

Effects of Cooperative Learning Model Type Games Teams Tournament (TGT) and Entry Behavior Student to Learning Competence Class XI IPA Senior High School 1 Lengayang

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Abstract – This study begins by learning competencies biology students who are still relatively low. This happens because teachers have not been using cooperative learning and teachers do not pay attention to the initial ability of students in learning. One effort that can be done to overcome these problems is to conduct research to implement cooperative learning model TGT taking into account prior knowledge of students. The purpose of this study was to determine the effect of cooperative learning model TGT against learning competencies taking into account the students' entry behavior.

This study is a study. *Quasi-experimental* The study population was a class XI student of senior high school 1 Lengayang enrolled in the second semester of academic year 2016/2017. Sampling was done by using *purposive sampling* and got class XI IPA 1 as an experimental class and class XI IPA 3 as the control class. Instruments used in the form of an objective test and observation sheet. Data analysis techniques to test the hypothesis is the t-test, two-way ANOVA test and *Mann Whitney U* test.

Based on the results of data analysis and discussion, we obtain some conclusions, namely: the competence of cognitive learning, affective and psychomotor students who take TGT cooperative learning model is better than the students who follow the conventional learning; competence cognitive learning ability students beginning high and low follow TGT cooperative learning model is better than the students who follow the conventional learning; There is no interaction with the learning model students entry behavior to influence students' cognitive learning competencies.

Keywords – Effects, Models; Teams Games Tournament; Entry behavior; Competence Learning.

I. INTRODUCTION

Biology is a science that has contributed in improving the quality of education, in order to support the development of modern technology and promote the power of human thought. Therefore biology needs to be studied at all levels of education to equip students to think logically, critically, creative, innovative and able to work. Biology also is the one power for learning science students to think more creatively and independently. Biological materials related to the widespread and systematic nature, so that biology is not only the procurement of collection of knowledge in the form of

facts, concepts, or principles but also a process of observation and invention (MONE, 2003). Biology as the science that studies living organisms obtained through the process of investigation or research using the scientific method.

Given the importance of biology and in accordance with the teaching of biology, the biology classroom learning should be interesting, pleasant and student-centered. Biology learning involves students seeking comprehensive source of information from various sources. Students should enthusiastically raise their hands to answer questions or

contribute thoughts, give opinions or ideas, critical thinking, analysis, and logically so as to create an effective learning environment. This is reinforced by the opinion Warsita (2008: 289) regarding effective learning, namely: 1) students to be the reviewer active against the environment by observing, comparing, finding similarities and differences and forming concepts and generalizations based on similarities were found, 2) teachers provide materials as a focal think and interact in the learning process, 3) the activities of students entirely based on the assessment, 4) teachers are actively involved in the learning process, and 5) a variety of learning techniques.

Based on observations of researchers on August 29, 2016 for class XI Senior High School 1 Lengayang learning centered on teachers, where teachers still use conventional learning models namely the delivery of material by the method of discussion, lecture and question and answer and then concludes by giving the exercise, a small portion of students who were active in the learning process as a willingness to ask questions, respond to questions, the lack of the ability of students to work together, students generally tend to receive anything delivered by teachers, and many students who need guidance and direction in completing tasks or problems. As a result, many students are not serious in learning. This affects the creation of participation or lack of interaction between students and teachers or students with students in the implementation of learning biology.

The learning process in Senior High School 1 Lengayang biology grade XI more emphasis on the student's cognitive, affective and psychomotor aspects while little attention. Weak students' cognitive ability is attributed to the lack of need for students studying biology concepts through the process of thinking, is also affected by the weakness of the initial capabilities of students. If the initial ability of students is low, it will affect the process of the formation of a new understanding in the students themselves. This is because, prior knowledge is the foundation in forming a new learning concept. Teachers do not emphasize the importance of the role of each student in the group to achieve the learning objectives. Students have high capability look to dominate so that when the learning process, students who are willing presentation ahead just that's it, and vice versa, students have the ability to lower / passive does not take advantage of existing opportunities to develop their potential so as to make pupils more passive and rely on friends who are considered capable.

