The Effect of STAD Type Cooperative Learning Model with TGT Type and Achievement Motivation on Economic Learning Outcomes

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Abstract: The purpose of this study is to produce economic learning using the STAD learning model and the TGT type learning model. It is known that students' economic learning outcomes have high and low achievement motivation, and know their learning outcomes. the interaction between these models can influence economic learning outcomes. This research method uses factorial 2 x 2 ANOVA. The results show that learning outcomes with the STAD learning model are higher than TGT. Learning outcomes with high achievement motivation are higher than those with low achievers, and there is an interaction between models in influencing economic learning outcomes.

Keywords: learning model, STAD, TGT, achievement motivation, economy

1 Introduction

Economics subjects have the characteristics of learning about phenomena that occur in society, or it can be said that studying economics is closely related to a scientific approach. Economics subjects have a sustainable nature, which means that in the process, sequential understanding is needed. Therefore, thoroughness and good understanding are needed in each discussion. Thus the teacher must familiarize students with working actively and stimulate students to think through the application of learning models that can involve students in discussing the material.

The results of observations made by researchers at XI SMAN 1 Rantau Utara in the 2020/2021 academic year in class XI, especially in economics subjects, information was obtained which stated that student learning outcomes were still relatively low. This is evidenced by the economic value of the daily exams for class XI students, which are much below the standard of completeness set by the school, which is 75.

Facts in the field, teachers are less precise in the selection of learning models. Most teachers use

AISTEEL 2022, September 20, Medan, Indonesia

DOI 10.4108/eai.20-9-2022.2324807

conventional learning models such as the lecture method so that the learning carried out does not provide the widest opportunity for students to construct knowledge. As a result, students do not participate in learning so they are less able to develop achievement motivation. When the researchers made initial observations observing the student learning process at SMAN 1 Rantau Utara the teacher applied the group discussion learning model as an innovation in learning. However, there are still some teachers who still use the lecture method where students are only objects in the learning process. Students are only accustomed to taking notes, listening, and memorizing, rarely being trained to understand several economic concepts so that when in the learning process students lack the initiative in asking questions or expressing opinions. Of course, this makes students' thinking skills not too good, because there is no habituation to having opinions solving various problems that are being faced.

The main factor causing the problem of the low value of learning outcomes is thought to be learning still using conventional models. The conventional model is teacher-centered learning by combining the lecture method, question, and answer which causes students' motivation to study economics to decrease because the conventional model is boring learning so that student activity is embedded in the learning process. Students are increasingly passive in the teaching and learning process, there is no interaction between teachers and students. When the teacher asked the student, the student was unable to answer the question. This happens because in the learning process students are not accustomed to expressing opinions or collaborating with their friends in study groups.

Economic learning that is needed at this time is learning that can improve the mastery of the material and students' creativity. By actively involving students in learning. So that student learning outcomes can increase the better. With cooperative learning, the model provides opportunities for students to think, answer and help each other. The application of the cooperative learning model will make learning more interesting, fun, involve students, and increase student activity and cooperation. The cooperative learning model of the Student Teams Achievement Divisions (STAD) and Teams Games Tournament (TGT) types can be applied in the learning process of economics subjects.

1.1 Economic Learning

Learning outcomes from the interaction in the act of learning and teaching. The teacher's point of view says that the act of teaching must have an evaluation process. From a learner's point of view, learning outcomes become a learning process. One of its successes is to reflect the results of the learning process so that it is known to what extent students and teachers achieve educational goals. Learning outcomes are the result of the completion of the learning process, where through learning students can know, understand, and can apply what they learn [1].

In the world of education, economics is a compulsory subject for all students at the high school level. People choose how to use scarce resources and have several alternatives uses, to produce various commodities, and then distribute them, both now and in the future, to various individuals and groups in a society. Economics subjects need to function as a trigger to grow students' intelligence, abilities, and skills. Economics is often considered a difficult subject to understand [2].

