

## ANALYSIS OF THE INFLUENCE OF COOPERATIVE LEARNING WITH THE TEAMS GAMES TOURNAMENT MODEL ON STUDENTS LEARNING OUTCOMES

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**Abstrak:** Tujuan dari penelitian ini adalah untuk mengetahui bagaimana strategi pembelajaran Team Games Tournament mempengaruhi keberhasilan akademik siswa. Sebuah desain kuasi-eksperimental digunakan untuk penelitian ini. Para peserta dipilih dengan menggunakan metode pemilihan acak. Sampel adalah siswa kelas A kelompok eksperimen yang diajar dengan model pembelajaran Team Games Tournament, dan siswa kelas B yang diajar dengan pendekatan saintifik. Normalitas data dievaluasi menggunakan metode Shapiro-Wilk, homogenitas diuji dengan metode Levene, dan hipotesis penelitian diuji dengan metode Mann-Whitney. Temuan uji Mann-Whitney menunjukkan bahwa tingkat signifikansi 0,02, yang kurang dari 0,05, tercapai. Hal ini menunjukkan bahwa pendekatan pembelajaran kooperatif yang dikenal dengan TGT (team games tournament) berpengaruh signifikan terhadap hasil belajar siswa.  
Kata kunci: model pembelajaran, team games tournament, siswa, hasil belajar

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**Abstract:** The objective of this study is to ascertain how the Team Games Tournament instructional strategy affects students' academic success. A quasi-experimental design was used for this study. The participants were chosen using a random selection method. Students from class A, the experimental group, who were taught utilizing the Team Games Tournament learning model, and students from class B, who were instructed utilizing a scientific manner, made up the sample. The data's normality was evaluated using the Shapiro-Wilk method, homogeneity was tested using the Levene method, and the research hypothesis was tested using the Mann-Whitney method. The Mann-Whitney test findings show that a significance level of 0.02, which is less than 0.05, was reached. This demonstrates that the cooperative learning approach known as the TGT (team games tournament) has a significant effect on student learning results.  
Keywords: learning model, team games tournament, students, learning outcomes

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### Introduction

Only through education can all of these energies be mobilised towards excellence. Education is a deliberate and intentional effort to design a learning environment and learning process that allows students to actively develop their potential for religious spiritual strength, self-control, personality, intelligence, noble character, and the skills required by themselves, the people of the nation, and the state. It is obvious what education's goal is, which involves a process of teaching and learning (Charlton et al., 2015). After acquiring and applying their information, students are expected to master a behaviour that is the purpose and direction of the teaching and learning process (Kamaruddin et al., 2023). Every human being has to be educated. Education can be said to be a medium for a person to be able to acquire and develop his knowledge, which causes a person to know what was previously unknown, to understand what he did not understand before,

and to understand what he did not understand before. The high level of education, where the country can develop quality human resources, can be used as a benchmark for a nation's progress as well. Education in this context obviously refers to formal education, which entails a teaching and learning process. A good-quality education will certainly produce good learning achievement as well. The current reality is that the quality of education in Indonesia has not yet achieved the expected results, as a result, education quality must be elevated. Because education is regarded as the most beneficial investment in raising the calibre of human resources for a country's growth, it is crucial to improve educational standards (Fajri et al., 2017).

Knowledge possessed by students is the result obtained through the learning process and is measured by learning outcomes. Learning outcomes are used by the teacher as a criterion or measure in achieving an educational goal so that it is hoped that they will produce a good quality education. The conclusions that students reach after the learning process has been timed and assessed using certain evaluation tools are known as learning outcomes. As a result, school learning results must be taken into account. Low student learning outcomes in high schools, particularly with regard to biology lectures. According to the researcher's discussion with the school's biology teacher, a significant number of students continue to demonstrate learning results that fall short of the minimal completeness criteria (KKM) (Ichsan et al., 2023). Many factors influence the achievement of learning outcomes. Three components internal factors, external factors, and learning approaches have an impact on how well students learn and how successful their learning processes and outcomes are. There are three categories of student learning approaches: categories of student learning endeavours, which encompass student learning techniques employed in conducting tasks in studying and acquiring knowledge; external determinants (determinants originating from outside students), which refer to the surroundings and circumstances surrounding students; activities following students' return home from school that impact external determinants in students' learning; and internal determinants (determinants originating from within students), which pertain to the physical and mental states or conditions of students. Some studies continue to place too much emphasis on the teacher's responsibility for imparting knowledge to students without including their active participation, which results in passive learners and subpar learning outcomes (Novianti, 2017). This is due to the fact that pupils only learn in a theoretical manner and are passive, but teachers take an active role in teaching by disseminating knowledge. To enhance the interactivity of learning, it is preferable for there to be a reciprocal exchange of information between the teacher and the students throughout the learning process. The correct learning method can be chosen as one of the efforts that can be done to construct such a learning process. Besides that, media, facilities, and infrastructure are also needed, as are various other supporting learning processes (Perwitasari & Wibawanto, 2011).

