



# THE EFFECT OF THE TEAM GAMES TOURNAMENT (TGT) COOPERATIVE LEARNING MODEL SUPPORTED BY A LEADERBOARD ON ELEMENTARY SCHOOL STUDENTS' ACHIEVEMENT MOTIVATION

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## Abstract

The implementation of education is expected to be better in order to form quality individuals as early as possible. That way, students can be better prepared to face increasingly fierce global competition, both now and in the future. Achievement motivation needs to be owned by students because it plays an important role in determining the direction of behavior, especially in the process of achieving achievement in learning. This sense of need to achieve shapes students to be better prepared to face these challenges. Unfortunately, most of the fourth grade students of SDN Karangbesuki 1, Malang City did not show the intended behavior. This study aims to examine the effect of team games tournament (TGT) type cooperative model assisted by leaderboard on achievement motivation. This research used a pre-experimental method of one group pretest-posttest design. Hypothesis testing was done with one sample test technique of paired sample test type. The results showed that the 2-tailed significance value at the 5% significance level was 0.000 or smaller than 0.05. That way, in this study  $H_0$  is rejected and  $H_a$  is accepted. So the conclusion obtained is that there is a significant difference from the application of the team games tournament (TGT) type cooperative model assisted by leaderboard on the achievement motivation of elementary school students.

**Keywords:** Cooperative Model Type TGT; Achievement Motive; Leaderboard; Elementary Student.

## 1. Introduction

The increasingly intense global competition demands that every individual possess a wide range of competencies. This even includes elementary school students because they are expected to become high-quality human resources from an early age. Therefore, quality education is essential for them to acquire the knowledge, skills, and expertise needed to face life's challenges (Amadi, 2023). (Dinata & Zainuddin, 2016) assert that education plays a vital role in preparing excellent human resources to meet global competition. Hence, the education system must continue to improve to produce a bright next generation ready to confront global challenges (Thana & Hanipah, 2023). Thus, motivation becomes a key element in the era of increasing global competition. As (Amin & Claudia, 2016) emphasize, individuals perform better in global competition when students are motivated. In the context of education, motivation is also a central element that significantly contributes to students' success in the learning process (Budiman et al., 2021). Students are more likely to engage in effective learning experiences, shaping them into high-quality individuals. This suggests that motivation may be the single most important element in the learning process (Filgona et al., 2020).

In this regard, one type of motivation that plays a significant role in individuals' work behavior is achievement motivation (Sujarwo, 2011). Achievement motivation serves as the foundation for student behavior, particularly in the context of striving for success. It acts as a driving force that encourages students to attain the best possible outcomes, as reflected in their behavior and maximum effort toward achieving excellence (Pratiwi, 2017). The learning process is closely linked to this type of motivation. According to (Andjarwati, 2015), the theory of achievement needs to be strongly related to learning. (Wiyono, 2015) research demonstrates that low achievement motivation among students is one of the root causes of the poor quality of school graduates. This means that students with low achievement motivation may struggle to compete, whereas students with high achievement motivation are more prepared to face global competition. This is because students tend to learn faster and more effectively when driven by a goal-oriented motivation (Uno, 2021). High achievement motivation also leads students to exert greater effort to succeed (Fitri et al., 2018). In other words, having a high level of achievement motivation is crucial, as it drives students to change their behavior to succeed (Rila Cahya et al., 2019). Therefore, students are expected to have a strong desire to fulfill their need for achievement, thereby enabling them to become outstanding human resources.

Unfortunately, this ideal condition contrasts with reality. The majority of fourth-grade students at SDN Karangbesuki 1 in Malang City do not demonstrate a high level of achievement motivation. Based on interviews with the homeroom teacher, it was revealed that although students display highly active behavior, it is not oriented toward achievement. Their actions do not reflect any drive to excel, even within the smallest context which is classroom activities. Most students frequently ask for only the minimum passing grade on assignments. It is also common for students to follow their peers' answers during question-and-answer sessions. Consequently, students tend not to make any effort before engaging in the learning process. This implicitly indicates that most of these students lack strong achievement motivation.

