notes on observations such as using notebooks, cameras, tape recorders, video recorders, and other stationery.

The learning process has a high significance because observation prioritizes meaningful learning. By observing students find the fact that there is a relationship between the object being analyzed with the learning material provided by the teacher and greatly helps them in the learning process.

2. Questioning

In observing activities, the teacher opens the opportunity widely to students to ask about what has been listened to, read or seen. Teacher need to guide students to submit question: questions about the results of observations concrete objects reaching the abstract with regard to with facts, concepts, procedures, or other things more abstract. Factual questions to hypothetical questions. From situations where students are trained to use questions from the teacher, still need the help of the teacher to ask questions to the level where students are able to ask questions in a manner independent. From the second activity a number of questions were generated. Through asking activities it can developed learners curiosity. Increasingly trained in asking questions want to know more can be

developed. These questions are the basis for seeking information which is further and varies from the source specified teacher until determined by students, from the single source to diverse sources.

Sani (2017: 57) explains that students need to be trained to formulate questions related to topics that will be studied. This learning activity is very important to increase curiosity in students and develop their ability to learn throughout life. The teacher needs to ask questions in an effort to motivate students to ask questions. Daryanto (2014: 64-65) also explained that in observing activities, teachers open opportunities widely to students to ask questions about what they have seen, listened to, read or seen. Teachers need to guide students to be able to ask questions: questions about the observations of concrete objects to the abstract regarding facts, concepts, procedures, or anything more abstract. From some of the expert opinions, it can be concluded that this questioning activity will arouse students' curiosity, interest, and attention about a theme or topic of learning and also encourages students to actively learn, and develop questions by themselves.

The competence expected in this activity is to develop creativity, curiosity, the ability to formulate questions to form critical thoughts that need to live smart and lifelong learning. Effective teachers are able to inspire students to improve and develop their realm of attitudes, skills and knowledge. When the teacher asks, at the same time he guides or guides his students to learn well. When the teacher answers the students' questions, at

the same time he encourages his care to be a good listening and learner. Unlike assignments that want real action, questions are intended to get verbal responses. The term "question" is not always in the form of "question sentences", but can also be in the form of statements, as long as both want verbal responses.

3. Collecting Information or Experimenting

The follow up from asking is digging and gather information from various sources through various ways. For that students can read books more, pay attention to phenomena or objects who are more careful, or even do experiments. Daryanto (2014: 69-70) explains that the activity of gathering information is a follow-up to asking. This activity is carried out by exploring and gathering information from various sources through various ways. According to Sani (2017: 62), learning by using a scientific approach will involve students in investigating phenomena in an effort to answer a problem. The teacher can also assign students to collect data or information from various sources, for example in language lessons and social science study groups. From the explanations of the experts it can be concluded that the activity of gathering information or experimenting is a follow-up to asking. Learners must gather information about the object and students can also get information from the questioning activity.

Sani (2017: 62-63) states teacher needs to direct students in planning activities, carrying out activities, and reporting on the activities that have

been carried out. In the preparation phase of learning, the teacher acts as a director or manager of learning activities by doing things including:

a. develop students' curiosity and interest in learning the topic of study;
b. ask questions or help students develop questions that are relevant to the topic and must be solved by carrying out investigative or experimental activities;
c. directing the development of an investigative or experimental plan by students;
d. describe or help students choose or search for equipment and materials needed to carry out investigative or experimental activities;
e. state the length of time and expected results with conducting investigation / trial activities.

4. Associating

From this activity gathered a number of information. This information is the basis for the next activity which is processing information to find linkages one information with other information, find patterns from the interconnectedness of information and even taking variety conclusions from the pattern found. Daryanto (2014: 80) explains that the activity concluded in learning with a scientific approach is a continuation of the process of processing data or information. After finding the interrelationships between information and finding various patterns, then make conclusions together as a group or individually. Sani (2017: 66) explains that the ability to process

information through reasoning and rational thinking is an important competency that must be possessed by students. Information obtained from observations or experiments carried out must be processed to find the linkages of one information with other information, find patterns of linkages of information, and draw conclusions from the patterns found. From the explanation above, associating can be interpreted as the activities of students in looking for links between information that has been obtained to be able to draw conclusions.

