CHAPTER II

REVIEW OF RELATED LITERATURE

In this chapter, it is important to describe the review of related literature to find the theories that could be the foundation of this study and in order to give a relevant knowledge in the field.

A. Cooperative Learning Theory

1. Motivational theory

Motivational perspective on cooperative learning focuses on the reward or goal structures under which students operate. Deutsch identified three goal structures: *cooperative*, where each individual's goal oriented efforts contribute to others' goal attainment; *competitive*, where each individual's goal oriented efforts frustrate others' goal attainment; and *individualistic*, where individuals' goal oriented efforts have no consequences for others' goal attainment. From a motivational perspective, cooperative goal structures create a situation in which the only way team members can attain their own personal goals is if the team is successful. Therefore, to meet their personal goals, team members must help their team mates to do whatever helps the team to succeed, and perhaps more important, encourage their team mates to exert maximum effort. In other words, rewarding teams based on team performance (or the

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sum of individual performances) creates an interpersonal reward structure in which team members will give or withhold social reinforcers (such as praise and encouragement) in response to team mates' task related efforts.[1]

2. Cognitive Constructivism

Piagetian Theory

During the sensory-motor period, Piaget said that a child's cognitive system is much less limited to motor reflexes which are present at birth, such as sucking. The child builds on these reflexes to develop more sophisticated behavior. Children learn to generalize specific actions and activities to a wider range of situations and make use of them in increasingly complex patterns of behavior.

At Piaget's Pre-operational stage, children acquire the ability to represent ideas and to engage in mental imagery. Children are essentially egocentric and unable to consider events from another's point of view. The use of symbolic thought begins and the imagination also begins to develop.

In concrete operational, children begin to use logical thought about physical operations; they are able to converse – that is, they realize that two equal physical quantities remain equal even if the appearance of one change.

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[1] Robert E. Slavin, *Cooperative Learning Theory, Research, and Practic* , (Massachussetts: Allyn & Bacon, 1995), 2nd edition, p.2

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At the stage of formal operations, children are able to think hypothetically and abstractly, although this is limited by lack of depth and breadth in knowledge.[2]

For Piaget, learning is a process of adjustment to environmental influences. He describes two basic processes which form this process of adjustment; they are assimilation and accommodation. Assimilation is a process whereby new knowledge is incorporated into existing mental structures. The knowledge bank is increased to include new information. Accommodation is a process whereby mental structures have to be altered in order to cope with the new experience which has contradicted the existing model.[3]

The basic Piagetian knowledge structure is the scheme or schema as it is sometimes called. A scheme is an organized pattern of thought or action that people use to understand and interact with their world. In other words, a scheme represents the knowledge that has been abstracted from the common element of different but related experiences. The implication is that people tend to organize knowledge about their experiences into categories.[4]

These are the implication of Piagetian theory on learning:

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[2] Alan Pritchard, *Way of Learning – Learning Theories and Learning Styles in The Classroom*, (New York: David Fulton Publishers, 2005), p. 22 - 23
[3] Alan Pricthard, *Way of Learning*, p. 25
[4] Thomas Fetsco and John Mc Clure, *Educational Psychology – An Integrated Approach to Classroom Decisions*, (Boston: Pearson Education, Inc, 2005), p. 121

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a. Children learn through being active;

b. Children operate as 'lone scientists';

c. If a child is shown how to do something rather than being encourages discovering it by themselves, understanding may actually be inhibited;

d. The teacher is the provider of 'artefacts' needed for the child to work with and learn from.

e. Cognitive growth has a biological age –related, developmental basis;

f. Children are unable to extend their cognitive capabilities beyond their stage of development. There is no point in teaching a concept that is beyond their current stage of development.[5]

3. Social constructivism

Vygotsky Theory

He is a main proponents of social constructivism, a Russian whose work carried out at the start of the twentieth century but not widely available in the West until many years later.[6]

Social constructivism gives a high priority to language in the process of intellectual development. Dialogue becomes the vehicle by which ideas are considered, shared, and developed. The dialogue is

[5] Alan Pritchard, *Way of Learning*, p. 111
[6] Thomas Fetsco and John Mc Clure, *Educational Psychology*..., p.132