Several previous studies have identified low achievement motivation among elementary school students as a recurring issue. Research by (Nursalina & Budiningsih, 2014) revealed that the achievement motivation level of fifth-grade students at SDN 1 Dopleng fell into the "low" category, specifically at 53.1%, with the most influential indicator being directed and emerging behavior. Similarly, the study by (Nurhayati et al., 2018) was prompted by preliminary data indicating that elementary students generally do not exhibit high levels of motivation. This is a concerning trend, considering that high-quality human resources are essential for facing global competition. Therefore, the application of a modified cooperative learning model, specifically the Team Games Tournament (TGT) type may serve as an alternative solution.

The cooperative learning model involves the active participation of students (Handayani, 2022), enabling them to broaden their perspectives, develop respectful attitudes and behaviors toward others, and encourage active involvement in the teaching and learning process (Priansa, 2017). Its ease of implementation—regardless of status—and its integration of games and reinforcement elements make the model unique (Yulianto et al., 2016). As such, this model can be utilized effectively because it prevents students from becoming bored and aligns with their natural tendency to enjoy games and competition (Yuliawati, 2021). The goal is to enhance student motivation, as reflected in their speed in answering questions,

persistence, interest, and desire to gain recognition while avoiding punishment (Nurhayati et al., 2018).

Numerous studies have examined the impact of this learning model on the motivation of elementary school students. For instance, studies by (Nurhayati et al., 2018), (Hakim & Syofyan, 2017), and (Handayani, 2022) revealed a positive influence of this model on students' learning motivation, ranging from early primary levels (Grade 1) to upper primary levels (Grade 4). Other studies have also focused on improving achievement motivation through the implementation of specific learning models or strategies. Notable examples include research by (Parna et al., 2015), (Hartana et al., 2016), (Sudjimat & Permadi, 2019), and (Pusparina, 2021), which concluded that implementing learning methods optimally and in accordance with students' characteristics positively affects the enhancement of achievement motivation. Although several of these studies have examined similar variables, the literature review indicates a lack of research specifically addressing the effect of TGT on a specific type of motivation, which is achievement motivation. Furthermore, the novelty of this research lies in the modification of the model itself. Model modification has been shown to make the implementation of cooperative learning more effective compared to the unmodified version (Putra, 2015; Santosa, 2018). In this study, the modification involves the development of TGT model flow based on (Slavin, 2005) along with the addition of a gamification element in the form of a leaderboard.

The use of leaderboards can stimulate students' motivation in the learning process. A leaderboard displays the ranking of students either individually or in groups based on accumulated points throughout the learning period. Most students do not want to fall behind, students will make various efforts to match or surpass the top positions. This allows students to experience healthy competition (Febriansah et al., 2024). This occurs because, in learning environments that emphasize competition, students are driven to demonstrate their abilities in comparison to their peers (Lam et al., 2004). Such behavior is rooted in the presence of needs. Needs are a fundamental factor that drives motivation (Herzberg et al., 1959; Kompri, 2016; Ridha, 2020), encompassing not only material needs but also psychological ones (Andjarwati, 2015). In this context, the leaderboard triggers students' need for recognition of their achievements, both personally and socially. Based on this premise, it becomes essential to further investigate the implementation of the TGT supported by a leaderboard. The main research question is, does the implementation of the TGT cooperative learning model supported by a leaderboard have a significant effect on improving elementary school students' achievement motivation.

## 2. Method

This research employed a quantitative method, a systematic procedure for collecting and analyzing numerical data using statistical techniques. The quantitative method employed was a pre-experimental method with a one-group pretest-posttest design. This design allows for more accurate treatment data because it compares conditions before and after treatment (Sugiyono, 2013). The research design flow is as follows:

**Table 1. One Group Pretest-Posttest Design Research Path**

<i>One Group Pretest-Posttest Design</i>		
<b>O<sub>1</sub></b> Pretest	<b>X</b> Treatment	<b>O<sub>2</sub></b> Posttest

Description:

O<sub>1</sub> : Pretest Score (before the treatment)

O<sub>2</sub> : Posttest Score (after the treatment)

O<sub>2</sub> - O<sub>1</sub> : Impact appears due to the treatment

This design was chosen because it suited the characteristics of the research location, which only has one class at each level. Therefore, this design was deemed most appropriate for ensuring the accuracy of the research results. The dependent variable was measured by comparing the pre-treatment and post-treatment scores of the research sample, which is 26 fourth-grade students of SDN Karangbesuki 1, Malang City as it. The sample was treated using the TGT cooperative model, adapting (Slavin, 2005) syntax and modified to suit the research objectives. The model was implemented in three meetings over two weeks, with five stages.