According to the findings of teacher interviews performed by researchers, the standard learning model used in schools is still not fully appropriate. Because the learning models that are often carried out are lectures and presentations. Based on these interviews, students have never been invited to compete in learning, which can make them more motivated to find material that they consider important. The presentations made only looked for material sources in textbooks and LKS books. Then, in group discussions, the atmosphere is very passive, causing boredom in students. Then the teacher will give exercises in which almost all the answers are in the biology textbook (Rohendi et al., 2010). As a result, students do not directly feel the benefits of the learning process. So that these factors more or less influence students' interest and motivation in learning, which will also affect the learning outcomes achieved by them at school. Along with learning results, the issue of passivity in the learning process requires consideration as well. The usage of appropriate learning models must be taken into consideration in the learning process because it is evident that this issue also somewhat effects the learning results attained by these pupils. Choosing the best learning model is anticipated to facilitate the learning process for teachers to attain learning objectives as efficiently as possible in addition to enhancing learning results and students' active attitudes (Shihab, 2011).

Teachers can employ a variety of learning models in the classroom to enhance the learning results of their In addition to assisting in maintaining students' organization in the classroom, selecting the appropriate learning model can also motivate students and aid in their intellectual growth to their maximum potential. Consequently, students are better equipped to comprehend the subject matter as a whole and not merely memorize information from the instructor (Sudjana, 2009). Various types of learning models have been developed over the years to enhance learning outcomes. The collaborative learning model known as TGT (Teams Games Tournament) is one of the educational models that is considered suitable for implementation in the 2013 curriculum, as stated in the Ministry of Education and Culture No. 103 of 2014 regarding education in Elementary and Secondary Education, which states that an educational approach can utilize various strategies, such as the cooperative learning model TGT (Teams Games Tournament). Teams Games Tournament (TGT) is one of the cooperative learning paradigms. TGT is a form of cooperative learning that combines teams, group discussions, and a final game or competition. In TGT, students are split up into a

number of study teams made up of four to six people with different skill sets, genders, and ethnic backgrounds (Sukardi, 2003).

In cooperative learning-type TGT (Teams Games Tournament), there are several stages that must be passed during the learning process. In the initial stage, students' study in groups and are given material prepared by the teacher, after which they compete in tournaments to get group awards. Besides that, there is competition between groups that is packaged in a game so that learning is not boring. TGT-type cooperative learning also makes students actively seek solutions to problems and communicate their knowledge to others, so that each student is expected to better understand concepts and master the material. Biology is a very important subject because it concerns the lives of living things. One of the concepts contained in biology is fungus (Novianti, 2017). Mushrooms (fungi) are one of the parts of biology that students at the high school level generally study in class X. Fungi need to be studied because they are closely related to everyday life. Starting from useful because it can be consumed, for example, *Volvariella volvacea* (straw mushroom), to dangerous because it contains poison, for example, *Amanita muscaria* (poisonous mushroom), Today's era also began to see the appearance of various kinds of diseases, one of the causes of which is a fungus (mushroom). Besides that, there are also many processes in everyday life that involve mushrooms; for example, the process of making bread and tempeh. This idea is excellent for communicating the cooperative learning model of the TGT type (team games tournament), as students are required to research and advance their knowledge in order to comprehend the subject and participate in games to be the best.

