CHAPTER II

REVIEW OF RELATED LITERATURE

Chapter II consists of three main discussions. They are learning style, teaching strategies, and previous study.

A. Learning Style

1. Definition of Learning Styles

There are some definitions of learning styles:

a. Kolb and Honey and Mumford describe learning style as an individual preferred or habitual ways of processing and transforming knowledge.[11]

b. Keefe emphasizes learning styles as cognitive, affective, and psychological features that provide as quite stable indicators of how learners recognize, interact with, and respond to the learning environment.[12]

c. Haar, Hall, Schoepp, and Smith also elaborate learning styles as individual's differences in which information is perceived, processed, and communicated.[13]

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[11] Kolb, D. A. Experiential learning: Experience as a source of learning and development, Englewood Cliffs, NJ: Prentice Hall. (1984).

[12] Keefe, J. W. & Ferrel, B. Developing a defensible learning style paradigm. Educational Leadership, (1990). 10, 57-61.

[13] Haar, J., Hall, G., Schoepp, P., & Smith, D. H. How teachers teach to students with different learning styles. The Clearing House, (2002). 75(3), 142-145.

From those definitions above researcher concludes that learning style is students' styles preferences used to ease them in understanding the material given by the teacher.

B. Various Learning Style Perspectives

There are some perspectives that can be seen toward the learning styles, the perspectives can be from many sides and many experts including Dunn and Dunn' theory, Myer Briggs, Kolb, Honey and Mumford and Gardner. These experts are the most popular one.

1. Dunn and Dunn

Developed by Drs. Rita and Kenneth Dunn, this model emphasizes the organization of the classroom and the use of a variety of instructional activities and procedures. They believe that for a student to have the best opportunity to learn, the instructional techniques must match each student's individual learning style. This model does not address the curriculum content or instructional goals and objectives. The Dunn and Dunn model involves two main activities: 1) Identifying the individual learning style, 2) Planning and implementing learning activities that accommodate the student's individual learning style strengths.

The five stimuli groups or dimensions cover environmental, emotional, sociological, physiological, and psychological areas. The stimuli deal with how the learners perceive, interact, and respond within the learning

environment. Within these groups are 21 variables, or elements for which a learner may have a preference. They are as follows:

a. Environmental Preferences

These preferences are related to the environmental side including sound, light, temperature, and design.

1) Sound

It refers to what the students prefer to have in the class, whether they want quiet class or a class with background music.

2) Light

It refers to whether they like dim or bright light while studying or concentrating.

3) Temperature

It refers to their preference of room temperature to be cool or warm while engaging in learning activities.

4) Design

It refers to the furniture arrangement that the student prefers. If they normally sit at a desk (formal) or they prefer the couch, bed, floor, pillows, etc. (informal).

b. Emotional Preferences

Emotional side is dealing with the students' sentiment, mood, feeling. There are four elements which belong to this perspective. They are:

1) Motivation

It refers to where the students get the spirit from, whether they are self-motivated to learn, or they are primarily motivated by adult feedback and reinforcement.

2) Persistence

It relates to the learner's attention span and ability to stay on task. If they prefer to work on one task or like to work on a variety of tasks simultaneously.

3) Responsibility

It relates to how they work. They work independently with little supervision, or prefer to have frequent feedback and guidance.

4) Structure

It refers to how the students understand the instruction given. They like step-by-step instructions, or prefer to be given an objective and left alone to decide how to complete the task.

c. Sociological Preferences

Another perspective of learning styles by Dunns which focuses on what students want in doing the task, whether they prefer doing by them selves, working on pairs, being a member of a team, working with adult or enjoying a variety of procedures:

1) Self

They prefer working on a task by their self.

2) Pair

They prefer working on a task with one other person.

3) Peers and Teams

They like working as a member of a team.

4) Adult

They like to work with an adult or teacher.

5) Varied

They like routines or patterns or prefer a variety of procedures and activities.

d. Physical Preferences

This perspective consists of four elements. They are as follows:

1) Perceptual

It relates to if they belong to visual, auditory or kinesthetic learning style.

2) Intake

They prefer to drink, eat, or chew gum while studying.

3) Time

It refers to the time of the day when they have the most energy.

4) Mobility

They prefer to move while being involved in a learning task.

e. Psychological Preferences

This last perspective of Dunns' theory focuses on what affect the students' preferences from the psychological side. They are global or analytic, hemispheric, impulsive or reflective:

1) Global/Analytic

Whether they are a "big picture" person, or more detailed oriented.