Based on these problems, it is necessary to attempt to improve the quality of teaching biology. One effort that can be done by teachers to help students to be active and to better understand the learning material is to use cooperative learning model TGT or matches a team game. In a model of cooperative TGT students play a game with other team members to earn extra points on their team score each (Slavin, 1995). With the game done can stimulate students' interest, so that the learning process will thus attract more students to be involved in the learning process and activities. One of the goals of the model of cooperative pembelajaran TGT is to improve the effectiveness of learning outcomes and attitudes (Salam, 2015: 2). TGT cooperative learning model consists of five steps: 1) Presentation of the class, 2) teamwork, 3) Games, 4) match, 5) group Choice.

According to the cooperative learning model of Sumarmin (2014). That can increase the activity of the students learning competence

In the learning process, teachers are faced with students' diverse abilities is possible to influence the progress and learning competencies. Entry behavior to describe the beginning of a student's readiness to absorb the lessons that will be presented by the teacher. According Slameto (2010: 25) "How the new material is can be studied, depending on what is known. Thus, the initial ability of students is a prerequisite of the students to be able to follow the lessons, so that it will achieve better learning competencies.

Entry behavior and learning models are two very important things to be noticed by the teacher before starting the learning process. According Astuti (2015:7) entry behavior capability is the result of learning obtained prior to obtaining a higher ability. Entry behavior of early learners is a prerequisite to keep learning so that it can execute with good learning process. The ability of someone from the training during their life, and what is brought to the face of a new experience.

This study aims to determine the effect of cooperative learning model type *Teams Games Tournament* (TGT) and Entry Behavior Against Early Learning Competency Grade XI IPA Senior High School 1 Lengayang.

II. REVIEW OF LITERATURE

A. COOPERATIVE LEARNING-TYPE TEAMS GAMES TOURNAMENT (TGT)

Cooperative learning model type TGT is tournament-games-team developed by Robert e. Slavin and his partner. Steps of learning cooperative learning model in staple type TGT that is initiated with the contextual issues, discussion. Cooperative learning model type Komsatan TGT according to (2013:686). This technique combines the study groups and team competition, and could be used to enhance the learning of a wide array of facts, concepts and skills. According to Michael (2011:184) Learning Model cooperative type TGT is a kind of cooperative learning model in which students compete with other members of the team to get a point or score for their team. Learning form the tournament Learning according to Silberman (2006:171), the procedure of its implementation are as follows:

1. For students into a number of teams-membered 2-8 students.
2. Provide material to the team to learn together.
3. create questions that can test memory retention and understanding will subject matter.
4. Give some questions to students, as the first round.
5. Provide answers and instructed the students to count the number of questions answered correctly. The next score obtained was merged with each team member.
6. Ordered students to learn again for the second round in the tournament.

Cooperative learning model type TGT is a peer learning where students work together in small groups who have a responsibility for individual and group against tasks (Adnyana, 2014:8). Cooperative learning model type TGT is one type of cooperative learning that puts students in study groups consisting of 5-6 students who have the ability, gender, tribe, and the different races with the existence of heterogeneity of the group, is expected to be memotifasi students to help each other between the more-capable students with students who are less skilled in mastering the subject matter (Rohendi, 2010:19). Meanwhile, according to Silberman (2006:159) model of this type of cooperative learning TGT is a simplified version of the tournament-the tournament team. This technique combines the study groups and team competition, and could be used to enhance the learning of a wide array of facts, concepts, and skills. In addition to the form of the results of the study results is then expected to take shape the connections between group which formed a positive interdependence, the awards group,

appreciate or ethical norms, social status, the Favorites control classmates, concern and responsibility. Students who receive the knowledge with glee in their studies, then motivation will increase and eventually may affect student learning achievements (Abdul,2014:318).

Cooperative learning model type TGT implemented through stages that consist of: presentation of the processed, forming teams, games, tournaments and team rekognisi (Slavin,2009:166).

Details of the cooperative learning model type TGT that is as follows:

1) Presentation Class

The material in the TGT is first introduced in percentage classes provided through presentations by teachers, in the form of direct instruction delivered by teachers, discussions or FAQ regarding the lessons that are less well understood.

2) Teamwork

Students were told to sit in a group, each group consists of five students, which are heterogeneous, both in terms of ability and gender. The main function of this team is to ensure that all members of the team are really studying, and more especially to mention is in preparation of each group in the face of other groups in the tournament.