Sani (2017: 66-69) explains in more detail that information processing requires logic skills. Reasoning is a special mental activity in making inferences. Interference is drawing conclusions based on opinions, data, facts, or information. The basis for processing information based on scientific methods is to do empirical reasoning: Empirical reasoning is based on negative logic, which is reasoning from special to general. Inductive reasoning uses special evidence such as facts, information data, opinions from experts. Conclusions are made based on the empirical evidence. Reasoning that is often done is deductive reasoning, which uses advanced logic based on general observations (major premise) to special observations or statements (minor premises) that lead to specific conclusions.

5. Communicating

The next activity is writing or telling what is found in information seeking activities, associate and find patterns. The results presented in class and assessed by the teacher as learning outcomes of students or groups of students. According to Daryanto (2014: 80), in the scientific approach teachers are expected to provide opportunities for students to communicate what they have learned. This activity can be done through writing or telling what they found in the activities of finding information, associating and finding patterns. The results are conveyed in class and assessed by the teacher as learning outcomes of students or groups of students. The competencies expected in this activity are to develop an honest, conscientious attitude, tolerance, the ability to think systematically express opinions briefly and clearly, and develop good and correct language skills.

Sani (2017: 71-72) explains that basically, everyone has a network, even though they are not aware of it. Networks are needed in learning from source resources, developing themselves, and getting jobs. A student has a private network consisting of family, friends, family friends, friends of friends, neighbors, teachers, and others. A network will be formed when students participate in school activities, work together in the community, do social activities, talk with neighbors, communicate with friends through social networks such as Facebook and Twitter, or other activities. The ability to build networks and communicate needs to be owned by students because these competencies are as important as knowledge, skills and

experience. Working together in groups is one way to shape the ability of students to build networks and communicate.

In communicating activities, students are trained to think systematically to be able to express their own opinions briefly and clearly. This communicating activity will also develop the language skills of students to be able to speak using appropriate language.

D. Learning Model in Scientific Approach

In the Minister of Education and Culture Regulation Number 65 of 2013, it stated that to strengthen the scientific approach it is strongly recommended to apply research based on discovery or inquiry. To encourage students to produce creative and contextual work, both individually and in groups, it is recommended to use a learning approach that produces work based on problem solving.

Sani (2017: 51-52) states learning with the integration of scientific activities in general is an inquiry activity. Inquiry is a process of thinking to understand something by asking questions. Inquiry can be used as a learning approach, learning strategy, or learning method. Inquiry learning activities can be done through inquiry based learning, discovery learning, case study, problem based learning, project based learning, and so on. Learning model in scientific approach is explained in more detail as follows:

1. Inquiry Learning

Inquiry-based learning is a learning model that involves students in formulating questions that lead to conduct investigations in an effort to build new knowledge and meaning (Sani, 2017: 88). Acccording to Lahadisi (2014: 89), inquiry learning is a strategy that emphasizes the process of thinking systematically, critically, and analyzing to look for and find answers themselves from a problem faced, both in the learning process and in the environment in which they are, so that in expected to foster an attitude of confidence, and meaningfulness of life. Meanwhile, Musfiqon and Nurdyansyah (2015: 145) state inquiry learning is a learning activity that maximally involves the ability of all students to search and investigate something (object, person or event) systematically, critically, logically, analytically so that they can formulate their own findings with confidence.

As discussed above, the inquiry learning model is a learning model that carries out a process to obtain information by observing and or experimenting to find answers or solve problems to questions or formulate problems using critical and logical thinking skills.

2. Discovery Learning

Teaching and learning activities using discovery methods are similar to inquiry. Inquiry is the process of answering questions and solving problems based on facts and observations, while discovery is finding concepts through a series of data or information obtained through observation or experimentation. So learning by discovery is actually part of

the inquiry process (Sani, 2017: 97). According to Ilahi in Rosarina et al. (2016: 374), discovery learning is a problem solving model that will benefit students in dealing with their lives later on. The application of discovery learning model aims to make students able to understand the material changes in the form of objects with the best possible and more meaningful learning, so that student learning outcomes will increase. Because this discovery learning model in the process uses activities and direct experience so that it will attract the attention of students and allow the formation of abstract concepts that have meaning, as well as more realistic activities.