2) Hemispheric

It related to whether they have left brain tendencies (sequential learners) or right brain tendencies (simultaneous learners). This overlaps with the global/analytic preferences.

3) Impulsive/Reflective

It refers to whether they tend to make decisions quickly or take time to consider all the options.

2. Myers Briggs

There are 16 learning styles categorized in the Myers- Briggs Type Indicator, which are a combination of the following four preferences: (1) extraversion versus introversion, (2) sensing versus intuition, (3) thinking versus feeling, and (4) judging versus perceptive.[14]

[14] L. V. Harris, Ph.D., M A. Sadowski, Ph.D., J. A. Birchman, M.A., A Comparison of Learning Style Models and Assessment Instruments for University Graphics Educators. P.16-18

a. Extraversion vs. Introversion

Extroverts get recharged by being around people. They are action-oriented. They learn by teaching others and especially like working in groups.

Introverts can be sociable, but need to recharge by having quiet reflective time in their inner world of abstract thinking, conceptualization, and brainstorming ideas. They want to understand what makes the world function. Introverts need to have a frame to connect the pieces of information. They need to grasp the understanding of the global perspective in order for knowledge to occur.

b. Sensing vs. Intuition

Sensing learners rely on factual information. They are detail oriented and prefer linear, organized, and structured lectures. *Intuitive* students rely on their sixth sense of intuition in order to receive and integrate information into a "big picture." Intuitivists are able to see patterns and relationships to pieces of information, where others only see chaos.

c. Thinking and Feeling

Thinking learners process information logically and through analysis. They value justice. These students are predominantly male. *Feeling* students rely on human values to make decisions. They value harmony and tend to be great negotiators and persuaders. Feeling students

enjoy group work, as long as there is collaborative win-win behaviors and goodwill among the members.

d. Judging vs. Perceptive

Critical, self-disciplined learners, who plan things out are judging learners. These students are task oriented and committed to deadlines. They learn best by color coding in analyzing information. They quickly jump to the conclusion.

Perceptive students tend to wait until the last minute to get their assignments in. Even though they are perceived lazy, they are actually seeking information until the last possible moment.

3. Kolb

Kolb summarizes four different learning styles: (1) converger, (2) diverger, (3) assimilator, and (4) accommodator.[15]

a. The *convergers* are strong in abstract conceptualization and active experimentation learning abilities, and tend to be unemotional and prefer "things" to "people," which is typical of an engineer. The convergers are also strong in the practical application of ideas.

b. The *divergers* are best at concrete experimentation and reflective observation, and tend to be imaginative, emotional and interested in

[15] L. V. Harris, Ph.D., M A. Sadowski, Ph.D., J. A. Birchman, M.A., A Comparison of Learning Style Models and Assessment Instruments for University Graphics Educators, p. 18-19

people, which is typical of a counselor. The divergers are strong at generating ideas and seeing things from a different perspective.

c. The *assimilators* rely on their abstract conceptualization and reflective observation learning abilities and are more interested in abstract concepts than in people, which are typical of a researcher. The assimilators excel in inductive reasoning and creating theoretical models.

d. The *accommodators* excel at concrete experience and active experimentation and are at ease with people and easily adapt to different situations, much like a typical salesman, the accommodators solve problems intuitively.[16]

5. Honey and Mumford

Honey and Mumford use the *Learning Styles Questionnaire* (LSQ) to identify individuals' strengths and weaknesses for each stage of the cycle and suggested four learning styles. [17]

a. Activists

People who involve themselves in new experiences, tackling problems by brainstorming, and moving from one task to the next as the excitement fade.

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[16] L. V. Harris, Ph.D., M A. Sadowski, Ph.D., J. A. Birchman, M.A., A Comparison of Learning Style Models and Assessment Instruments for University Graphics Educators, 19.

[17] Eugene Sadler-Smith, Learning Styles: A Holistic Approach, Journal of European Industrial Training 20/7 [1996] 29–36

b. Reflectors

Cautious and thoughtful people who like to consider all the possible angles before making any decisions and whose actions are based on observation and reflection

c. Theorists

People who integrate their observations into logical models based on analysis and objectivity.

d. Pragmatists

It is about practical people who like to apply new ideas immediately, and get impatient with an over emphasis on reflection.