3) Games (game) Academic

Consists of questions that are relevant to the subject matter. The game is played on the table with a three-five students who each represent a different team. Most games in the form of the question numbers are written on the same sheet. A student taking a numbered card and must answer the appropriate number listed on the card.

4) Tournament

The tournament is a structure where the games can take place, usually at the end of the unit which has been set, after the teacher gave a presentation processed and allow students from the whole team has been working on the entire group execute the activities. At the first tournament taken representatives of the entire team, students alike had high keampuan for ditandingkan on the tournament, and then students are capable of being, so on until the entire team members are entirely ditandingkan. A balanced competition will allow students of all levels of performance previously contribute to the maximum against their team score if they are doing the best given the award.

5) Appreciation Group

To determine the award the group performed the following steps:

- a. calculate the score and the score of the individual groups.
Calculating the value of the individual intended to determine the value of the development of the individual will be donated as the score group. Development of individual value calculated based on the difference between the acquisitions of the initial score.

- b. the award-giving groups
Score groups are calculated based on the average value of donated development group members. Score group retrieved from the value development of each Member of the group. In the application of the award the group cans disesuaikan with the local circumstances (Slavin, 2010:159).

This TGT learning can be inferred to have privileges that is every Member of the Group given the task, there is a direct interaction by the students after that students are motivated to take charge of itself and so the group interaction among teachers with students and students with the students.

A Cooperative Learning Benefits. Type TGT.

1. all members obtain assignments.
 2. All members of the Group obtain assignments.
 3. Students are trained to develop social skills.
 4. There is a direct interaction between the student and the student with the teacher.
 5. Encourage students to respect the opinions of others.
 6. Train the courage of students to speak in front of class.
 7. Improve academic ability of students.
 8. Enhance the sense of fraternity.
 9. Foster a sense of confidence in solving problems in learning.
 10. Train cooperation.
- b). Cooperative Learning Weaknesses type TGT
1. If the terms of the advice classes then form groups of difficulty arranging and lift the seat.
 2. The teacher demanded faster in completing tasks related to learning which is done among other corrections jobs students, determine the value of the group.

B. ENTRY BEHAVIOR

The entry behavior capability is the result of the study before students get higher entry behavior. Early students ability is a prerequisite for learning so that it can carry out follow the learning process as well. The entry behavior of the

person is obtained from the initial process of the previous exercises are very useful for dealing with a new experience. Shah (2009:121) States that "the entry behavior of the early obtained from previous learning experience required as a prerequisite to know of any changes". The entry behavior capability is also useful to take the steps that are necessary to understand the new capabilities. Sudjana (2002:158) States that "entry behavior is lower than on new capabilities in learning, entry behavior is a prerequisite that must be owned by the student before entering the lesson subject matter of the next higher". So a student who has the entry behavior to start going to more quickly understand the material compared to students who do not have the ability early in the learning process.

The learning process of learning biology, particularly the entry behavior of the beginning is a very essential component that must be mastered by the iswa properly. The entry entry behavior retrieved from as a result of the change of the learning is done and is ongoing and continuous. This is in accordance with the opinion of the Slameto (2010:3) that "as a result of learning, changes in a person take place continuously, not static." A change happens will cause changes to the next and will be useful for further learning or life. According to Slameto (2010:25) States "how new materials can be studied properly, taerantung of what is already known (advance organizers)". Entry behavior before starting to learn something new, also known by the term "entry behavior".

The entry behavior is essentially a State of abilities or skills that should be possessed by students before learning a new skill or knowledge knowledge (Ali 2004:74). With the entry behavior of these early students were able to build the knowledge and skills that will be given by the teacher. How to know the entry behavior, namely: 1) interviews or tests, tests of early (pre-test) is given a teacher and can be a tool to know the entry behavior. Pre-test should be the same as those to be used in post-test, 2) through analysis and instructional, instructional analysis made of the known level of ability or mastery of the material (Ali 2004:77). Readiness according to Slameto (2010:59) is a willingness to give a response or reaction.

The entry behavior of the early students according to Tan (2006:128), determined by preliminary tests. The ability of the students is very important for teachers to be able to give the right lessons, not too hard and not too easy. The entry behavior is also useful to take the steps that are necessary to understand the new capabilities. Thus, the entry behavior of

the students is the foundation that can be used as capital for students prior to studying a new material that can eventually cause any response or reaction during the learning process takes place thus created a good interaction.

