

## **CHAPTER II**

### **LITERATURE REVIEW**

#### **A. Theory of Learning Styles**

##### **1. Definition of Learning Style**

There are many definition of learning styles. Learning style is a habitual ways of learners in their learning activities that are formed from factors such as individual experience, cognition, personality, and environment (Wang, 2007: 409). Learning style is the characteristic cognitive, affective, social, and physiological behaviour that show stable indicators of how learners feel, interact with, and respond to the learning environment (MacKeracher, 2004:71). Learning styles is the way of thinking related to educational context, where affective and physiological factors are united (Brown, 20017:120). From many definitions, it can be concluded that learning style is the way of processing and understanding information.

##### **2. The Models of Learning Styles**

Everyone processes and learns new information in different ways. There are various learning styles according to experts. There are five learning styles: visual, auditory, kinaesthetic, global and sequential (Wood, 2010: 10-11). While, DePorter and Hernacki (2010: 115) states there are three learning styles: visual, kinaesthetic, and auditory.

a. Visual

Visual learners mainly use their eyes to learn best. Visual learners like to watch movies, draw, and get involved in other activities that rely on their eyes (Wood, 2010: 10). In the classroom, visual learners like when teachers write the problems and examples or directions on the chalkboard or overhead while explaining the process. Visual learners will be helped in visualizing abstract ideas when teachers use charts, graphs, cartoons, or maps to show information (Dunn, 2000: 63).

There are some characteristics of visual learner. The characteristics are as follows:

1. Orderly and structured
2. Speak fast
3. Remember more what they see rather than what they hear
4. Not easily disturbed by noises
5. Remember with visual association
6. Have problem to remember verbal instruction, except if it is written or repeated frequently
7. Read quickly and diligently
8. Like demonstration rather than speech
9. Like art rather than music
10. A good long-term planner
11. Frequently forget to tell verbal message to others
12. Good in spelling

13. Make appearance their priority
14. Often answer a question briefly with 'Yes' or 'No'
15. Make a scratch without meaning when talking on the phone and in the meeting
16. Need a clear goal and wary before feeling sure about a problem or project

(DePorter and Hernacki, 2010: 116)

b. Auditory

Auditory learners mainly use their ears when learning. Auditory learners like to listen to the radio rather than read the paper. Auditory learners like listening to music or lectures, and participating in other activities that depend on their ears (Wood, 2010: 10). When learning in the classroom, auditory learners like to be given verbal clues with a visual presentation and both oral and written directions for completing class tests or assignments. Teachers may use colored chalk to separate chalkboard assignments and use colored pens on the overhead when facing auditory learners (Dunn, 2000: 63).

There are some characteristics of auditory learner. The characteristics are as follows:

1. Talking with themselves when working
2. Move the lips when reading a book
3. Can repeat and imitate note, intonation, rhythm and voice

4. Remember more what they hear rather than what they see
5. Easily disturbed by noises
6. Like reading loudly
7. Like talking, discussing and explaining something rather than writing.
8. Have problem with the activities which use visualization
9. Better in spelling with loud voice than writing
10. Like music
11. Like oral jokes rather than reading a comic
12. Talking with systematic rhythm
13. A good speaker

(DePorter and Hernacki, 2010: 118)

c. Kinaesthetic

Kinaesthetic learners learn effectively through touch, movement and space. Kinaesthetic learners learn skills by imitation and practice. Kinaesthetic learners like to keep moving such as sports or dancing, or a small-movement action such as doodling, playing an instrument, and needlework. Kinaesthetic learners learn best when they keep their bodies or hands moving (Wood, 2010:11). Kinaesthetic learners like to work on the chalkboard, play games to demonstrate certain knowledge, and use task cards or other playing card activities in teaching learning process (Dunn, 2000: 63).

There are some characteristics of kinaesthetic learner. The characteristics are as follows:

1. Speak slowly
2. Respond to physical care
3. Touch others to get their care
4. Stand near the person when talking
5. Learn by practicing
6. Like to move
7. Do not like to sit for a long time
8. Like to use body language
9. Memorize by walking and seeing
10. Use fingers as a pointer when reading

(DePorter and Hernacki, 2010: 118)

d. Sequential

Sequential learners tend to gain understanding in linear steps logically. Sequential learners like to do crossword puzzles, fill out forms, work math problems, or do other activities in an order way. Sequential learners need to put things in a particular order so they can learn them (Wood, 2010:11)

e. Global

Global learners learn material almost randomly without seeing connections. Global learners can solve complex problems quickly, but

they have difficulty explaining how they did it. Global learners like to make pictures or designs in their head when they are looking at or listening to something. Global learners learn through images and they like to see the whole picture (Wood, 2010:11).