6. Gardner

H. Gardner's concept of multiple intelligences is commonly viewed as, in fact, a model of learning styles. According to this point of view, the following types of learning styles can be identified:[18]

a. Visual

Visual learners think in pictures and learn best in visual images. They depend on the instructor's or facilitator's non-verbal cues such as body language to help with understanding. Sometimes, visual learners

[18] S. Penger, M. Tekavčič: Testing Dunn & Dunn's and Honey and Mumford's learning style Theories: The Case of The Slovenian Higher Education System, Management, Vol. 14, 2009, 2, pp. 1-20

favor sitting in the front of the classroom. They also take descriptive notes over the material being presented.

b. Auditory

These individuals discover information through listening and interpreting information by the means of pitch, emphasis and speed. These individuals gain knowledge from reading out loud in the classroom and may not have a full understanding of information that is written.

c. Kinesthetic learner

Individuals that are kinesthetic learn best with and active "hands-on" approach. These learners favor interaction with the physical world. Most of the time kinesthetic learners have a difficult time staying on target and can become unfocused effortlessly.

C. Teaching Strategies

Teaching strategies are teaching behaviors designed to help students reach the identified learning goals. These strategies are prescriptive in that teacher responsibilities as well as student responsibilities are defined in a series of steps and are clearly recognizable.

There are several strategies that can be used to facilitate the students' learning styles.

a. Teaching strategies for visual learners

1) Writing the instructions for all assignments or test

2) Giving the summary or outline in every note
3) Writing definitions of new terms
4) Writing and giving oral explanations for charts, graph, and diagram
5) Applying follow-up reading for any class lecturer or discussions
6) Demonstrating and modeling every assignments or test.
7) Relating to imagery, metaphor and fantasy first when teachers want to explain a new concept of vocabulary

b. Teaching strategies for auditory learners

1) presenting the information through lectures, class discussion, small group activities, films, and tape
2) Using oral instructions for all homework assignments or tests
3) Using oral explanation for all graphs, charts, diagram and pictures
4) Facilitating the students with small group discussion and problem solving activities
5) Giving students opportunities to ask questions and share the idea during the class lecture
6) Providing oral summary for all the explanations have been given
7) Providing oral reports on subjects and listening to oral report by classmate

c. Teaching strategies for kinesthetic learners

1) Providing activities that encourage learning by interacting with others
2) Encouraging the students in participating in role plays or simulation

3) Allowing the students to take a note during class lectures and discussions as the act of the writing aids concentration.
4) Facilitating them by going to field trips.[19]

D. Previous Studies

There are several previous studies dealing with the learning styles. They are as follows:

The paper entitled "Supporting Teachers in Identifying Students' Learning Styles in Management System" written by Sabine Graf1, Kinshuk1 and Tzu-Chien Liu, proposes an automatic approach for identifying students' learning styles in LMSs as well as a tool that supports teachers in applying this approach.[20] The approach is based on inferring students' learning styles from their behavior in an online course and was developed for LMSs in general. It has been evaluated by a study with 127 students, comparing the results of the automatic approach with those of a learning style questionnaire. The evaluation yielded good results and demonstrated that the proposed approach is suitable for identifying learning styles. DeLeS, the tool which implements this approach, can be used by teachers to identify students' learning styles and therefore to support students by considering their individual learning styles.

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[19] Joy M. Reid, *Learning Styles in the ESL/EFL Classroom*, 1995, Heinle and Heinle publisher, p. 226-228

[20] Sabine Graf1, Kinshuk1 and Tzu-Chien Liu2, Supporting Teachers in Identifying Students' Learning Styles in Learning Management Systems: An Automatic Student Modelling Approach. Educational Technology & Society, 12 (4), 3–14.

The presentation by Harris, Sadowski, and Birchman entitled "A Comparison of Learning Style Models and Assessment Instruments for University Graphics Educators" includes a summary of learning style research published in the Engineering Design Graphics Journal over the past 15 years on the topic of learning styles and graphics education. The presenters also examine several learning style models and why they are important to the university graphics professor. Discussion includes a review of some of the learning style tests that are now available on the market.[21]

The purpose of the study by Meryem and Buket "The Effect of Learning Styles on Achievement in Learning Environment" is to investigate the effect of learning styles on students' achievement in different learning environments which are designed according to principles of Generative Theory of Multimedia Learning.[22] Research is conducted in the framework of single group repeated measures experimental design model and three different learning environments (text based, narration based and computer mediated (narration + music + text + static picture) were planned and study group studied in these environments at different times. The two instruments are used to collect data for this study. The

[21] L. V. Harris, Ph.D., M A. Sadowski, Ph.D. J. A. Birchman, M.A. A Comparison of Learning Style Models and Assessment Instruments for University Graphics Educators, Arizona State University, Purdue University, West Lafayette, 1-22

[22] Meryem YILMAZ-SOYLU, Buket AKKOYUNLU, The Effect of Learning Styles on Achievement in Different Learning Environments, The Turkish Online Journal of Educational Technology – TOJET October 2009 ISSN: 1303-6521 volume 8 Issue 4 Article 4

pre-posttest is designed to identify students' achievement score and Kolb's Learning Style Inventory to measure students' learning style.