Based on the quote above, it can be concluded that the entry behavior is the ability of the students adequately in relation to the learning objectives developed through the process of learning. In other words, the entry behavior is the ability of students to understand something more in the learning material to be delivered before the material more teachers learned or taught.

The learning process will be more effective if the student already has an initial capability of the material to be studied; it means the level of the initial capabilities owned by berpengaruh students against the activity and results of student learning. Application of specific learning model can support student success brought about by the ability of the beginning. The entry behavior according to Ali (2004:76), that the ability of the early influential students towards learning outcomes will be achieved. By knowing the mastery abilities beginning students, teachers can specify from where to start the lesson. Initial capabilities owned by students can be the basis for teachers in providing and managing the learning process that is applied.

C. COMPETENCE

Competence is a combination of knowledge, skills, values, and attitudes reflected in the habit of thinking and acting "Mulyasa (2002:2-3). A pengetahuan is more than just competency and skill involves the ability to meet the demands of complex, with a draw and mobilize the psychosocial resources (including skills and attitudes) in a particular context. Competence according to Mulyasa (2002:45) are the knowledge, skills and abilities that are controlled by a person who has been a part of him, so that he can perform the behavior-the behavior of cognitive, psychomotor, and effective with the as well as possible.

III. METHODOLOGY

The research is a quasi-experimental research (*quasi*). This study cannot control all the relevant variables except some of the variables studied.

The study design used is a draft factorial (*factorial design*) 2 x 2 for the cognitive competence and *Posttest-Only Control Design* for affective and psychomotor domains of competence. *Factorial design 2 x 2* can be seen in Table 1.

Table 1. *Factorial design 2x2* for Cognitive Competence

Learning (Y) Entry behavior (X)	Model Cooperative TGT (Y1)	Conventional (Y2)
Height (X1)	X ₁ Y ₁	X ₁ Y ₂
Low (X2)	X ₂ Y ₁	X ₂ Y ₂

Source: modification Suryabrata (2006: 119)

Notes:

- X₁Y₁ Competence cognitive learning entry behavior students beginning high acquire learning by using a model kooperatif learning TGT type.
- X₁Y₂ Competence cognitive learning entry behavior students who obtain a higher initial conventional learning.
- X₂Y₁ Competence cognitive learning entry behavior students who obtain a lower initial cooperative learning TGT.
- X₂Y₂ Competence cognitive learning entry behavior students who obtain a lower initial conventional learning.

A. DATA ANALYSIS TECHNIQUES

1. Normality test

Normality Test used is test *Kolmogorof Smirnov* with statistic hypothesis as follows:

- H₀: the data follow a normal distribution
- H₁: the data does not follow a normal distribution

Normality test In this study performed using *software*. SPSS the test criteria is received H₀ if sig. > Significance level (α = 0.05), and tolak H₀ if otherwise.

2. Test Homogeneity

The test can be done by clicking on the use of test *Levene* with statistical hypothesis as follows:

$$H_0: \sigma_1^2 = \sigma_2^2$$

$$H_1: \sigma_1^2 \neq \sigma_2^2$$

In this study, homogeneity of variance performed with *SPSS*, The test criteria are accepted H₀ if sig. > Significance level (α = 0.05), and rejected otherwise.

3. Hypothesis Testing

Hypothesis 1

The statistical test used for the first hypothesis is the t-test. The test criteria is when the Sig. > 0.05 then H_0 is received and H_1 rejected, otherwise the value of Sig. <0.05 then H_1 received and H_0 is rejected.

Hypothesis 2

Statistical test used for the first hypothesis is the t-test. The test criteria is when the Sig. > 0.05 then H_0 is received and H_1 rejected, otherwise the value of Sig. <0.05 then H_1 received and H_0 is rejected.

Hypothesis 3

Statistical test used for the first hypothesis is the t-test. The test criteria is when the Sig. > 0.05 then H_0 is received and H_1 rejected, otherwise the value of Sig. <0.05 then H_1 received and H_0 is rejected.

Hypothesis 4

Statistical test used for the fourth hypothesis is two-way ANOVA test. The test criteria is when the Sig. > 0.05 then H_0 is received and H_1 rejected, otherwise the value of Sig. <0.05 then H_1 received and H_0 is rejected.