First, at the beginning of the meeting, students were divided into study groups. Before that, the teacher categorized students into three categories: high, medium, and low levels of active behavior. Next, students were divided into six study groups of 4-5 students each, with at least one student from each category.



**Figure 1. Distribution of Students**

Second, the teacher conducts a presentation beginning with a lead-in question. The teacher provides feedback on each answer and explains the learning material. Third, group learning is conducted by completing worksheets within a specified time; results do not affect the leaderboard. Fourth, a group tournament activity is held. In the first meeting, the lineup is determined by student categorization. Meanwhile, subsequent meetings are determined by the results of each tournament. The mechanism is as follows:



Figure 2. Tournament Mechanism



Figure 3. Tournament Mechanism

The group with the highest score receives a gold medal, the group with the second highest score receives a silver medal, and the group with the third highest score receives a bronze medal. Each group also competes for additional medals. An additional gold medal is awarded to the group with members who become the most valuable player (MVP) in the tournament, and similarly for the silver and bronze medals respectively. Finally, team recognition is carried out by awarding the top three groups on the leaderboard. The final ranking of the groups is based on the type and number of medals. Here is the distribution of medals at each meeting:

Table 2. Medals Distribution in Each Class Session

Type of Medal	Medal Source	Medal	Total Medal
Gold Medal	The 1 <sup>st</sup> Place	3	3
Silver Medal	The 2 <sup>nd</sup> Place	3	6
	Most Valuable Player	3	
Bronze Medal	The 3 <sup>rd</sup> Place	3	6
	Most Valuable Player	3	

The research instruments used are interviews and questionnaires. Interviews with the Homeroom Teacher were conducted to uncover the phenomenon that serves as the basis for the research. This is done when the number of respondents is small or limited (Sugiyono, 2013). Interviews are guided by the outline of the issues to be revealed because they are open-

ended with a face-to-face method. Questionnaires are used to obtain quantitative data, both before and after the implementation of the learning model. In this study, the Likert scale is used as a measurement scale because it aims to measure the attitudes, opinions, and perceptions of an individual or group regarding social phenomena (Sugiyono, 2013). Responses to each statement use a check mark (✓) with a value range from one to five.

(McClelland, 1988) revealed that n-Achievement can be measured by providing stories expressed in sentences. Therefore, the questionnaire in this study includes a fictional narrative that measures it in six dimensions according to (McClelland, 1988). The studies by (Sutanto & Eliyana, 2014; Sudjimat & Permadi, 2019; Mamin et al., 2020) also applied similar instrument modeling to measure achievement motivation. The statement items have been validated by expert judgment and have undergone validity and reliability tests. Next, the data were processed using IBM SPSS Statistics 20, which consists of: (1) descriptive statistical analysis, providing an overview of the research results, (2) normality test, ensuring that the research data are normally distributed, (3) hypothesis test using paired one sample test to determine the significance of the model's influence, and (4) frequency data analysis, seeing distribution of achievement motivation levels.

### 3. Results and Discussion

#### 3.1 Result

Research data were obtained from student achievement motivation questionnaires according to the established criteria. The questionnaire data then underwent several data processing mechanisms and were described descriptively. All data processing was carried out using the IBM SPSS Statistics 20 software, incorporating the 26 obtained questionnaire data.

#### Descriptive Statistics Analysis

Descriptive statistical analysis is conducted to provide a descriptive overview of data by looking at the minimum, maximum, average, and standard deviation values.

**Table 3. Descriptive Statistics Analysis**

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Dev.</b>
Pretest Score	26	34.00	59.00	44.0385	6.50219
Posttest Score	26	40.00	58.00	48.8462	5.47498
Valid N (listwise)	26				

Based on the table above, it can be seen that the sample from the two data groups is the same. Where 26 data points are shown in Valid N (listwise), meaning that these 26 data points are the entire data set that has been included. In the pretest data group, a minimum value of 34.00 and a maximum value of 59.00 were obtained. The mean of the pretest data group was 44.0385 with a standard deviation of 6.50219. Next, in the posttest data group, a minimum value of 40.00 and a maximum value of 58.00 were obtained. The mean of the posttest data group was 48.8462 with a standard deviation of 5.47498. Thus, the average (mean) questionnaire scores after treatment (posttest) are higher and with a smaller standard deviation compared to the average (mean) and standard deviation before treatment (pretest).