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often with a more knowledgeable other, but this need not always be the case. Dialogue with peers can be equal value. Prior knowledge, naturally, has a part to play. It is an individual's prior and current knowledge that forms the basis of any contribution to a dialogue.[7]

Vigotsky believed that talking is necessary to clarify important points but also that talking with others helps us to learn more about communication. Children solve practical tasks with the help of speech, as well as with their eyes and hands. Children do not simply react to the words that are used but interpret the context, facial expression, and body language to understand meaning.[8]

For Vygotsky, learning precedes development. Duven as cited by Thomas said the gradual development of higher mental functions from social interactions is internalization.[9] Development is included internalization so that children can think and solve problem without any help from another people.

A mechanism that pressured Vygotsky to shift everybody's knowledge become one's knowledge is egocentric speech. Feldman as cited by Thomas, egocentric speech is when children are talking aloud,

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[7] Alan Pritchard, *Way of Learning*, p. 30
[8] Linda Pound, *How Children Learn Step Forward*, (London: Step Forward Publishing, 2005), p. 40
[9] Thomas Fetsco and John Mc Clure, *Educational Psychology...*, p.134

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but they are talking to themselves. Vygotsky believed that children used egocentric speech to guide and regulate their problem solving.[10]

Vygotsky theory indirectly states that cognitive development and the ability to use mind to control individual action. Vygotsky defined the zone of proximal development as the distance between what a learner can accomplish while working with a more skilled adult or peer.[11] For the works in the zone of proximal development are works that children can not solve problem by themselves but they can do that by the helping of their mate or someone older.

Another Vygotsky's thought is scaffolding.[12] Scaffolding is encouragement to learn and solve problem. Those encouragements can be direction, warning and everything that give children possibility to develop by themselves as a learner.

These are the implication of Vygotsky theory on learning:

a. Children learn through being active.
b. Learning is a social mediated activity.
c. Emphasis placed on the role of the teacher or 'more knowledgeable other' as a 'scaffolder'.
d. The teacher is a facilitator who provides the challenges that the child needs for achieving more.

[10] Ibid, p. 134
[11] Ibid
[12] Ibid, p. 138

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e. Development is fostered by collaboration (in the zone of Proximal Development), and not strictly age-related appropriate support. 'what the child can do with an adult today, they can do alone tomorrow'.[13]

Constructivism views learning as the result of mental construction. That is, learning takes places when new information is built into and added onto an individual's current structure of knowledge, understanding and skills. We learn best when we actively construct our own understanding.

Understanding and skills refer to what is commonly considered to be a description of the types of learning that we become involved with this area for learning are joined by forth, and are: knowledge; concepts; skills and attitudes.

B. Cooperative Learning Method

There are many arguments about the definitions of cooperative learning offered by leading scholars. First, cooperative learning is team learning activity organized so that learning is dependent on the socially structured exchange of information between learners in teams and in which

[13] Alan Pritchard, *Way of Learning*, p.111

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each learner is held accountable for his or her own learning and is motivated to increase the learning of others.[14]

Second, cooperative learning is a method of instruction that students are working together in teams, usually with the goal of completing a specific task. This method can help students develop leadership skills and the ability to work with others as a team. Gifted students are often placed in teams with non-gifted children, sometimes with the goal of having the gifted student help the others, either directly or by example. In these instances, the gifted student is not likely to learn anything new, while the non-gifted students are not likely to develop any leadership skills.[15] On the other hand, Kessler defines cooperative learning as a team learning activity that has already organized.[16]

In this learning model, teams are arranged after a teacher-led lesson. Team members tutor one another in order to achieve mastery of new concepts. Then, students take individual quizzes, but the team evaluation is based on individual scores. Student Teams Achievement Divisions encourages students to be responsible for members of their team as well as themselves.[17]

So, cooperative learning is a learning method that divided students into teams. Each team consists of five or six students that represent different