Hypothesis 5

Statistical test used for the fifth hypothesis is the test. *Mann Whitney U* Criteria testing this hypothesis that if the significance value that is greater than 0.05 then H_0 is accepted, and if the significance value obtained is less than 0.05, then H_1 received.

Hypothesis 6

Statistical test used for the fifth hypothesis is the test *Mann Whitney U* criteria for testing this hypothesis that if the significance value that is greater than 0.05 then H_0 is accepted, and if the significance value obtained is less than 0.05, then H_1 accepted.

In brief experiment in class learning the steps as follows:

a. Introduction

Teachers open the lesson and prepare students to learn.

b. Core activities

1. Teachers form their students into study groups.
2. Teachers give numbers for each group.
3. Learning is done through cooperative learning TGT with the following steps:

a. a class presentation

Submission of materials through the question and answer teachers and students, teachers' notes on the material that is poorly understood.

b. Team work

Students discuss in the group working on the assignment of teachers, the tasks in preparation for the tournament.

c. Games and tournaments

1. Teachers take a representative of the entire team.
2. Teachers take each group of students powerful and low-ability students to be matched at table tournaments.

d. Award

Master's presented awards to the winning team of the tournament.

C. Closing

Teacher and students make inferences material being studied.

Students are given the task of reading in the home and answer the questions on the worksheet.

IV. RESULTS

A. COGNITIVE DOMAINS DATA DESCRIPTION

Data cognitive learning competencies in this study were obtained through the assessment carried out at the last meeting in each of the basic competencies. This assessment is done through a final test with the technique of multiple choices written tests given to second grade sample. Overall the data competence cognitive student studying biology after treatment is given in the form of cooperative learning model TGT disclose information about the total score, the highest score, lowest score and the average of each class. Data Description cognitive learning competencies are presented in Table 2.

Table 2. Average value, Normality Test, Test Experiment Class Homogeneity and Cognitive Control in the Sphere.

No	Parameter	Treatment		Description
		Experiment	Control	
1	Average	80.22	70.89	
2	Normality Test	P = 0.200	P = 0.200	Normal
3	Homogeneity tests	0,806		Homogeneous

Table 2 unknown final test results are given in both classes shows that the average value of the obtained in the

experimental class is higher than the control class. From this data it can be seen that the experimental class students' cognitive competence treated with cooperative learning model TGT higher than the control class.

The research data cognitive learning competence based on entry behavior presented in Table 3.

Table 3 Cognitive Domains Competency Based Early Ability Students in Grades and Grade Control Experiment.

Class	Ability beginning	N	\bar{X}	Xmin	Xmak	S
Experiment	High	18	85.88	82.00	94.00	3.53
	Low	18	74.55	68.00	80.00	4.27
Control	High	18	76.33	72.00	86.00	6.24
	Low	65.44	18	60.00	70.00	3.34

Based on Table 3 known to the average value of cognitive learning competencies of students based on entry behavior in the experiment class scored higher on average than the control class. This suggests that the cognitive competence of students in the experimental class using the type cooperative TGT learning model is higher than the control class by using the conventional model based on high entry behavior capability is low.

B. DATA DESCRIPTION AFFECTIVE COMPETENCIES

Observations conducted by the observer using affective student assessment format. Affective competencies Data are presented in Table 4.

Table 4. The average value, maximum value, minimum value, of the Class Experiment and Control Competencies Affective Sphere.

Class	N	\bar{X}	Xmin	Xmax
Experiment	36	71.99	62.50	91.66
Control	36	61.37	48.61	77.77

Based on the calculations in Table 4 above, it is clear that the affective learning competency classes using TGT type learning model obtaining maximum and minimum values better than the students who follow the conventional learning.

The average value of final test affective student learning competencies that uses TGT learning model type is 71.99 and those using conventional learning are 61.39.

C. PSYCHOMOTOR COMPETENCY DATA DESCRIPTION.

Observations made by the observer using psychomotor student assessment format while the average for the overall competence of psychomotor students can be seen in Table 5.

Based on the calculations in Table 5 above, it is clear that the affective learning competency classes using model types TGT obtain maximum and minimum values over tubs of the students who take the conventional learning.

The average value of final test affective student learning competencies that uses TGT learning model type is 88.59 and those using conventional learning are 65.63.