Discovery learning model is part of a scientific approach framework that places more emphasis on finding answers to problems that are engineered by teachers. Students are not only presented with a number of theories, but they are also dealing with a number of facts. From the theories and facts, they are expected to formulate a number of inventions in the form of simple discoveries (Putri et al. 2016: 3-4).

From some of the explanations above, it can be concluded that discovery learning is a learning model that has the same principles as inquiry. However, discovery learning places more emphasis on the discovery of concepts or principles that were previously unknown, problems faced by students can be some kind of problem that is engineered by the teacher.

3. Problem-Based Learning (PBL)

Problem-based learning is a learning method that presents contextual problems that stimulate students to learn. In classes that apply problem-based learning, students work in teams to solve real-world problems (Daryanto, 2014: 29). According to Sani (2017: 127), problem-based learning is based on cognitive psychology theory, especially based on Piaget's and Vigotsky's (constructivist) theories. According to constructivism theory, students learn to construct their knowledge through interaction with their environment. Problem-based learning can make students learn through structured real-world problems in order to construct student knowledge. This learning requires students to actively conduct investigations in solving problems and the teacher acts as a facilitator or supervisor. Sani (2017: 130) also explains problem-based learning can be clearly distinguished by problem solving methods. Problem-based learning presents a discussion of the problem before learning the concepts needed to solve it. so that problems become the basis of learning. Meanwhile, the problem solving method generally presents a discussion of the concept first, then followed by a discussion of the problem.

Problem-based learning is the use of various kinds of intelligence needed to confront real world challenges, the ability to deal with new things and existing complexities (Tan in Rusman, 2014: 213). From some of the explanations, it can be concluded that problem-based learning is a learning model that is designed so that students get important knowledge, which

makes them proficient in solving problems and have the ability to participate in groups and also the ability to face challenges in real life.

4. Project-Based Learning (PjBL)

Project-based learning is a learning model that uses projects as media. Learners explore, evaluate, interpret, synthesize, and information to produce various forms of learning outcomes. Project-based learning is a learning method that uses problems as a first step in gathering and integrating new knowledge based on experience in actual activities (Daryanto, 2014: 23). According to Sani (2017: 172), project-based learning can be defined as a learning with long-term activities that involve students in designing, making and displaying products to overcome real-world problems. The main difference between project-based learning and problem-based learning is the existence of products that must be made and displayed by students in project-based learning. Project-based learning generally involves the collaboration of several subjects, while problem-based learning can cover just one subject. It should be noted that simple project-based learning can also be applied to one subject, but consideration needs to be given in determining the making of assignments so as not to burden students if other teachers also give project assignments at the same time.

Project-based learning is a learning model that in its implementation can teach students to master the processing skills and their application in everyday life so as to make the learning process meaningful. The model

focuses on the main concepts and principles of a scientific discipline. In implementing the project-based learning model students are involved in activities to solve problems and other meaningful tasks, provide opportunities for students to work autonomously, construct their own learning, and produce real products that are valuable, and realistic (Padiya in Tinenti, 2018: 3).

From some of the explanations above, it can be concluded that project-based learning is a learning model that involves students in a project that produces a product. Student involvement starts from planning, designing, implementing, and reporting the results of activities in the form of products and implementation reports. This learning model emphasizes the long-term learning process, students are directly involved with various real-life issues and problems.