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[14]Carolyn Kessler, *Cooperative Language Learning,* (New Jersey:Prentice Hall Regents, 1992), p. 8
[15] http://giftedkids.about.com/od/glossary/g/coop_learning.htm browsed on Sunday, 010209
[16] Sari Rusita, "The Implementation of Cooperative Learning – STAD for Teaching Writing Descriptive Text Using Situational Picture", (Surabaya: Unesa, 2007) thesis graduated student, unpublished, p. 10
[17] Heather Coffey, http://www.learnnc.org/lp/pages/4770 browsed on Sunday, 010209

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sex, race, ethnicity, or academic level. They cooperate to solve a problem which is in work sheet. Here, they do not just do the work sheet while sitting in a team but they must cooperate to solve the problem. For example, two students read and comprehend the task, two students look for the difficult word in dictionary, a student writes the answer. It is not a cooperative learning if only a students or a part of students who do the task weather another part of students are doing nothing. Cooperative learning focuses on peer-tutoring in solving the problem and helping one another to comprehend the material.

1. The key elements of cooperative learning

According to James A. Duplass, the following are the characteristics of cooperative learning:[18]

a. Teacher supervision – the teacher should answer students' questions and guide discussion if necessary.
b. Heterogeneous teams – the teacher creates teams of diverse ability levels and backgrounds.
c. Positive interdependence – by setting team goals and working towards a reward or final learning outcome.
d. Face to face interaction – students are encouraged to use verbal and nonverbal communication to solve problems and explain learning material.

[18] Heather Coffey, Student teams achievement divisions, http://www.learnnc.org/lp/pages/4653 browsed on Sunday, 010209

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e. Individual accountability – students are accountable for their tasks and for assisting the whole teammates learning goals.

f. Social skills – the teacher needs to establish rules so that all students are respectful, speaking in a manner appropriate to the classroom setting and managing their time wisely during team discussion.

g. Evaluation – all activities should include both individual and team assessment.

2. Steps in cooperative learning

Table 2.1

Steps in cooperative learning[19]

Step	Face	Activity
I	Explaining the purposes	Teacher explains all of learning purposes and encourages the students
II	Explaining the material	Teacher explains the material by demonstrating or text
III	Organizing student into teams	Teacher explains how to make learning team and help the students to do the transition efficiently
IV	Guiding team work	Teacher guides on doing the work
V	Evaluating	Teacher evaluates material or each teams present their work
VI	Giving reward	Teacher gives reward of students achievement, individuals or in team

[19] Robert E. Slavin, *Cooperative* ..., p.71-73

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3. Benefits of cooperative learning

According to Kessler, cooperative learning offers 3 major benefits.[20]

a. Cooperative learning provides a richness of alternatives to structure interaction among students.

b. Cooperative learning addresses content area learning and language development needs within the same organizational framework.

c. The variety of ways to structure student practice with lesson material increases opportunities for individualized instruction.

C. Students Teams – Achievement Divisions (STAD)

Student Teams – Achievement Divisions is one of the cooperative learning method where students are divided into teams, each team represent different level, sex, academic level. The teacher presents a lesson, and then students work within their teams to make sure all members have mastered the lesson. Then, all students take individual quizzes on the material, at which time they may not help one another.[21] Teams earn certificates or other recognition based on the degree to which all team members have progressed over their past records.[22]

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[20] Carolyn Kessler, *Cooperative*, p.7-8
[21] Robert E. Slavin, *Cooperative*, p.5
[22] http://www.ed.gov/pubs/OR/ConsumerGuides/cooplear.html browsed on Sunday, 010209

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According to Slavin, there are 5 components – class preparations, teams, quizzes, individual progress score, and team recognition.[23]

a. Class presentation

Material firstly initially introduced in class presentation. This is most often direct instruction or a lecture-discussion conducted by the teacher. It is different from usual teaching only in that they must be clearly focused on the STAD unit. To motivate the students, it needs to tell them what is the important thing of the material and why do we use STAD cooperative learning method. In this way, students realize that they must pay attention during the class presentation. Because doing so will help them do well on the quiz, and their quiz score determine their team scores.

b. Teams

Students are divided into teams; each team consists of five or six students which represent different sex, race, ethnicity or academic performance. Team members do a worksheet to master the material. Then, they help each other to comprehend the material through peer-tutoring, carrying on team discussion.

c. Quizzes

After one to two periods of teacher presentation and team practice, students do the quiz individually. Each student has individual

[23] Robert E. Slavin, *Cooperative*..., p.71

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responsibility to master the material, so that every student individually responsible to master the material.

d. Individual progress score

The idea behind individual progress score is to give each student a performance purposed that can be attained if they work hard and give a better performance than before.