D. TESTING REQUIREMENTS ANALYSIS

1. Normality Test

Table 5. Normality Test Results Value Competency Student

Descriptive		Student Competency	
Class	Ability	Sig.	Description
Experiment	High	0.200	Normal
	Low	0.060	Normal
	Total	0.200	Normal
Control	High	0.093	Normal
	Low	0.200	Normal
	Total	0.200	Normal

2. Homogeneity Test of Variance

Table 6. Homogeneity Test Results Value Competency Student

Class	Entry Behavior	Learning Competency	
		Sig.	Description
Experiment	High	0.481	Homogeneous Variance
Control			Homogeneous Variance
Experiments	Low	0.081	Variance Homogeneous
Control			
Total		0,806	Variance Homogeneous

3. Hypothesis Testing

First hypothesis

Table 7. Calculation Results First Hypothesis

Class	Sig	A	Conclusion
Experiment	0.000	0.05	H ₁ received H ₀ is rejected
Controls			

Calculation Results Table 7 shows that cognitive sphere of competence students have value Sig. <0.05 means that H₀ is rejected. This means that the value of cognitive competencies learners experimental class have significant differences with the control class. It can be concluded that cognitive learning competencies of students who take TGT cooperative learning model is better than cognitive learning competencies of students who take conventional learning.

The second hypothesis

Table 8. Results of the second hypothesis

Class	Entry behavior	Sig	A	Conclusion
Experiment	High	0.000	0.05	H ₁ received H ₀ is rejected
Controls				

Table 8 shows the results of the calculation that the realm of cognitive competence students have value Sig. <0.05 means that H₀ is rejected. This means that the value of cognitive competencies learners experimental class have significant differences with the control class. It can be concluded that students' cognitive learning competency capable high entry behavior modeled cooperative learning TGT better than cognitive learning competencies capable students who followed the high entry behavior conventional learning.

The third hypothesis

Table 9. Results of the third hypothesis

Class	Entry behavior	Sig	A	Conclusion
Experiments	Low	0.000	0.05	H ₁ received H ₀ is rejected
Controls				

Calculation results Table 9 shows that the cognitive domain competence students have value Sig. <0.05 means

that H₀ is rejected. This means that the value of cognitive competencies learners experimental class have significant differences with the control class. It can be concluded that cognitive learning competencies lower entry behavior students who follow TGT cooperative learning model is better than the students' cognitive learning competencies entry behavior low entry that follows the conventional learning.

Fourth hypothesis

Table 10. Calculation Results Fourth hypothesis

variance Source	Sum of	square - freedee gree	square Means	F count.	Sig
Model	1568.000	1	1568.000	104.670	0.000
Initial Capability	2222.222	1	2222.222	148.342	0.000
Interaction	0.889	1	0.889	0.059	0.808
Error	1018.667	68	14.980		
Total	415832.000	72			
Corrected Total	4809.778	71			

Calculation results Table 10 shows that the cognitive competence students have value Sig.> 0.05 is 0.808 means H₀ accepted. This means it can be concluded that there is no interaction between learning model in influencing students' cognitive learning competencies.

The fifth hypothesis

Table 11. Results of a calculated hypotheses Fifth

Class	Sig.	A	Conclusion
Experiment	0.000	0.05	H ₁ received H ₀ is rejected
Controls			

Calculation results Table 11 shows that the Sig. <0.05 is 0.000, which is obtained from the analysis using SPSS. It can be concluded that learning competency domains affective students who take TGT cooperative learning model is better than affective learning competencies of students who take conventional learning.

Sixth hypothesis

Table 12. Hasil a calculated hypothesis Sixth

Class	Sig.	A	Conclusion
Experiment	0.000	0.05	H ₁ Received
Controls			H ₀ is rejected

Calculation results Table 12 shows that Sig. <0.05 is 0.000, which is obtained from the analysis using SPSS. It can be concluded that the psychomotor learning competencies of students who take TGT cooperative learning model is better than the psychomotor learning competencies of students who take conventional learning.

V. DISCUSSION

A. COMPETENCE COGNITIVE DOMAINS

Using the model of cooperative learning TGT, then the student will be able to learn actively and creatively because in this learning students discuss in small groups, in which they help each other in the understanding of the material. When the TGT cooperative learning model is used well in the learning process, the learning objectives to be achieved will be realized in line with what was expected. In accordance with the opinion of Ibrahim (2000: 20) cooperative learning *Teams Games Tournament* (TGT) is a cooperative learning, where teachers present the students' learning and cooperate with each other in doing LKS then held the tournament at the end of the lesson.