## Method

This is quasi-experimental research. In quasi-experimental research, researchers can divide existing groups without distinguishing between the control and experimental groups in real terms while still referring to existing natural forms. The reason for using quasi-experiments in this group is that there are still many variables in the group that the researcher cannot control. The group of students that has been formed as a result of dividing them into the experimental and control classes constitutes the research sample. The control class is taught using the scientific learning model, while the experimental class is taught using the TGT cooperative learning model. This quasi-experimental study employed a randomized post-test-only control group design with matched subjects, which assigns subjects to either the final test group or the control group. For this study, two groups were randomly selected from the participants, who were all students. The researcher will enrol in two classes as the study sample - class A as the experimental class and class B as the control class. Tests and observations were employed to gather the data for the study. Using SPSS software, the Shapiro-Wilk test ( $W$  test) is used to determine whether study data is normal. In this work, we used the Levene test to check for homogeneity. Because the experimental data are not normal, evaluate the hypothesis analysis using the post-test data. The non-parametric Mann-Whitney test in SPSS is used for the post-test hypothesis analysis test. In this investigation, the Mann-Whitney parametric NPN statistical test will be used to conduct the test.

## Findings and Discussion

The entire score of each student's post-test findings is used to get the average value, which is then divided by the overall number of students in each class. 7.0 out of a possible 10 points, which is the minimum completeness standard (KKM) set by the school for biology courses. Based on the outcomes of the post-test, the experimental class, which included a total of 27 students, had an average score of 82 and a standard deviation of 10.5 for student learning outcomes on the concept of fungus. On the other hand, the control class, consisting of a total of 26 students, had an average of 71 students with a standard deviation of 10.7. These findings demonstrate that the two classes, which are handled in different ways, have varied learning outcomes depending on how well students comprehend the idea of function. The number of students in the experimental class who earned higher post-test mastery scores, namely 77.7%, compared to the control class, namely 53.8%, is demonstrated by data on the percentage of completeness of the post-test score with the KKM criterion of 70. This shows that the experimental class students outperform the control class pupils in terms of knowledge and learning. The teacher had successfully and accurately managed the learning phases at both the first meeting and the second meeting, according to observations of learning activities in both the experimental class and the control class. In the experimental class, the teacher encourages each student to research topics independently from a variety of sources, including websites, books, and student worksheets. This encourages students to have a very broad understanding of the functions of materials.

Group study is the next step. After classifying pupils into five uneven groups without respect to ethnicity or gender, students share the new information they got in the previous stage with their group mates

so that their group mates get additional new information. The next stage is preparation for the match. After the time for self-study and group study is over, the researcher will offer four cards containing five questions to each group, and each group may only choose one card. The fourth stage is the match. The match is divided into two sessions. The first session is for each group to choose a card. Each card contains five questions, and each correct answer will get 10 points. If a group is unable to respond, the question will be posed to the following group in a clockwise direction. Each group in the second session, known as the scramble session, has the opportunity to respond to teacher questions. Answers to the teacher's scrambling questions must come from the first group to raise their hands. The team award is the final stage of the team game tournament learning process. The team who scored the most points in the prior games receives rewards from the teacher and other pupils.

While in the control group, instruction follows a scientific methodology that begins with observation, where the teacher displays pictures and videos to students to provide initial knowledge and stimulates students to ask questions about the pictures and videos displayed by the teacher, asking questions is included in the second stage of learning with a scientific approach. The next stage is to try. The teacher gives text books to students to get new information about learning functions. Students can find new material from a variety of sources, including the internet, books, and articles, in addition to learning it through their textbooks. Next, the teacher assigns each group to answer the questions in the text book, and the teacher ensures that each group member contributes to answering the questions. After all the text book questions are answered, the teacher invites each group to explain what they discussed and answer the questions in the text book. According to the test results, the significant value of 0.02, or below, is less than 0.05. Based on the Man-Whitney Test, it may be concluded that  $H_0$  is rejected and  $H_a$  is accepted at a significance level of 5% ( $\alpha = 0.05$ ). This illustrates that the effectiveness of cooperative learning paradigms, such as the TGT (team games tournament), on student learning outcomes.

The post-test data analysis revealed that the experimental group outperformed the control group in terms of mean final score. Results from the post-test revealed differences between the two groups. The experimental group's average score was 82, with 96 being the best and 6.0 being the lowest. The average score for the control group was 72, with the greatest score being 90 and the lowest being 46. The significance value of 0.02 is less significant than the crucial value of 0.05, according to the Man Whitney Test, indicating the rejection of the null hypothesis ( $H_0$ ) and acceptance of the alternative hypothesis ( $H_a$ ). This implies that using a cooperative learning strategy like the TGT (team games tournament) significantly affects the learning outcomes of students. The differing teaching strategies used in the two groups can be blamed for the discrepancy in results. The experimental group received training utilising the TGT learning paradigm, whereas the control group only applied the conventional scientific methodology. The high correlation between the learning model and students' interest and enthusiasm to learn demonstrates that the cooperative learning model of TGT Teams Games Tournament has a favourable impact on student learning outcomes.

