CHAPTER II

THEORETICAL REVIEW

A. Curriculum 2013

1. Essences

Curriculum 2013 puts teachers as characters who hold important role especially in teaching and learning process. What makes this curriculum different from the previous one is on the core and basic competencies. The main essences of this curriculum are the implementation of scientific approach and student centered learning.

The teaching and learning process should be able to develop students' attitudes, skills, and knowledge, make them creative, innovative, critical, and achieve the learning objectives optimally. In such way, the assessment should be authentic towards the input, output, and income in each teaching and learning process (Mulyasa, 2014:3-4).

2. Objectives

Curriculum 2013 is meant to develop an active, creative, and joyful learning process for students. It is expected to produce golden generations who are productive, creative, innovative, and affective. It can be achieved through observing, listening, reading, questioning, and reasoning, trying, and communicating (Retnaningsih, 2012:11). Despite students are as the subject of teaching and learning process in curriculum 2013, it does not

mean that teacher does not take any important role. As the implication of the policy, teachers are demanded to have skills of developing any methods and approaches for teaching learning process. In addition, it is hoped that teachers should be able to create conducive and an effective classroom management (Mulyasa, 2014:7-9).

B. Scientific Approach

1. Definition and characteristics

Scientific approach is a learning process that supports students' creativities and findings. Learning experience that they get is not indoctrination, or memorization but they gain by themselves based on their awareness of their importance. The material that students learn is based on fact or particular phenomenon, appropriate with the basic competence developed by the teacher (Kosasih, 2014:72).

Scientific approach can be implemented by using some learning models such as Discovery Learning, Problem-Based Learning, or Project-Based Learning. This is an oriented learning approach or student-centered (student centered approach). In scientific approach, learners construct knowledge for themselves. Their knowledge is dynamic, evolving from the simple to the complex, from the scope itself and in the surrounding areas to the wider scope and nature of the concrete to the abstract. As a developing human, learners have been, are being, and or will undergo four stages of intellectual development, namely sensory motor, the pre-

operational, concrete operational, and formal operational (Permendikbud number 81 A in 2013).

2. Steps of Scientific Approach

This approach includes scientific steps; observing, questioning, associating, experimenting, and networking for achieving skill aspect (Hidayat, 2013:7-13). First, observing phase is a process related to the real world including seeing, listening, reading. Second, questioning is a process of building knowledge in terms of facts, concepts, principles, procedures, laws, and theory through asking question. Third, associating is a process of building thinking ability and scientific attitude showing that this curriculum requires high order thinking of the students. Fourth, experimenting is a process of increasing students' curiosity in strengthening understanding of facts, concepts which can be achieved through certain technique. Last, networking is a process of writing or reporting, presenting, communicating students' works (Kosasih, 2014:72-82).

Scientific approach is an approach that was particularly implemented in exact or science subject. So, it is not astonishing if this approach is hard to apply in language subjects. Despite, we should work hard and never give up in exploring methods and strategies to reach the goal of this approach.

3. Learning Models of Scientific Approach

a. Discovery Learning

Discovery Learning is a teaching method that engages students in the process of mental activity through brainstorming, discussions, seminars, reading alone, try it yourself, so that students can learn on their own. Use of this discovery technique leads the teacher to try to increase the activity of students in teaching and learning process (Roestiyah, 2012:20).

The teacher's roles of Discovery Learning are as: (a) motivator (to encourage students to think and work hard), (b) facilitator (provide learning sources), and (c) learning manager (facilitate students when they work in group) (Kosasih, 2014:84).

The steps of Discovery Learning are: (1) formulating a problem, (2) making hypothesis, (3) collecting data, (4) drawing a conclusion, and (5) communicating the result (Kosasih, 2014:85-88).

b. Problem-Based Learning

Life is identical to confront a problem. This learning model trains and develops the ability to solve problems (authentic problem-oriented), to stimulate high order thinking skills. Stable conditions needing to be maintained are democratic, comfortable, and fun atmosphere for students to think optimally (Ngalimun, 2014:163).

The teacher' roles in Problem-Based Learning are: (a) facilitating nice environment for learning, (b) creating freedom for students to share their ideas, (c) helping students to get information

from any sources, (d) encouraging students to be confident in learning, and (e) showing enthusiasm, care, and responsibility (Kosasih, 2014:89).