The implementation of cooperative learning model TGT a positive impact on students' cognitive learning competencies. In line with the research Adnyana, et al. (2014: 8) in small groups all students are actively involved to participate solve the existing problems within the group and the learning process can take place optimally so as to improve student learning outcomes either individually or in groups. The combination of cooperative learning model TGT a positive impact on teachers, because most of the time to devote to guide student learning. The positive impact for students that may affect patterns of interaction of students because it gives equal opportunity to called for every individual in every group that foster a sense of responsibility, self confidence and actively participate in the learning process.

Based on the description of the data that has been described previously seen the average value of competence biology experimental class students who follow the model of cooperative learning TGT significantly better than the control class that follows the conventional learning.

According to research conducted by Valia et al. (2015: 369) shows that with the application of TGT learning model can improve the learning outcomes of students with better and more significant. The high value of the average competence grade students experiment is 81% compared to 72% in the control classes due to the provision of treatment given to the experimental class that is a model of cooperative learning TGT. This is in line with the results Rohendi, et al. (2010: 22) states that there are significant differences between the study of students using TGT learning model compared with conventional learning models.

From the results of hypothesis testing, the high value of the acquisition of the experimental class due to the learning model types TGT who are important in the learning process, it is not independent of entry behavior of students, compared with the conventional learning model in the entry behavior of understanding the concept of learners with an average activity of 81 % in the experimental group and 72% in the control group. If the observed average value of the learning competencies of learners cognitive biology experimental class taught by cooperative learning model TGT better than the control class is taught by conventional methods.

B. COMPETENCY DOMAINS AFFECTIVE

With TGT cooperative learning model can build teamwork and social skills. Learners are expected to understand their role in the group, receiving the views of others, can give a sense even to people who perhaps do not they enjoy as well as cooperative learning model TGT can motivate or to arouse the interest of the self learners, because we create a problem with the job context, The learning process requires students to be independent with the business of learning. The spirit of "responsible for learning" (Taufik Amir: 28-84).

These above shows that the implementation of cooperative learning model TGT can maximize students' affective competencies. This learning model provides a different atmosphere in the learning process, because every student has the responsibility to foster self confidence to ask questions or respond to the friend.

Based on the above, it can be concluded that the affective learning competencies of students who follow the model of cooperative learning TGT better the significance of the affective learning competencies of students who take conventional learning.

C. COMPETENCE PSYCHOMOTOR ASPECT

Competence psychomotor cannot be separated from cognitive and affective competencies of the students after implementation of cooperative learning model of TGT. Wahyuningsih, et al (2011) revealed that the psychomotor learning outcomes with the skills or the ability to act after students receive specific learning experience. The results of this study actually advanced stage of the affective learning outcomes. These above shows that the implementation of cooperative learning model TGT can maximize students' psychomotor competency.

Based on the above, it can be concluded that the psychomotor learning competencies of students who follow the model of cooperative learning TGT significantly better than cognitive learning competencies of students who take conventional learning.

VI. CONCLUSION

Based on the research that has been carried out, it can be concluded as follows:

1. Competence of students in cognitive modeled cooperative learning TGT significantly better than cognitive learning competencies of students who take conventional learning.
2. Competence of students in the cognitive entry behavior of high initial modeled cooperative learning TGT significantly better than cognitive learning competency-capable high entry behavior students who take conventional learning.
3. Competence of students in low baseline cognitive entry behavior that follows the model of cooperative learning TGT significantly better than cognitive learning competencies lower entry behavior of students who take conventional learning.
4. There is no interaction between learning model with student's entry behavior to influence students' cognitive learning competencies.
5. Affective learning competencies that follow the model of cooperative learning TGT significantly better than affective learning competencies of students who take conventional learning.
6. Psychomotor learning competencies that follow the model of cooperative learning TGT significantly better than the psychomotor learning competencies of students who take conventional learning