Based on the description above, it can be concluded that the learning outcomes of economics are the students' ability to complete the tests that have been prepared the Economics teaching material for the XI grade high school level. Student learning outcomes are expressed by scores as the results of tests held by the teacher after the learning process takes place. Through this test, it can be seen the level of students' ability in mastering the subject matter that has been delivered to the learning process. The scope of the material includes: (5) Analyzing monetary policy and fiscal policy; (6) Analyzing APBN and APBD in economic development; (7) Analyzing taxation in economic development; (8) Describing international economic cooperation; and (9) Analyzing international trade concepts and policies.

1.2 Learning Model

Cooperative learning is learning that is taught together by helping each other as a group or a team [3]. Cooperative learning is learning in small groups with different skills, in this case working together to arrive at an optimal learning experience [4]. Slavin said, "In this method, students work together in teams of four with the aim of mastering the material that has been given by the teacher". This is in accordance with the learning model which is a system of learning and working in small groups consisting of 4 to 6 people collaboratively so that it can stimulate student behavior to be more enthusiastic about learning. Johnson & Johnson stated, “Cooperative learning is a way that uses small groups so that students work and learn from each other. To achieve group goals in cooperative learning, students discuss and help each other and invite each other to understand the content of the subject matter "[5].

There are five types of cooperative learning methods that have been successfully developed by educational researchers at Johns Hopkins University, namely: STAD, TGT, TAI, CIRC and jigsaw. Three of them, namely STAD, TGT, and Jigsaw, can be applied to almost all subjects, while TAI and CIRC are used in certain subjects and levels.

1) STAD (Student Teams Achievement Divisions). Student Teams Achievement Divisions (STAD) is the simplest cooperative approach. In this method, students are divided into groups of 4-5 people of different gender, ethnicity, and ability. Teachers deliver new academic information to students each week using verbal or text presentations. Individually every 2 weeks students are given a quiz. Quiz it on development scores.
2) Jigsaw Learning materials are given to students in the form of text. Each member is responsible for studying a given section. Jigsaw consists of five steps, namely students reading and reviewing teaching materials, expert group discussions, student group discussions (homogeneous), tests/quizzes, and teacher reinforcement.
3) TGT (Team Games Tournament) TGT is almost the same as STAD, but TGT doesn't use quizzes or Tanya crosses but uses weekly tournaments and competitions. In the competition, students competed with other team members to contribute points to their scores. TGT consists of four steps, namely identification of problems, discussion of problems in groups, presentation of the results of group discussions (tournaments), and reinforcement from the teacher.
4) TAI (Team Accelerated Instruction) This technique combines group learning methods with individual learning. Each group member will be given step-by-step questions that they have to do individually in their group. After that, their work is checked by other team members. If a student has been able to answer a question, then he has to rework the problem with the same level of difficulty before he moves on to a more difficult question.
5) CIRC (Cooperative Integrated Reading & Composition) This technique is similar to TAI,

but only emphasizes teaching reading, writing, and grammar. CIRC activities consist of students following the teacher's instructions, team exercises, team pre-assessments, and quizzes.

In addition to the five types of cooperative learning above, there are several other types of cooperative learning, namely Group Investigation, Learning Together, and so on.

STAD has been used in a wide variety of subjects, from mathematics, languages, and arts, to social sciences and other scientific disciplines, and has been used by sophomores to college students. This method is best suited for teaching well-defined subject areas, such as mathematics, numeracy, applied studies, language use and mechanics, geography and map skills, and scientific concepts [6].

The TGT model is a model easy to apply, involves the activities of all students by involving the role of peer tutors, and there are elements of play and reinforcement. In general, TGT is the same as STAD, but what distinguishes it is: TGT uses academic activities such as quizzes and individual assessments not in groups, such as students representing their groups to get assessments [7]. TGT is like learning in groups of 5 to 6 students who have different abilities, genders, syllables, or races. [8].