## **A. Theory of Participation**

### **1. Definition of Participation**

There are many definition of participation stated by experts. Svinicki, (1996:2) as cited in Taniredja (2012:56) states that in classroom context participation is students' active involvement in creating ideas and information so that the chance of learning and memorizing materials will be long lasting. Sukidin (2002:159) as cited in Taniredja (2010:56) defines participation as a level of how far the members involve themselves in an activity to give their energy and thought. In psychological perspective, participation is a mental condition showing how far the group members can enjoy their position as a collective member (Taniredja, 2010: 56). From those definitions, it can be concluded that participation is an involvement of group members in taking a part in an activity by both thinking and giving energy.

### **2. Kinds of Participation**

Participation is divided into two kinds: contributory and initiative participation (Taniredja, 2010: 57). Contributory participation is the

participation that encourages students to follow learning well and do the structured task well both in the school and home. Meanwhile initiative participation aims more at autonomous activity in doing unstructured task or assignment. In this case, students have their own initiative in learning the materials that have not been taught by making notes. Both contributory and initiative participation will make students active and creative so that they realize that knowledge and technology can be obtained through hard effort and they also understand the importance of learning. In thus, both contributory and initiative participations will make students more active.

### **3. Aspects of Participation**

There are several aspects of participation. Aspects that are important to be guideline in observing students' participation are as follows:

- a. Giving opinion to solve problems.
- b. Giving comment to others.
- c. Completing the task given by the teacher.
- d. Being motivated in completing the task.
- e. Tolerating and accepting others' opinion.
- f. Being responsible as a group member.

(Sudjana, 2005: 86)

#### 4. The Importance of Participation

Quality of student participation is important for both teaching learning process and students. Fritschner (2000:44) as cited in Rocca (2010:188) found that students' participation was essential to their own learning. High students' participation makes teaching learning process effective. Students who participate also show improvement in their communication skills (Dancer & Kamvounias, 2005: 446). Allowing students to be a part of the participation grading process helps in increasing their quantity and quality of participation, attendance, and preparedness for the class. Conducting participatory learning strategies will bring students to conducive situation because students take more roles and become more open. When teachers carefully structure the delivery of their content to ensure active participation and cognitive engagement by every student, they help ensure that the learning will be long lasting and meaningful (Himmele & Himmele, 2011: 22).

There are more benefits of students' participation in the classroom.

The benefits are as follows:

1. Participation adds interest

When all students hear is their teacher talking, it is hard to them to focus and pay attention on the teaching learning process. Participation helps students to hear another voice as well as an answer or another point of view.

## 2. Participation engages students

A good question can provoke their interest, make them wonder why, get them to think, and motivate them to make connections with the content. It happens when teachers ask question and write it on the board.

## 3. Participation provides the teacher feedback

When students answer or try to explain, teachers can see the understanding of the students. They can correct or help the students correct what the students do not get right or see quite clearly.

## 4. Participation provides the students feedback

When teachers ask questions or otherwise ask students to give an idea about a topic, they are letting students know something about the importance of certain ideas and information.

## 5. Participation can be used to promote preparation

If teachers regularly calls students and ask questions about assigned reading or what is in their notes from the previous class session, students will come to the class and prepare at least one of them.

## 6. Participation can be used to control what is happening in class

If a student is making a noise, texting, quietly chatting, or otherwise not attending to what is happening, that student can be called on or the student next to the offender can be asked to respond argument or question.

7. Participation can be used to balance who is contributing in class and how much

In the majority of cases, it is the teacher who selects the participant. If teachers will wait patiently and not always select the same student, and if they look to others and confirm verbally and nonverbally what they say, teacher can influence who speaks and how much. Participation even helps teachers control how much they talk.

8. Participation encourages dialogue among and between students

Students can be asked to comment on what another student has said. A question can be asked and students can be invited to discuss possible answers with each other before the public discussion. It provokes students to make dialogue with others about the materials.

9. Participation can be used to develop important speaking skills

Students need to speak up in a group or in a class. They need to deliver information, ask questions, or argue for a different solution. Students do not learn to speak up in a group by reading about how to do it. It is one of those skills best developed with practice.