The steps of Problem-Based Learning are: (1) orienting students towards the problem, (2) raising a problem, (3) collecting data, (4) formulating the answer, and (5) communicating the answer (Kosasih, 2014:91).

C. Project-Based Learning

1. Definition Project-Based Learning

Project-Based Learning is a way of presenting the learning materials which teachers assign students learn to do something and then be justified. It can be interpreted as a learning method that uses a problem as the first step in collecting and integrating new knowledge based on experience and real activity. It has three components: teachers give assignments, students perform tasks, learners accountable to teachers what they have learned (Faedah, 2011:17).

According to Mulyasa (2014:145), stated that Project-Based Learning is an instructional model that the aim is to focus learners on complex issues which needs to investigate and comprehend the subject matter through investigation.

The aims of this learning model also to guide learners in a collaborative project which requires integrates a variety of subjects (material) in

curriculum, gives the opportunity to learners to explore the material using a variety of ways that are meaningful to them and conducts experiments collaboratively.

2. Characteristics of Project-Based Learning

Characteristics of Project-Based Learning according to Kosasih (2014:97) are as follows:

a. There is a need to enrich the materials so students get the benefit of it.
b. Students design activity or product they will make, through planning, activity, and product.
c. Students do activity collaboratively or individually by using experience, learning materials, or other information.
d. Learning assessment is done starting from planning, process of doing activity, and the result involving cognitive, psychomotor, and affective aspects.

3. The Objectives of Project-Based Learning

The aims of this learning model according to Kosasih (2014:98) are as follows:

a. Students get benefit from the materials they learn for their daily life.
b. Students can be creative, innovative, and develop their potentials in the form of activity or product from what they learn either individually or collaboratively.

c. Students' potential can be more active and maximize not only intellectual but also physical, emotional, social, and the spiritual potentials.

d. Students are hoped to develop their competences and skills in managing and utilizing sources, materials, environment potential, society, and the cultures.

4. The Roles of Teachers and Students in Project-Based Learning

The roles of teachers and students in Project-Based Learning according to Simpson (2012:45-48) are as follows:

a. Teachers' roles

The concept of teacher in communicative classroom it is not in instructor but also is a facilitator (Simpson, 2012:45). There are many tasks for teacher to perform, such as organizing activities, establishing learning environment for students and promoting the use of target language for communicative purposes. When students need assistance or advice the teacher can be an advisor and a co-communicator who participate with students in Project-Based Learning.

A teacher in Project-Based Learning is a facilitator and advisor. As a facilitator, the teacher generates activities and students have opportunities to draw and strengthen their skills in inquiry, critical thinking and problem solving (Newell, 2003; Fried-booth, 2002 as cited in Simpson, 2012:46).

In early stages of Project-Based Learning, teachers need to help students to develop an assessment tool like rubric, which is used at different stages of the project. It will help students to understand what is expected of them. During learning or creating the project teacher needs to give a model, guide and support the learner so they can make the project successfully. In addition, teacher needs to monitor progress, give feedback and evaluate overall learning.

As advisor, teacher needs to support and encourage them psychologically and morally by simply being with them and spending time with them.

b. Students' roles

The roles of students in Project-Based Learning are important. As Project-Based Learning involvements students need to be involved in three major roles:

(1) As a self-directed learner

Students choose the topic that related to their experiences and interests. They design their learning goal with stimulation and motivation from the beginning to the completion of the project. They do the task within the group, undertake their project, and find resources to use, choose artifacts, evaluate and revise their project (Clark, 2006 as cited in Simpson, 2012:47).

(2) As a team member or collaborator

Besides being self-directed learners, students put their role to become peer-helpers who in turn help other learners to complete tasks (Murchu, 2005 as cited in Simpson, 2012:47). Since the final outcome is in part their responsibility as part of the whole class or group work. Students need to be team members willing to work and put in effort to make it right (Stanley, 2000 as cited in Simpson, 2012:48).

(3) As a knowledge managers or the leaders

As a knowledge managers or leaders, students are required to have a solid foundation in the topic of the study. Unlike traditional classrooms where the teacher directly transfers knowledge to students who memorize and learn by rote, students in Project-Based Learning need to search for information, collect, analyze, and interpret data, design artifacts and present them as the outcome of their in-depth and constructive investigation (Murchu, 2005 as cited in Simpson, 2012:48).