1.3 Achievement Motivation

Motivation comes from the Latin "movere" which means to move or move, while Suriasumantri argues that motivation is a person's drive, desire, or need. Motivation as encouragement is in someone who moves to do something according to the impulse. The concept of motivation is explained as “the drive to fulfill or satisfy the need to stay alive”[9]. Hope is a temporary belief that an outcome will be obtained after a certain action is taken. One type of hope is achievement motivation is the hope to obtain satisfaction in mastering behavior [9].

Achievement motivation is a drive related to achievement, namely mastering, regulating the social or physical environment, overcoming obstacles and maintaining high-quality work, competing beyond past achievements, and influencing others. While achievement motivation itself is a motive that encourages individuals to achieve success and aims to succeed in competition with several measures of success, namely by comparing their previous achievements and the achievements of others. Individuals who have a high achievement motive have a motive to achieve success [7].

This difference in motivation levels is caused by several factors as mentioned below: (1) Individual factors: Students with intrinsic and extrinsic dimensions show that only students who tend to be competent in the academic field can have intrinsic motivation. Students who have high self-perception prefer challenging tasks and always try to satisfy their curiosity. On the other hand, students who have low self-perception prefer easy tasks and what they do is highly dependent on the teacher's direction; and (2) Situational factors: Class conditions tend to affect student motivation. Classes with a large number of students tend to be formal, there is competition, and there is control from the teacher. Conversely, in small classes, students will feel more frefreernize themselves. Small classes give the impression of being informal and make students freer [10].

Table 1. Achievement Motivation and its Comparison

No	Indicators	High Achievement Motivation	Low Achievement Motivation
1	Desire to excel in competition	Have responsibility for tasks	Lack of responsibility for tasks
		Students Have a Desire to learn	Students lack the Desire to learn
		Setting the Standard to be achieved	Not setting the Standard to be achieved
		Have the ability to accept explanations well	Less can accept explanations well
2	Completing tasks	Motivated, persistent, and active in finding creative ways to complete tasks	Less motivated, persistent, and active in finding creative ways to complete tasks
		Satisfied with the results of your efforts	Satisfied with the results of other people's efforts
3	Rational	Seeing things rationally	Less able to see things rationally
		Anticipation of possible failures or difficulties that will occur	Lack of anticipation of possible failures or difficulties that will occur
4	Likes challenges to succeed	Students have the spirit to compete and compete	Students lack the enthusiasm to compete and compete
		Able to make quick decisions and implement them	Slow to make decisions and implement them
5	Personal responsibility for the success	Students are active and creative during the learning process	Students are less active and creative during the learning process
		Likes to communicate	Doesn't like to communicate
6	Creative dare to take risks and feedback	Have greater curiosity	Very little curiosity
		Have hope of achieving good learning outcomes	Less hope of achieving good learning outcomes
		Able to develop ideas	Less able to develop ideas
7	Drive and hope to achieve learning outcomes	Have an inner drive to succeed	Lack of an inner drive to succeed
		Wishing for greater success	Wishing for small success

This study has the formulation of problems such as: (1) the results of studying economics with the STAD model are higher when compared with the TGT model; (2) students who have high motivation get high learning outcomes when compared to those with low motivation; and (3) there is an interaction between the cooperative learning model and achievement motivation in having an impact on students' economics learning outcomes.

2 Method

The object of this study was students of class XI (eleven) of SMAN 1 Rantau Utara as many as 8 (eight) classes, each class amounting to 32 people, thus the total population of 256 students. The sample is part of the population that is selected representatively, meaning that the characteristics of the population are reflected in the sample taken (Sudjana, 1992). Sampling was done at random clumps (cluster random sampling). From the population sample, 2 (classes) classes, each of which amounted to 32 people, will be selected as research samples. By using the sampling technique above, 1 (one) class was selected as treatment class I using the STAD

type cooperative learning model, and 1 (one) class as the second treatment class using the TGT type cooperative learning model. Thus, the entire research sample amounted to 64 people.

In this study, the analysis used the 2 x 2 factorial ANOVA technique plus the F test. First, the requirements test was carried out using normality tests such as the Liliefors test and homogeneity test using the F test and Bartlett test. Because the third hypothesis was stated to be significant, an interaction occurred and the study was continued by using the Scheffe test to test differences between cells, because the sample size of each cell in the study design was not the same.