10. Participation gives students the opportunity to practice using the language of the discipline

When students take a part in the teaching learning process by asking question, giving opinion, giving rejection, or presenting, they try to use the good language. It means participation gives students the chance to practice using a different vocabulary.

(Weimer, 2009:4)

## 5. Factors Affecting Students' Participation

There are many factors that affect students' participation in the classroom. Some of them are teacher, classmates, class content, physical setting, and classroom condition.

### a. Teacher

Students will be comfortable during teaching learning process when their teacher is nice and understanding them. When teacher never scolds the students, students will be braver to participate more in the classroom by asking question, giving opinion, or being volunteer. Students like when teacher listens to them and accept their opinion. Students also like teacher who has sense of humour. It makes teaching learning process fun and encourages students to participate more.

### b. Classmates

Classmates who have positive traits provoke students to be more active. Students will participate more when their classmates are

supportive and familiar increase their participation in the classroom. When they give opinion, they need their classmates to support them. They hate when their classmates laugh at them when they state their opinion. They also like when their classmates listen well to them.

c. Class content

Class content means topic, material, or activity in teaching learning process. Students will be excited when the learning activity is fun like role-play. They also will be stimulated when the topic is familiar and controversial.

d. Physical setting

Students like small class. Small class makes them feel comfortable to speak up. They don't have to speak loudly and they feel accepted in small class. They interact more with the teacher and their friend when they are in small class.

e. Classroom condition

Students feel relaxed and more participative when their class is comfortable to study. Facility such as air conditioner also helps them to study well.

(Musthapa, Rahman, & Yunus, 2010: 1081-1082)

## **B. Theory of Scientific Approach**

### **1. Definition of Scientific Approach**

Scientific approach is foundation to formulate learning method by applying scientific characteristics. Scientific approach is not only focus on how to develop students' competence in doing experiment, but also how to develop knowledge, skill, and attitude so that students are able to support creative activity in innovating (Kementerian Pendidikan dan Kebudayaan, 2013a: 206). Scientific approach is a learning process that supports students to develop their critical thinking and creativity.

In scientific approach, attitude aspect in teaching materials encourages students to know why. Skill aspect in teaching materials provokes students to know about 'how', and knowledge aspect encourages students to know about 'what'. The result of those aspects is the increase and the balance of soft skills and hard skills. Scientific approach in every subject includes digging information by observing, asking, experimenting, analyzing, presenting, associating, concluding and creating (Kementerian Pendidikan dan Kebudayaan, 2013a: 208-209).

A learning approach can be regarded as a scientific approach if it meets the seven learning following criteria:

1. The learning material is based on facts or phenomenon that can be explained logically.

2. Teachers' explanation, students' response, and educational interaction between students and teacher are free from subjective reasoning, or reason that is out of logical reasoning.
3. It encourages and inspires students to think critically, analytically, and precisely in identifying, understanding, solving problems, and applying the learning materials.
4. It enables the students to think in a hypothetical way in the differences, similarities, and another link from learning material.
5. It persuades and motivates the students to understand, implement, and develop pattern of objective thinking in a response to the learning material.
6. It should be based on concepts, theories, and empirical facts that can be justified.
7. Learning objectives are formulated simply and clearly, and presented in an attractive presentation system.

(Kementerian Pendidikan dan Kebudayaan, 2013a: 200-201).

## **2. Steps of Scientific Approach**

Scientific approach includes five scientific steps in teaching learning process. They are observing, questioning, associating, exploring, and communicating (Kementerian Pendidikan dan Kebudayaan, 2013: 227a).

a. Observation

The teacher activities in observing are presenting the material through pictures, video, media, and discussion. The students' activities in observing stage are reading a text or book, listening to the visual media, paying attention to the teacher, and seeing to the picture provided by the teacher. Students are also stimulated to discuss about the material. They discuss material that they have not understood yet (Kementerian Pendidikan dan Kebudayaan, 2013a: 197). The competence to develop in observation stage is sincerity, carefulness, and looking for information. They get those competences through observing (Kementerian Pendidikan dan Kebudayaan, 2013b: 35).

b. Questioning

The learning activity in this stage is asking questions about information that is not understood from the observation activity. The teacher can ask questions to students, and students can ask questions to the teacher. The questioning stage aims at obtaining additional information about what the students observe. The competence that is developed by questioning stage is creativity and curiosity. The ability of making questions is to develop the critical thinking for long life learning (Kementerian Pendidikan dan Kebudayaan, 2013b: 37). In addition, the criteria of good questions are brief, clear and critical. Questioning aims at giving opportunity to the students

to think critically, stimulating students' cognitive skill and stimulating interaction process between teacher and students (Kementerian Pendidikan dan Kebudayaan, 2013a:212 ).