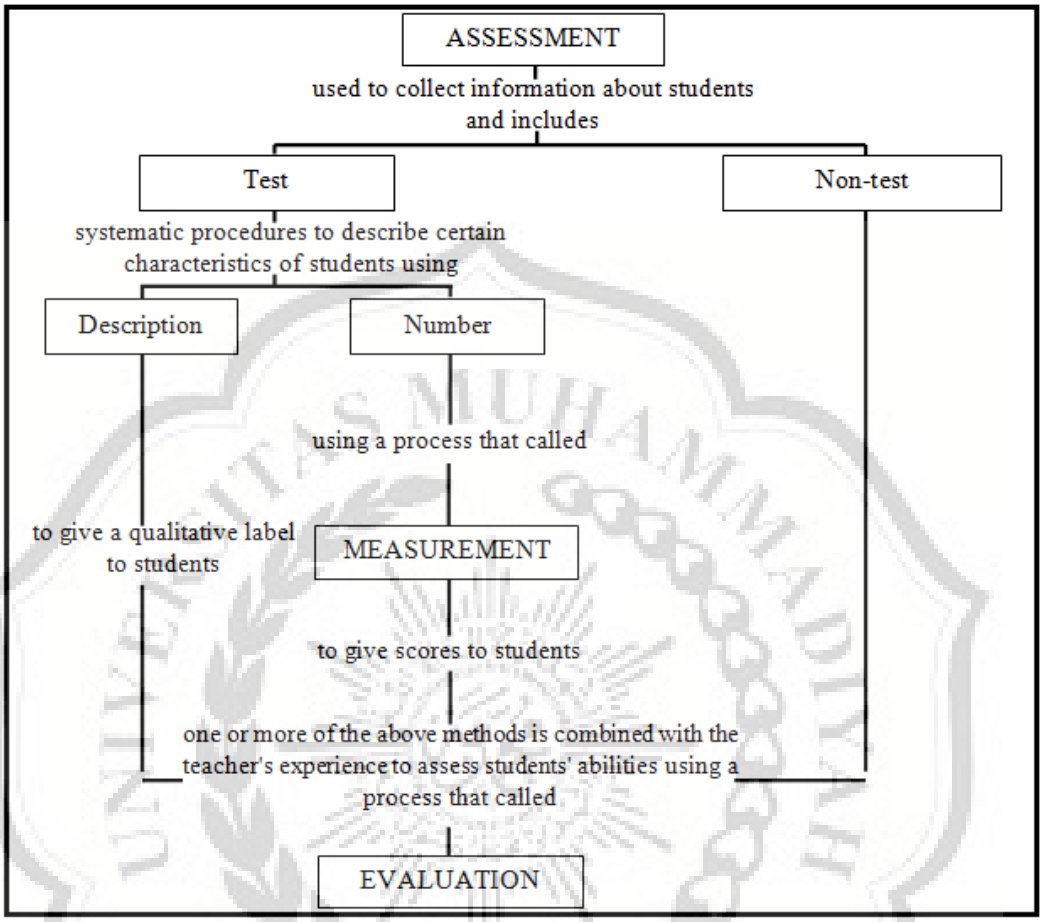
E. Assessment in Scientific Approach

The implementation of the scientific approach cannot be separated from the assessment activities. According to Minister of Education and Culture Regulation Number 81A/2013 Attachment IV, assessment is a series of activities to obtain, analyze, and interpret data about the process and learning outcomes of students conducted systematically and continuously, so that it becomes meaningful information in decision making. Teachers should have good assessing skills so that they can assess the development of their students well.

Because learning and assessment are continuous things and cannot be left behind in a teaching and learning activities.

Before going deeper about assessment in scientific approach. Kusaeri (2014: 14-19) states that there are three terms that are often used by society ambiguously, namely measurement, assessment, and evaluation when in fact each has a different meaning. Measurement is a comparison between attributes that are measured by the measuring instrument and which is measured is the attribute or dimension of something, not something itself. The measurement results are quantitative or in the form of numbers and are also descriptive in nature, which are limited to providing numbers and not interpreted further. Assessment is a systematic procedure that includes the activities of collecting, analyzing, and interpreting information that can be used to draw conclusions about the characteristics of a person or object. While evaluation can be said as a comparison of the results of the assessment with a norm or criterion, the results are qualitative, and the results are stated evaluatively. So the assessment can be used to collect information about students and can includes measurement, in other hand evaluation is a wider process.

The link between measurement, assessment and evaluation can be described as follows:



Picture 2.1: The link between Measurement, Assessment and Evaluation

The assessment of the learning process in K-13 uses an authentic assessment approach that assesses student readiness, process, and learning outcomes as a whole based on the Minister of Education and Culture Regulation Number 65 of 2013. The integration of the assessment of the three components will describe the capacity, style, and acquisition of students' learning or even be able to produce instructional effects and the nurturant effects of learning.