#### Normality Testing

The normality test used for the data is the Shapiro-Wilk test because the research sample is small (Sugiyono, 2013). In this study, the sample size is less than 30 samples ( $N < 30$ ). The results of the normality test of the research data are as follows:

**Table 4. Normality Testing Result**

Shapiro-Wilk				
	Statistic	df	Sig.	Desc.
Pretest Score	.966	26	<b>.516</b>	<b>Normal</b>
Posttest Score	.953	26	<b>.270</b>	<b>Normal</b>

Based on the table, it can be seen that the significance value of the Shapiro-Wilk test is 0.516 for the pretest data group and 0.270 for the posttest data group. With the decision-making criteria, data is said to be normally distributed if the significance value is greater than 0.05 ( $p > 0.05$ ). Based on this, both groups of data have a normal distribution. Next, the data can be used in hypothesis testing.

### Hypothesis Testing

Hypothesis testing is conducted by comparing the mean values of two data groups using the One Sample T-Test technique of the Paired Sample Test type. Decision-making is based on the 2-tailed significance value at a 5% significance level. Thus, if the 2-tailed significance value is less than 0.05 ( $p < 0.05$ ), the cooperative model of the TGT type assisted by a leaderboard has a significant difference in the academic motivation of elementary school students. Conversely, if the 2-tailed significance value is more than 0.05 ( $p > 0.05$ ), the cooperative model of the TGT type assisted by a leaderboard does not have a significant difference in the academic motivation of elementary school students. The hypotheses in this study are as follows:

**Null Hypothesis (Ho):** There is no significant difference in the implementation of the cooperative model type Team Games Tournament (TGT) assisted by a leaderboard on the achievement motivation of Elementary School Students.

**Alternative Hypothesis (Ha):** There is a significant difference in the implementation of the cooperative model type Team Games Tournament (TGT) assisted by a leaderboard on the achievement motivation of Elementary School Students.

This the result of hypothesis:

**Table 5. Paired Sample Test Result**

			<u>Mean</u>	<u>Std. Deviation</u>	<u>Degree of Freedom</u>	<u>Sig. (2-tailed)</u>
<b>Pair</b>	Result Pretest -	Result Posttest	-4.80769	4.48124	25	0.000

Based on the table above, the results of the hypothesis test using the Paired Sample Test are shown. It can be seen that the comparison of the average before the treatment (pretest) with the average after the treatment (posttest) is -4.80769 (minus). This means that there is an average increase from before the treatment to after the treatment on the research sample of 4.80769. Additionally, the standard deviation of the data group can also be seen,

which is 4.48124 with a degree of freedom (df.) of 25. Furthermore, the 2-tailed significance value of the research data is 0.000.

As the decision-making basis states, if the 2-tailed significance value is less than 0.05, then  $H_0$  is rejected and  $H_a$  is accepted; conversely, if the 2-tailed significance value is greater than 0.05, then  $H_0$  is accepted and  $H_a$  is rejected. Based on this, it can be concluded that in this study,  $H_0$  is rejected and  $H_a$  is accepted because the 2-tailed significance value is 0.000 or less than 0.05 ( $p=0.000 < 0.05$ ). Thus, it can be interpreted that there is a significant difference in the application of the TGT cooperative model assisted by a leaderboard on the achievement motivation of elementary school students.

### Data Frequency Analysis

Interval class criteria were determined with five categories to determine the frequency distribution of achievement motivation data. Level categorization was performed using the Azwar method (2012:148), the 5-level categorization formula. Based on the research questionnaire, the maximum score ( $X_{max}$ ) was 65 and the minimum score ( $X_{min}$ ) was 13. The questionnaire mean was 39, obtained by subtracting the maximum with the minimum score, then dividing by two. The standard deviation was 8.666. The following is the achievement motivation categorization formula:

- Very High :  $(39 + 1.5 \cdot 8.666) < X$
- High :  $(39 + 0.5 \cdot 8.666) < X \leq (39 + 1.5 \cdot 8.666)$
- Middle :  $(39 - 0.5 \cdot 8.666) < X \leq (39 + 0.5 \cdot 8.666)$
- Low :  $(39 - 1.5 \cdot 8.666) < X \leq (39 - 0.5 \cdot 8.666)$
- Very Low :  $(39 - 1.5 \cdot 8.666) \geq X$