The description of the statistical data on Economics learning outcomes based on variations in the learning model is as follows.

Table 2. Descriptive Analysis Calculation Results

Variable		Cooperative Learning Model				Total	
		STAD		TGT			
Achievement motivation(B)	Height (B1)	n	17	n	15	n	32
		$\bar{X}$	84,53	$\bar{X}$	67,40	$\bar{X}$	76,50
		∑X	1449	∑X	1019	∑X	2450
		∑X²	123953	∑X²	69438	∑X²	190934
		S	5,69	S	4,93	S	10,15
	Low (B2)	n	13	n	14	n	27
		$\bar{X}$	60,62	$\bar{X}$	61,71	$\bar{X}$	61,19
		∑X	801	∑X	863	∑X	1659
		∑X²	49877	∑X²	53821	∑X²	102975
		S	6,42	S	7,03	S	6,64
Total		n	30	n	29	n	59
		$\bar{X}$	74,17	$\bar{X}$	64,66	$\bar{X}$	69,41
		∑X	2213	∑X	1888	∑X	4101
		∑X²	168204	∑X²	124236	∑X²	292440
		S	13,42	S	6,59	S	10,01

The results of studying economics with the STAD method experiment were higher than those with TGT. If the economics learning outcomes of high achieving students are higher than the learning outcomes of low achievement motivation.

In the normality test, it produces data on all groups of subjects that are normally distributed, so that the study sample comes from a normally distributed population. And thus the group of subjects taught by STAD and taught by TGT based on high achievement motivation and low achievement motivation has a homogeneous variance. After carrying out the analysis requirements, the results obtained from all subject group data are normally distributed and have a homogeneous variance, then the conditions related to the two-way analysis of variance have been fulfilled.

Table 3. Summary of Two-Way ANOVA Test Results

Sumber Variants	JK	DK	RJK	F_{count}	F_{table} (1,61)(0,05)	Information
Cooperative Learning Model	3387	1	3387	67,14	4,02	Significance
Achievement motivation	4399	1	4399	87,20	4,02	Significance
Interaction	4654	1	4654	92,27	4,02	Significance
Between groups	10160	3	3387			
In Group	2774	**55**	50			
Total	25373					

The results of studying economics with the STAD Model and High Achievement Motivation get 84.53 with a standard deviation of 5.69 compared to learning outcomes using STAD. The STAD learning model with Low Achievement Motivation gets 60.62 with a standard deviation of 6.42 compared to the learning outcomes with the TGT type and High Achievement Motivation gets 67.4 with a standard deviation of 4.93 compared to the TGT type Model and Low Achievement Motivation gets 61, 71 with a standard deviation of 6.64.

The calculation of between interaction data of learning strategies with learning styles, where F_{count}t = 92.27 and F_{table} = 4.02 with DK = (1.55) and = 0.05. These results indicate that F_{count} > F_{table} (92.27 > 4.02), so that the Alternative Hypothesis is accepted and the Null Hypothesis is rejected, this means that there is an interaction between learning strategies and Achievement Motivation in having an impact on Economics learning outcomes. states that there is an interaction between learning strategies and achievement motivation in giving impact to economic learning outcomes.

In accordance with the third hypothesis which results in an interaction between the Cooperative Learning Model and Achievement Motivation in having an impact on student economics learning outcomes, a test is needed to see the difference between the two propositions. then a further test was held using Scheffe's test.