Authentic assessment results can be used by teachers to plan remedial programs, enrichment, or counseling services. In addition, the results of authentic assessments can be used as material to improve the learning process in accordance with the Educational Assessment Standards. Evaluation of the learning process is carried out during the learning process using tools: questionnaires, observations, anecdotal notes, and reflections.

Authentic assessment has a strong relevance to the scientific approach in learning in accordance with the demands of the 2013 curriculum. Because this kind of assessment is able to illustrate the improvement in student learning outcomes, both in order to observe, reason to try, build networks, and others. Authentic assessment tends to focus on complex or contextual tasks, allowing students to demonstrate their competence which includes attitudes, knowledge, and skills. Therefore, authentic assessment is very relevant to the scientific approach in learning in high school or vocational high school. Authentic assessment aims to measure a variety of skills in various contexts that reflect situations in the real world where those skills are used. For example, assignments to students to write certain topics as in real life, and participate concretely in discussions or book review, write for journals, letters, or edit writings until they are ready to print. So, the assessment of this model emphasizes performance measurement or doing something that is an application of knowledge that has been mastered theoretically. The types of authentic assessment consist of: performance appraisal; self evaluation; essay; project; and portfolio (Daryanto, 2014: 112-115).

Fadlillah (2016: 208-210) mentions generally about the characteristics of assessment in K-13 that make it different with previous curriculum. There also including the authentic assessment. For more details about the characteristics of the K-13 assessment can be considered through the following explanations:

1. Complete Learning

   For competencies in the categories of knowledge and skills (KI-3 and KI-4), students of students who are not allowed to do the next job, before being able to complete the work with the right procedures and good results. The assumptions used in complete learning are that students can learn anything, only the time needed is different. Students who learn slowly need more time for the same material, compared to students in general. In this context, the teacher needs to pay attention to knowing the characteristics of different students. To further provide assistance, motivation, and different learning methods, especially for students who have limited abilities. Teachers are required to be more creative and humanistic to all students in creating interesting and enjoyable learning so that the learning objectives can be achieved optimally.

2. Authentic

   Looking at integrated assessment and learning. Authentic assessment must reflect real-world problems, not the school world. Using a variety of holistic methods and criteria (full competence reflects knowledge, skills and attitudes). Authentic assessment does not only measure what is known by students, but rather focuses on measuring what can be done by students. In

this authentic assessment the teacher must have extensive insight into experiences and real life problems.

3. Continuous

   The purpose of the assessment is to get a complete picture of the development of student learning outcomes, monitor the process, and continuous improvement in the form of process evaluation, and various types of continuous tests (daily test, midterm test, end of semester test, or grade promotion test).

4. Based on Criteria Reference

   The ability of students is not compared to the group, but compared to the criteria set, for example minimum completeness set by each education unit.

5. Use Various Assessment Techniques

   The assessment techniques that can be chosen can be written, oral, product, portfolio, performance, project, observation, and self-assessment.

Authentic assessment has a strong relevance to the scientific approach in learning in accordance with the demands of the 2013 curriculum. Because this kind of assessment is able to illustrate the improvement in student learning outcomes, both in the context of observing, asking, reasoning, trying, and building networks. Authentic assessment tends to focus on complex or contextual tasks, allowing students to demonstrate their competence which includes attitudes, knowledge, and skills.

F. Another Learning Approaches

Besides the scientific approach, there are two learning approaches that are widely used by teachers for students activities because those learning approaches requires students to ask questions, namely Deductive Approach and Inductive Approach (Ammase, 2015: 1). According to Yamin in Ammase (2015: 2), the deductive approach is the giving of the principles of the contents of the lesson, then explained in the form of its application or examples in certain situations. This approach explains the theoretical nature of reality or explains things that are general to specific. According to Sahabuddin in Ammase (2015: 2), the deductive approach is almost the same as the expository approach. Teachers who use this approach start by mentioning the law, principle, or generalization. Teachers began by making statements relating to the findings they had made or about information obtained previously. Then students are asked to use these statements on the problems they have. Ngalimun et al in Ammase (2015: 2) concluded that the deductive theory is to provide information that starts from a certain speculative estimate or thought towards the data to be explained.