5. Steps in Project-Based Learning consists of:

a. Designing a Plan for the Project

In the first step of Project-Based Learning always begin with essential questions (Nurohman, 2014:15). This question can be proposed by teacher or students or collaboratively between teacher

and students. Teachers' duties are guiding the students to make a plan for the project based on the questions made and core competences. Planning is done collaboratively between teachers and learners. Thus, students are expected to implement of the project. Planning contains about rules, the selection of activities that can support in answering questions essentially, by integrating a variety of subject and to know the tools and materials that can be accessed to help completion of the project (Kosasih, 2014:99).

b. Creating a Schedule

Teachers and learners collaboratively construct a schedule activity in completing the project. Activities in this phase include: (1) create a timeline for completing the project, (2) make the deadline project, (3) bring learners to plan how new, (4) guide learners when they make waywhich is not related to the project, and (5) require learners to make the explanation (excuse) on the selection of a way (Kosasih, 2014:99).

c. Monitoring the Students' Progress and Project

Teacher is responsible for conducting and monitoring the activity of learners for completing the project. Monitoring can be done by facilitating learners in each process. In other words, teacher should be a mentor teacher for activity students. In order for the monitoring process, creating a rubric that can record all activities is important (Kosasih, 2014:100).

d. Presenting the Result

Students show their product and explain the process of making it, and the advantages of it. It can be done in a whole class discussion (Kosasih, 2014:100).

e. Assessing the Outcome and Experience

Assessment is done to assist teachers in assessing achievement standard, plays a role in evaluating the progress of each learner, provide feedback on the level of understanding already achieved by learners, and help teachers in preparing the next learning strategies (Nurohman, 2014: 16).

f. Evaluating

At the end of the learning process, teachers and learners reflect on the activities and results of the project are already run. The process `of reflection is done either individually or group. At this stage, learners are asked to disclose feelings and his experience for completing the project. Teachers and learners develop the discussion in order to improve performance during the learning process, and eventually found a new findings (new inquiry) to address the problems posed (Kosasih, 2014:100).

6. The Advantages and Disadvantages of Project-Based Learning

According to Ngalimun (2012:197), the advantages of Project-Based Learning are:

a. Increasing students' motivation. Students very diligently and highly motivated to pass the deadline, try hard to achieve the project. Teachers also reported progress in student attendance and tardiness. According to the students, studying in the project more fun than others.
b. Developing students' ability of solving problem. Students are more active and be able to solve complex issues.
c. Improving collaboration. The importance of team work in doing project requires students to develop and practice communicative skill. Collaborative team work, students' evaluation, information exchange are collaborative aspects of doing project.

The disadvantages of Project-Based Learning according to Sagala (2009:219, as cited in Faedah, 2011:20) are:

a. Students often do self-deception in which they simply imitate the work of others, without experiencing the learning event.
b. There are times when the task was done by another person without supervision.
c. If the task is too given or simply abdicate responsibility for teachers, especially when the tasks were difficult to implement, they can be affected mental tension.

How to overcome the weaknesses of Project-Based Learning according to Sagala (2008:219 as cited in Faedah, 2011:20), there are several ways to overcome the weaknesses of Project-Based Learning:

a. The assignment given to students should be clear, so that they understand what to do.
b. The assignment given to students by showing each individual difference.
c. The time to complete the task should be sufficient.
d. Systematic control or supervision or tasks are assigned to encourage students to study hard.
e. The task given should consider attractive and attentive students.
f. This model encourages students to explore, experience, and express.
g. The task is both practical and scientific.
h. The learning materials assigned should be taken from the things that are known students.

D. Teachers' Perceptions

1. Teachers' Perceptions

According to Oxford Advanced Learners' Dictionary (Hornby, 2010) teacher is a person whose job is teaching, especially in a school. Teachers' perception in this study refers to teachers' opinion and understanding on Project-Based Learning.

2. Definition of Perception

Perception is very important in our life because by perception we can know about the kinds of phenomenon which exist in our environment.

Slameto (2010:102) stated that perception is a process which starts from the sense of organ. That is a process related to acceptance of message or information by human brain that is said that during the process a person continually interacts with his or her environment.

According to Rachmat (2001:51), perception is a process of giving meaning to sensory stimuli. People have different perceptions on an object or thing. The function of the perception is as establishment of our adjustment. The perception can be positive or negative (as cited in Purwayogi, 2009).