The quiz is scored and each individual is given an improvement score. This improvement score is not only based on students' real score but also students past score. Students' quiz scores are compared to their own past score. Then, points of improvement are awarded on the basis of the degree to which students exceed in the earlier score.

Table 2.2
Improvement points criteria[24]

Quiz Score	*Improvement Points*
More than 10 points below base score	5
10 points below to 1 point below base score	10
Base score to 10 points above base score	20
More than 10 points above base score	30
Perfect paper (regardless of base score)	30

Student who gets more than 10 points below base score, he will get 5 improvement points; student who gets 10 points below to 1 point below base score, he will get 10 improvement points; student who gets Base score to 10 points above base score, he will get 20 improvement

[24] Robert E. Slavin, *Cooperative* ..., p.80

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points; student who gets more than 10 points above base score, he will get 30 improvement points; student who gets Perfect paper (regardless of base score), he will get 30 improvement points

e. Team recognition

Then, these points are summed up to form team scores. If their team average score reaches a certain criteria, they may get certificate or other reward.

Three levels of awards are given. These are based on average team scores, as follows:

Table 2.3
Recognizing Team Accomplishments[25]

Criterion	*Award*
15	GOOD TEAM
20	GREAT TEAM
25	SUPER TEAM

A team who reaches the average score team at least 15, it may dedicate as a good team; a team who reaches the average score team at least 20, it may dedicate as great team and a team who reaches the average score team at least 20, it may dedicate as super team.

[25] Ibid

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1. The advantages of STAD

a. STAD gives a positive effect in inter team relations.

b. Academically handicapped students received many fewer rejection choices in the STAD teams than in control teams.

c. STAD has significant greater general self-esteem.

d. STAD supports individual achievement.

e. STAD increases students' actual success and individuals who experience success are much more likely than those who do not believe that their efforts made the difference.

f. It increases time on-task by engaging students' attention and by increasing their motivation to master academic materials.

g. Students would enjoy working cooperatively with each others.

h. STAD can increase feeling liked classmates.

i. Students in STAD class exhibited more verbal and nonverbal cooperation.[26]

2. The disadvantages of STAD.

a. It needs relatively longer time.

b. If teacher's capability to manage the cooperative learning is not maximal or the facility is less, cooperative learning is difficult to reach the purposes.

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[26] Robert E. Slavin, *Cooperative ...*, p. 54-67

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c. If the students are not usually active in learning process, it can not run well.

D. Student's Participations During Teaching And Learning Process

Learning process needs the student's participation actively. However, in the real life the student's participation is less. In learning process, it also appears the teacher domination. He acts as the only source of knowledge, not as the facilitator. He always transfers his knowledge as someone who fills a glass with some water.

Here, in this study, student's participations are every student's participation during STAD being applied. The participation can be the positive activities, such as doing the worksheet in their team and doing the quiz individually. Or it can be irrelevant activities, such as, cheating and talking outside the topic.

E. Review of Previous Study

The writer would like to present a previous study which is related to this study. A study that was done by Sari Rusita. The title is "The Implementation of Cooperative STAD for Teaching Writing Descriptive Text Using Situational Picture in Senior High School. She conducted the research in order to describe how the implementation of cooperative STAD through situational picture in teaching writing descriptive is.

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There is similarity between this study and the previous study. Both of them try to apply Student Teams Achievement Divisions learning and teaching process. They are also expected to give a good suggestion in applying cooperative learning method in teaching and learning process.

The research design of this study uses an experimental research; there are experimental class and control class. On the other hand, the previous study used an action research to describe the implementation of STAD. Here, the writer would like to describe the influence of STAD method on students' achievement by doing such an experimental research.