The study written by Abbas Pourhossein is "An Analysis of Learning Styles for Iranian EFL University Students". Over 100 students completed a questionnaire to determine if their learning styles are auditory, visual or kinesthetic. The finding shows that Iranian EFL university students preferred learning style is visual. The purpose of this study is to increase faculty awareness and understanding of the effect of learning styles on the teaching process. A review of the literature determines how learning styles affect the teaching process.[23]

The article entitled "A Comparison of Preferred Learning Styles between Vocational and Academic Secondary Students in Egypt" is an extension of a comparative study on learning style and method preference of students from vocational and general (academic) secondary schools. [24]The learning style preferences of (461) students in both vocational and academic secondary schools in Egypt are examined using The Steinbach LS Quiz, as the factor of teaching and learning styles play a major role for the students to maximize performance within the classroom.

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[23] Abbas Pourhossein Gilakjani, Visual, Auditory, Kinaesthetic Learning Styles and Their Impacts on English Language Teaching, Journal of Studies in Education ISSN 2162-6952 2012, Vol. 2, No. 1

[24] Asmaa M. El Sayed Makhlouf, Maria Martinez Witte, Nafsaniath Fathema, Bayoumi M. Dahawy, A Comparison of Preferred Learning Styles between Vocational and Academic Secondary School Students in Egypt, Institute for Learning Styles Journal Volume 1, Spring 2012

The paper written by Norman Fewell entitled "An Investigation of Japanese EFL University Students" is a study of language learning strategy (LLS) utilization by Japanese college EFL students. A comparison of differences in LLS utilization and English language proficiency levels revealed that the selection of LLS chosen may have been a critical source in determining language learning success or failure.[25]

The article entitled "Learning Style Preferences of Student Teachers: A Cross-Cultural Perspective" examines how cultural variability is reflected in the learning style of students in Egypt, Saudi Arabia and United States. In this study, the learning styles of over 300 students in Teacher Education Institutions in Egypt; Saudi Arabia and United States of America are examined with (WMLS)What is My Learning Style? Instrument developed by Steinbach.[26]

The thesis by Hajar Yuliani discusses two major concerns. The first is to find out the students' learning styles whether they are visual, auditory or kinesthetic. Second, is to find out the strategies used by students who have visual, auditory and kinesthetic learners in English speaking class. The study is given to the senior high school of Unggala, Sidoarjo.[27]

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[25] Norman Fewell, language proficiency: an investigation of Japanese EFL university students, TESOL Journal Vol. 2, pp. 159-174

[26] Mohamed Sywelem, Qassem Al-Harbi, Nafsaniath Fathema, James E. Witte, Learning Style Preferences of Student Teachers:
A Cross-Cultural Perspective, Institute for Learning Styles Journal, (1993) Volume 1, Spring 2012

[27] Hajar Yuliani, an analysis of students' VAK learning styles and strategies in English speaking of second grade of SMA Unggala, Sidoarjo. IAIN Sunan Ampel Surabaya. 2012

Things that make this research different compared to those previous researches are that it focuses only in the seventh graders rather than senior high or university students, since it is more beneficial to take their learning styles in to account from the very early grade. The CPH (Critical Period Hypothesis) suggests that a period of time, between birth and somewhere around the age when a child enters puberty, exists in which learning a second language can be accomplished more rapidly and easily than times falling outside of this period.[28]

It does not only stuck on what their learning styles are like mostly done by the previous researchers such as a thesis by Hajar Yuliani. This study has another principal goal that can carry greater impact to the teaching learning process. It also concerns to analyze the ways applied by English teacher in accommodating the seventh graders' learning styles. How the teachers facilitate them in the learning process and whether or not the English teacher are able to accommodate all of the students' learning styles.

[28] Larsen-Freeman, D. (2008). Techniques and principles in teaching (2nd ed.). NY: OUP.