At the first meeting of the experimental class, students were allocated into a number of groups at random without considering their backgrounds. The students seemed still confused in studying the reading material provided by the teacher (researcher). They still experience difficulties in sharing knowledge and learning from fellow students who have been divided into several groups, so that during the learning process with group mates, there are still some students who ask the researcher. Because most of the reading material provided, they do not understand. This can be seen from the fact that when the quiz was held, many questions were answered incorrectly. After the students in each group discussed with their peers, the researchers started playing games in the form of quizzes, which were divided into two sessions. In the first session, each group received five questions, and in the second session, there were ten scrambled questions. During the scramble session, the enthusiasm of the students was very large, as seen when each group was scrambling to answer questions. This is because students more often study in class using the lecture method, which makes them bored when receiving biology lessons. So that when learning activities with TGT learning strategies, students are very enthusiastic in answering questions because they assess that they are more motivated and motivated in learning, so that they can better understand when TGT learning is compared to lecture learning. At the next meeting, there was a change for the better; the students already understood the learning method being carried out, so that in discussing reading material, they were able to do it independently without being told too much what to do. When the game starts, the answers that emerge from the quiz questions are better and tend to be more correct than wrong. Even when the scramble session started, the competition between groups was very fierce and even caused a commotion when pointing their hands, but it was still at a reasonable and controllable stage.

The cooperative learning paradigm known as TGT (team game tournament) is one that is student-

centred. Teachers and students can benefit from this TGT learning technique when learning about biology, particularly when using the mushroom metaphor. Cooperative learning of the TGT variety is divided into five primary categories: presentations made in class, teams (groups), games, tournaments (matches), and team recognition (group awards). The first stage of this learning is a class presentation. First, the teacher conveys material in class presentations; the teacher displays pictures or videos related to the concepts to be studied. The next phase includes collaborative learning, where the class is split into several groups consisting of five students each, and every individual in the group seeks additional information on the internet or from textbooks. The third stage is preparation for the match. The teacher prepares questions related to the learning material, which are written on five cards; each card contains five questions. The fourth stage is matches or games. Questions in games are made to gauge how much knowledge pupils have learned. Each team is given the chance to select a numbered card from the tournament table and attempt to respond to the questions that are posed. If a team is unable to respond to a question, it will be passed on to the next team in a clockwise direction, and the team with the best response will receive a point. Each question has a value of 10 points. The final stage is team recognition (team awards). In this stage, the teacher and students work together to check tournament points, and then the teacher determines the team that won the most points. The team that has the most points will get a prize that has been prepared by the previous researcher.

In the control class, it was divided into several groups randomly without looking at the background of the students; they made presentations and asked questions; there were no games in teaching and learning activities; the enthusiasm of students in doing presentations, questions, and answers was not as big as in the experimental class, maybe because they carried out teaching and learning activities more often with the lecture method, so that when they made presentations and asked questions, they were still shy and passive. This is one of the reasons why the control group's average post-test score was lower than that of the experimental group. The results of the research analysis showed that the cooperative learning strategy known as TGT (team games tournament) had an impact on student learning outcomes. The findings of this study are consistent with earlier studies that came to the conclusion that using cooperative learning strategies in the TGT team games tournament format significantly improved student learning outcomes.

## Conclusion

It is reasonable to conclude that the Team Games Tournament (TGT) cooperative learning model has a substantial impact on student learning outcomes based on the findings of the inquiry and data analysis. This is supported by the results of the Mann-Whitney test, which had a level of significance of  $0.02 < 0.05$ . Teachers are required to use the TGT cooperative learning method in their classroom lessons. The TGT cooperative learning strategy must be used successfully in the classroom if one is to increase student motivation for learning and raise the level of instruction as a whole. In this study, the test instrument only tested constructs without conducting empirical tests due to technical constraints. It is expected that those who want to do this research do a construct test first.

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