From several theories above can be concluded that the deductive approach is a learning approach that can be used by the teacher by conveying the principles of the concept of learning material then proceed with conveying evidence or facts that support the concept then students are asked to reason and then ask questions if they do not understand.

While the inductive learning approach is an approach that starts with giving facts, cases, examples, or causes that reflect a concept or principle. Then students are guided to try hard to synthesize, discover and conclude the basic principles of the approach (Yamin in Ammase 2015: 2). According to Sahabuddin in Ammase (2015: 2), the inductive approach is similar to the discovery approach and inquiry approach. Teachers who use the inductive approach start by providing information that is not well structured and provided in various formats. Students learn the information and relate it to the problem given. Teachers work together with students to look for the necessary facts. From the results of these observations and research students are asked to formulate hypotheses that can be tested for truth. These generalizations or hypotheses are then analyzed whether they can be accepted or rejected. Ngalimun et al in Ammase (2014: 2) conclude that inductive theory is a way of explaining from data towards theory. In the extreme form this positive point of view is found in behaviorists.

From several theories above can be concluded that the inductive approach is a learning approach which the implementation is inversely proportional to the deductive approach, starting from the teacher giving a few examples of facts and then students are asked to find out the concepts related to these facts.

G. Some Previous Studies

There are several previous studies that have been conducted related to the scientific approach. The first is a study that was conducted by Arapah (2016). The objective of the study was to investigate the five teaching steps of the scientific approach in the K-13 English Lesson Plans with the title "English Lesson Planning of K-13 with Scientific Approach". The data on the activities planned were analyzed by listing them down into the appropriate step. The sample consisted of 110 out of 550 lesson plans made individually by the undergraduate students in the Micro Teaching Course. The results of the research showed that there have been activities which are appropriately placed in the five steps of scientific approach but there also have been activities which actually do not belong to scientific approach steps. So we can know that some prospective teachers have not understand well about this scientific approach.

The second is a study that was conducted by Paramma (2016). The study aimed at exploring teachers' perception towards the scientific approach applied in the teaching and learning interaction and the title is "Teachers' Perspectives on scientific approach in Indonesian Educational Context". A descriptive study was employed using survey questionnaire to collect data. Purposive sampling technique was employed in selecting the EFL teachers as the respondents of the study and 34 EFL teachers were selected. The result of the study demonstrated that there were marked differences in the way the EFL teachers perceive the scientific approach in their classroom teaching practices. The teachers' perception felt into three categories they are Strongly Positive Teacher

(58.82%), Moderately Positive Teacher (32.35%), and Less Positive Teacher (8.82%). These categories related to the teachers' understanding to the scientific approach and their classroom interaction, the more positive of the teachers on scientific approach the better the practices they have in their classroom teaching practices. So almost half of them still have not understand and implement the scientific approach in the K-13 lesson plans well.

Then, Nikmah (2017) also did a study that aims to describe the implementation of scientific approach in English Instruction with the title "The Implementation of scientific approach in English Instruction based on 2013 Curriculum at MTs N Kunir Wonodadi Blitar". The research design of this study was descriptive qualitative. The subjects were an English teacher and the students of VIII grade of Excellent class. This study reveals that: 1) in Observing phase the teacher was provide picture and text through seeing, observation, and listening activities; 2) in Questioning phase, the students can not ask a critical question, because of the teacher just giving comprehension check; 3) in Experimenting, the teacher re explained the material and to collect information by doing some exercises in the book; 4) the teaching and learning process in Associating phase the students can analyze and identify the topic; 5) the last activities is making conclusion in the material by creating product like worksheet.

All of the study focused on scientific approach but were different from the one into another in term of the main focus and the setting. The first study

focused on investigate the five teaching steps of the scientific approach in the K-13 English Lesson Plans made by the undergraduate students in the Micro Teaching Course. Then, the second study focused on teachers' perception towards the scientific approach applied in the teaching and learning interaction. Meanwhile, the third study focused on the implementation of scientific approach in English Instruction. Related to the implementation of scientific approach, all of the result can be used as the reference for implementing scientific approach.