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Picture 2.1 Schema of theory concept

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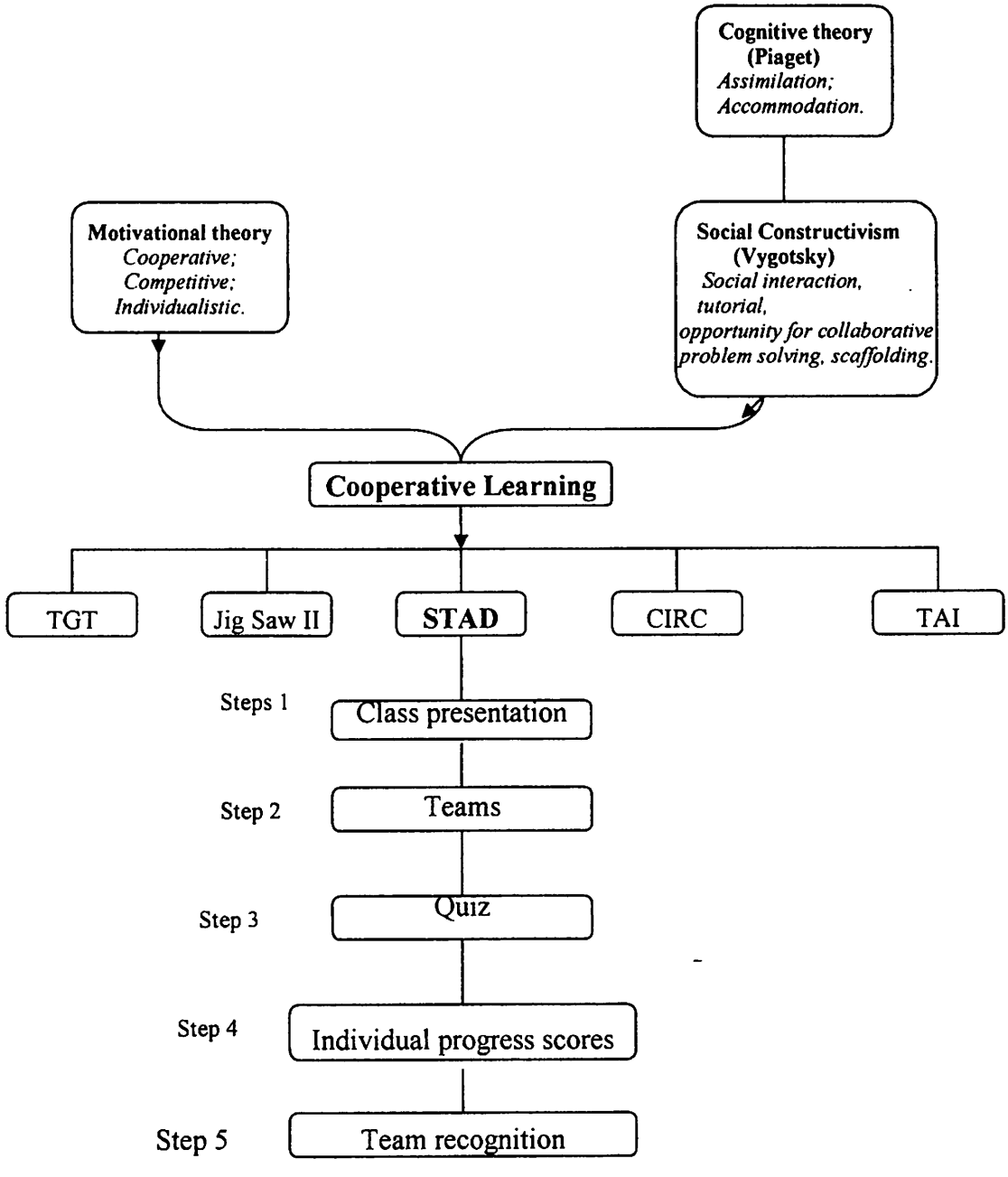

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F. Hypothesis

Based on research question, research purposes, review of related literature, so it can take hypothesis, "there is an influence of Student Teams – Achievement Division (STAD) method on students' achievement."

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