Table 4. Summary of Scheffe's Test Calculation Results

No	**Statistical Hypothesis**		**F_{count}**	**$F_{table\ (3,55)(0,05)}$**
1	Ho: μA1B1 = μA1B2	Ha: μA1B1 > μA1B2	9,14	2,77
2	Ho: μA1B1 = μA2B1	Ha: μA1B1 > μA2B1	6,81	2,77
3	Ho: μA1B1 = μA2B2	Ha: μA1B1 > μA2B2	8,90	2,77
4	Ho: μA2B1 = μA2B2	Ha: μA2B1 > μA2B2	2,15	2,77
5	Ho: μA1B2 = μA2B2	Ha: μA1B2 > μA2B2	0,40	2,77
6	Ho: μA1B2 = μA2B1	Ha: μA1B2 > μA2B1	2,52	2,77

Basic study of F_{count} > F_{table} the economics of students who were taught with the STAD type were higher than those of students who were taught the TGT type. Because students in the STAD type group accommodate more of the potential possessed by students. In the STAD type, students are involved in many classroom activities, such as brain exercises, goal-setting cards, mind maps, role-playing, simulations, activation tasks, and demonstrations.

The application of the STAD type of cooperative learning model has a good influence on the learning process. The form of cooperation between students in solving a problem will increase confidence, and courage and bring up interesting ideas. This will certainly affect the interest in learning and student learning outcomes [11].

produce with the interaction between learning models with achievement motivation on economic learning outcomes. Seen in the learning outcomes of groups of students who have high achievement motivation given the STAD model is higher than the learning outcomes of groups of students who have high achievement motivation given the TGT model. Furthermore, the results of studying Economics in groups of students who have Low Achievement Motivation with the STAD Model are lower than the learning outcomes of groups of students who have Low Achievement Motivation using the TGT Model. Learning model. This shows that the average value of the group of students who have higher achievement motivation with the STAD type model compared to the TGT type model. Then there is the result of an increase in High Achievement Motivation.

In the same study by Santi, Suarman, and Indrawati [12], it was shown that using the NHT-STAD combination model in Economics subjects could increase students' average scores from 79.18 to 88.95 for the highest grade point average. . In the lowest class average, the average score of students from 75.05 to 84.75. 2. The use of the NHT-STAD combination model in Economics subjects resulted in different critical thinking skills between students in the highest average class and the lowest average class, where students in the highest average class had students' critical thinking skills that were better than average.

Research conducted by Murdaningrum [1], uses observation to determine learning motivation, and tests to determine student learning outcomes. The results showed that the learning process using TGT was as follows; From 1 to 2, the percentage of students whose learning motivation is in the low category continues to decline 40.08% - 15.52%, the medium category is 35.34%, and the high category is from 27.58% - 49.14 %. Learning also increased from the initial conditions, cycle 1, and cycle 2 (41.38% - 62.07% - 86.21%). The action is said to be successful if the percentage of students whose learning motivation is above low is at least 80%.

The same study by Fauziyah, and Anugerah [13], showed that: (1) critical thinking skills using the TGT average value of 63.27. (2) critical thinking skills after using the TGT average value of 74.12. 3) the results of the one sample T-test data analysis using the one sample test technique obtained the results of t count 60,208 > t table 1,698 and a significance value < 0.05 (0.000 < 0.05).

Students' critical thinking skills before and after being treated in the form of the application of the What's In Here game based on the TGT model of this study can be said to be successful. With the increase in students' critical thinking skills before and after being given treatment in the form of the application of the game What's In Here based on the TGT model. The What's In Here game based on the TGT model has a positive influence on students so that teachers can apply it as an alternative way of learning that can improve students' critical thinking skills [14]. The research of Salmah, Relita, and Suriyanti [15], stated that the relationship between learning independence and strong student achievement motivation will encourage increased student learning outcomes, the school can take steps that can increase learning independence again,

namely by seeking conditions conducive to learning and schools as well as school facilities that support students to learn independently.

4. Conclusion

The conclusions are: (1) Economics of students who are taught with the STAD Model are higher than those of the students who are taught the TGT Model; (2) Economics of students who have high achievement motivation are higher than low achievement motivation; and (3) There is an interaction between the Learning Model and Achievement Motivation. Students who have high achievement motivation get higher if they are taught by using the STAD type than the TGT type, while students who have low achievement motivation get higher economics if they are taught using this model. TGT type than STAD Model.

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