While Mulyana (2007:179) stated that perception is internal process enable us to choose, organize, and interpret the stimuli from environment, those process can influence our manner.

Moreover, perception is the impression of a person to a particular object which is influenced by internal factors, such as behavior under the control of personal and external factors, such as behavior influenced by circumstances outside (Depdiknas, 2003).

From the definitions above it can be concluded that perception is a process which starts from the vision to form a response that occurs in person which is come from external and internal factors through its senses.

3. Factors affecting perceptions

Walgito (1989:75) divides factors that affect one's perception into two. Those are as follows:

a. Internal Factors

Internal factor is a factor which comes from an individual, especially depend on psychological factor such as: thoughts, feeling, willingness, needs, sex, motivation, attention, etc. Every human being has different characteristic and temperament which influence individual behaviors. The different characteristic and temperament are also shaped by individuals' family and individuals' environment.

b. External Factors

This is a factor, which comes from outside individual, the external factors are also affected someone's perception, and stimulus is an internal factor in monitoring process. The process of stimulus will use the sense of organ or receptor such as: sight, sounds, hearing etc. it can be concluded that the individual's sense organ is as a connector between individual and the object in the world.

(as cited in Istiqomah, 2009)

4. Basic Principles of Perception

For the teacher, knowing and implementing basic principles of perception is very important. There are many basic principles that should be known by English teachers in order to know students characteristics so the communication between teachers and students will be effective, those are as follows:

a. Perception is relative not absolute

It means that perception of someone or group is different from others. The perception sometimes will be different even though they talk about the same things.

The teacher can predict students' perception better in the next lesson by knowing this from previous lesson being taught.

b. Perception is selective

It means that perception that is given by someone or group come based on their attention. It depends on their brain or motivation about the object. In this case, the teacher should choose what parts need to be pressure to get more attention from the students.

c. Perception has arrangement

It means that perception of someone is an arrangement about an object. It is influenced by their brain, motivation, experience, and etc. For example, someone maybe will have negative perception toward English lesson because of their bad experience before related to English itself. In other words, the arrangement of the object can give influence toward the perception about that object.

d. Perception is influenced by hope and readiness

Hope and readiness of a person will determine which messages will be selected for admission, laid out, and how the message will be interpreted.

e. Perception of someone or groups can be different although in the same situation.

For the teacher, this principle means that the perception could be more or less the same with the perception shared by other classes with the same subject matter being taught.

(Slameto, 2010: 102-105)

E. Previous Research

As the guidance to conduct this research, it is needed to know some previous relevant research conducted by other people. The first one, Tamim, R. S. & Grant, M. M. in 2013 conducted a case study entitled "Definitions and Uses: A Case Study of Teachers Implementing Project-Based Learning". The study chose six teachers purposively. The research problems were 1) How teachers define Project-Based Learning and, 2) How teachers choose to use Project-Based Learning. In defining Project-Based Learning, teachers revealed four sets of advantages: support and facilitation of the learning process, differentiation and creative abilities, motivation and engagement, and collaboration. While the sample was small, four profiles of Project-Based Learning teachers emerged on how they choose to use Project-Based Learning: teachers reinforced learning (reinforcer), they extended learning (extender), they initiated learning (initiator), or they navigated among these three trends according to need (navigator).

Another study was conducted by Faedah in 2011 entitled “Peningkatan Minat dan Prestasi Belajar IPA Materi Rangka Manusia dan Fungsinya melalui Metode Project-Based Learning di Kelas IV Sekolah Dasar Negeri Sikampuh 02”. This was CAR consisting of two cycles which each lasted 2x35 minutes. The instruments were questionnaire and test. The mean of cycle 1 was 78.88% higher than the passing grade (76%), and cycle 2 was 98.22% higher than the passing grade (92.4%).

E. Basic Assumption

This research attempted to find out teachers’ perceptions on Project-Based Learning. It is a learning model which demands teacher and students to develop high order thinking through making a project and results a product in the end of learning done collaboratively in group. Teachers’ opinions may reveal advantages of Project-Based Learning such as support and facilitation of the learning process, differentiation and creative abilities, motivation and engagement, and collaboration. However, there is possibility of the appearance of disadvantages such as imitation work, work done by another person, burden of complicated work. It may also serve some of teachers’ roles including facilitator, advisor, and manager of teaching-learning process.