c. Collecting/exploring information

The next step is collecting information. To answer question in questioning stage, the students need to collect or exploring information. The learning activity is doing experiments, reading other sources, observing the objects, events and activities, and having interview with the informant. The competences to develop are conscientious attitude, honesty, politeness, respect to other people's opinions, and communication ability. Implementing the ability to gather information through many ways to learn is to develop the habit of learning and long life learning (Kementerian Pendidikan dan Kebudayaan, 2013b: 36).

d. Associating

The next learning stage is associating. The learning activities of these phase is analyzing collected information from the result of observing and collecting information activities. Analyzing the collected information aims at comprehending information and looking for the solution from many different sources in different point of view (Kementerian Pendidikan dan Kebudayaan, 2013a: 36). The competences that are developed are attitude, honesty, conscientiousness, discipline, obdience, hard work, ability to implement procedure and inductive and deductive thinking skills in

concluding (Kementerian Pendidikan dan Kebudayaan, dan, 2013b: 36).

e. Communicating

The last stage is communicating. The learning activity of this stage is delivering or sharing the observation result and summary based on the oral and written analysis or other media. Communicating activity is an activity to deliver results in the form of oral and written work. Students from different groups share what they find in previous activities. In addition, the collected information is delivered in front of class (Kementerian Pendidikan dan Kebudayaan, 2013: 37b).

### C. Relevant Studies

As an interesting area for education research, learning styles, students' participation and scientific approach have attracted researchers to investigate. Many researchers' have tried to identify various learning styles used by students in language learning and the correlation with confidence, motivation and classroom participation. The study conducted by Riazi and Mansoorian (2008: 100), who surveyed the preferred learning styles of Iranian EFL students, revealed that the auditory, visual, and kinaesthetic learning styles were preferred by students as the major styles and they chose the individual and group learning styles as their minor styles. Another research conducted by Tuan (2010:10), who used 172 students from ten intermediate EFL classes at the Center for Foreign

Languages of the University of Social Sciences and Humanities in Ho Chi Minh City (USSH-HCMC), showed that generally EFL students had a strong tendency to kinaesthetic learning styles. In line with most findings about learners' preferred learning styles, Peacock (2001:18) has examined the learning style preferences of EFL and ESL students and the results of these studies showed that students prefer kinaesthetic learning style.

Researchers also tried to find the correlation between learning styles and variables related to the teaching learning process in the classroom. Students became more confident in the classroom when they know how they learn best and the students (Alkhatnai, 2011:175). The research conducted by Alkhatnai (2011:175), who use both online class and traditional class format, found visual and auditory learners were more motivated in the online class and kinaesthetic learner was reported that they had high motivation in the traditional class (Alkhatnai, 2011:173). In English as a foreign language, teachers always try to encourage their students to speak in the classroom and students' participation is often evaluated when they participate orally. The study of Liu (2001) showed that learning style that learners are applying, their preparation before entering classes, their knowledge of subject matter, and their interest in the topics were the factors influencing oral interaction.

In addition, responding to the new curriculum, there is research conducted recently to find students' responses to scientific approach. In the class where the teacher implemented five learning phase of the scientific approach in two

meetings, the students' responses to the implementation of scientific approach were good enough. It can be seen from the interview data and observation their responses reflected what they felt while having the learning phase implemented. The students' responses were effective in the observing, collecting information, exploring, and communicating. In contrast, the students' responses to questioning and associating phases showed that they could not learn best because the teacher lacked of creativity (Pahlevi, 2014: 9)

#### **D. Basic Assumption**

Each type of learners has different characteristics. Visual learners use their eyes as a central focus to process information, and one of the characteristic of visual learners is that they like demonstration rather than speech. Auditory learners use their ears as a central focus when they learn. The characteristics of auditory learners are that they like talking, discussing and explaining something rather than writing and they have problem with the activities which use visualization. Kinaesthetic learners use their body movement when they learn, and the main characteristic of kinaesthetic learners is that they learn by practicing. Based on the different learning styles used by students and their different characteristics, it is assumed by the researcher that students have different way to take a part in teaching learning process in the classroom.

### **E. Hypothesis**

The hypothesis of this research is that there is correlation between learning styles used by the students and their participation in the teaching learning process in the classroom.