REFERENCES

- [1] Abdul, Imam. 2014. "Pengaruh Model Pembelajaran Teams Games Tournament Termodifikasi Berbasis Outbound Terhadap Prestasi Belajar Fisika diTinjau dari Motivasi Belajar". *Jurnal Pendidikan*. 20 (3) :310-327.
- [2] Adnyana. 2014. "Effect of Instructional Model Teams Games Tournament Against Biology Learning Outcomes and Student Emotional Intelligence". *Journal Ganesh Education University GraduateProgram*.4 (1): 12.
- [3] Arikunto, Suharsimi. 2005. *Basic-basic Education Evaluation*. Jakarta: Earth Literacy.
- [4] Astuti, Siwi Puji. 2015. "Effect of Early Ability and Interest in Learning Against Against Presasti Prestati Learning Physics". *Formative Journal* 5 (1): 68-7.
- [5] Ibrahim, M. Dkk. 2002. *Pembelajaran Kooperatif*. Surabaya: University Press
- [6] Jollife, W. 2007. *Cooperative Learning in the Classroom*. London: Paul Chapman Publishing.
- [7] Komsatun, Siti. 2013. "Experimentation Learning Model Teams Games Tournament and Numbered Heads Together with Realistic Mathematics Approach to Content Surface Build Space Judging from the liveliness Learning". *Electronic Journal of Mathematics Education*.1 (7): 682-689.
- [8] Lie, A. 2010. *Cooperative Learning: Learning in Practice CooperaiveSpace-Classroom*. Jakarta: PT. Gramedia
- [9] M. Micheal van Wyk.2011. "The Effects of Teams-Games-Tournaments on Achievement, Retention, and Attitudes of Economics Education Studentes. Journal School of Social Sciance". *Journal J Soc Sci*, 26(3): 183-193.
- [10] Rohendi, Dedi.2010. "Penerapan Model Pembelajaran Kooperatif Tipe TeamsGames Tournament Berbasis Multimedia dalam Meningkatkan Hasil Belajar Siswa Pada Mata Pelajaran Teknologi Informasi dan Komunikasi". *Jurnal Pendidikan Teknologi Informasi dan Komunikasi*. 3(1) : 19-22.
- [11] Sagala. 2010. *Konsep dan Makna Pembelajaran*. Bandung: Alfabeta

- [12] Salam, abdu and Shahidur Rahman. 2015. "Teams Games Tournaments (TGT). Cooperative Technique for Learning Mathematics in Secondary Schools in Bangladesh". *Malaysian Online Journal of Educational Technology*. 3 (3): 23-25
- [13] Silberman, Melvin L. 2006. *Active Learning 101 Cara Belajar Siswa Aktif*. Bandung :Nusamedia.
- [14] Slameto. 2001. *Belajar dan Faktor-faktor yang Mempengaruhinya*. Jakarta : Rineka Cipta.
- [15] *Belajar dan Faktor-faktor yang Mempengaruhinya*. Jakarta : Rineka Cipta. 2003.
- [16] *Belajar dan Faktor-faktor yang Mempengaruhinya*. Jakarta : Rineka Cipta. 2010.
- [17] Slavin E Robert. 2009. *Cooperative Learning*. Bandung : Nusa Media
- [18] Sumarmin, Ramadhan. 2014. Penerapan Model Pembelajaran Kooperatif Tipe Think Pair Share untuk Meningkatkan Aktivitas dan Kompetensi Belajar Biologi Siswa Kelas VII A SMP Negeri 4 Kerinci. *Jurnal Kolaboratif*. Vol. (2). No 1.
- [19] Suryabrata, Sumadi. 2010. *Metodologi Penelitian*. Jakarta: Raja Grafindo Persada.
- [20] Valia, wahyuningsih. "Pengaruh Model Pembelajaran Tipe Teams Games Tournament Terhadap Hasil Belajar Biologi Siswa Kelas X SMA Negeri 2 Karang Anyer. *Jurnal Pendidikan Biologi Universitas Sebelas Maret*, Vol. 3, No 2, Hal 1-8.
- [21] Wahyuningsih, D. Dkk. 2011. Pengaruh Strategi Pembelajaran Aktif Minds terhadap Hasil Belajar Biologi Siswa Kelas XI IPA SMAN Karanganyer. *Jurnal Pendidikan Biologi Universitas Sebelas Maret*, (online), Vol. 3, No 2, Hal 1-8, (<http://portalgaruda.org>)
- [22] Warsita, B. 2011. *Strategi Pembelajaran Kreatif Kontemporer*. Jakarta. Rineka Cipta.

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