Thus, here are the categorization intervals;  $X$

**Table 6. Categorization of Achievement Motivation**

Score Interval			Categorization
$X$	$>$	52	Very High
43.33	$< X \leq$	52	High
34.67	$< X \leq$	43.33	Middle
26	$< X \leq$	34.67	Low
26	$\geq$	$X$	Very Low

Based on the category intervals above, the distribution of student achievement motivation data, both before treatment (pretest) and after treatment (posttest), can be determined as follows:

**Table 7. Frequency Data Analysis**

Implementation	Category				
	Very Low	Low	Middle	High	Very High
Before ( <i>pretest</i> )	-	1	10	12	3
Percentage	-	3.8%	38.5%	46.2%	11.5%
After ( <i>posttest</i> )	-	-	6	10	10
Percentage			23.1%	38.5%	38.5%

In the table above, it can be seen that the valid percent for each data group is 100%. In the pretest data group, there are four categories that are fulfilled with the distribution of each

group as follows: 1 student in the "low" category or 3.8%, 10 students in the "medium" category or 38.5%, 12 students in the "high" category or 46.2%, and 3 students in the "very high" category or 11.5% of the total 26 data or 100% valid percent. Unlike the posttest data group, which is divided into three categories with the distribution of each group as follows: 6 students in the "medium" category or 23.1%, 10 students in the "high" category or 38.5%, and 10 students in the "very high" category or 38.5% of the total 26 data or 100% valid percent.

### 3.2 Discussion

To enhance students' achievement motivation, the researcher treated the sample through the application of a learning model. The learning model referred to is the cooperative learning model of The Team Games Tournament (TGT) type. This model is a learning mechanism that combines elements of competition and teamwork among students. In the book *Cooperative Learning: Theory, Research and Practice* written by (Slavin, 2005), it is explained that there are four stages of learning consisting of; (1) class presentation, (2) group study, (3) tournament activities, and (4) team recognition. This model is considered suitable for implementation in a learning environment where elementary school students are the subjects of learning. As explained by (Yuliawati, 2021), elementary school students have characteristics that enjoy games and competitions, so TGT can be applied to them in learning.

The learning model was then modified with the development of learning activities while still adapting the syntax of (Slavin, 2005) as previously described. Modifying the learning model becomes important to implement. As stated by (Putra, 2015), in its application, the cooperative model of the Team Games Tournament (TGT) type will be more effective compared to its pure application if this model is modified. Emphasis on modification can also create a model that is suitable for the field conditions encountered (Santosa, 2018). In this context, the revealed field conditions that also serve as the basis for the research are the behaviors of the fourth-grade students at SDN Karangbesuki 1, Malang City, most of whom do not show high achievement motivation. Thus, the researcher modified TGT type by adding a gamification element in the form of a leaderboard in the learning process. This is in line with (Landsell & Hägglund, 2016), who explain that the basic idea of gamification is the use of various game elements that have been proven to motivate greater engagement and individual motivation. Furthermore, (Costa, 2023) also explains that the existence of leaderboards as a tool to create aspects of social comparison plays an important role in increasing students' interest and enjoyment. Thus, with the presence of leaderboards, students can experience healthy competition (Febriansah et al., 2024). Therefore, the leaderboard element is used in TGT type with the hope of enhancing students' achievement motivation. Next, the designed learning plan was implemented on the research sample over 210 Lesson Hours (JP), or 3 hours and 30 minutes with 3 meetings over 2 weeks. After all the data was collected, the researcher processed the data using the IBM SPSS Statistics 20 software.

Based on the research data obtained, it can be concluded that the application of the cooperative model type the Team Games Tournament (TGT) assisted by a leaderboard has a significant effect on the achievement motivation of elementary school students. The research decision was based on the hypothesis testing results using the one sample test technique with the paired sample test type. In this case, the 2-tailed significance value at the 5% significance level from the entire data set is 0.000 or below 0.05. In more detail, based on Table 4.7, it is known that there is a difference in achievement motivation categories between the pretest data

group and the posttest data group. More specifically, the "low" achievement motivation category, which was the lowest category in the pretest data group, was not found in the posttest data group. Instead, the "medium" achievement motivation category was found to be the lowest category in the posttest data group. Additionally, there are differences in the percentages of each category met in the pretest data group compared to the posttest data group in this study. Furthermore, in the "medium" achievement motivation category, there was a percentage decrease of 15.4% from initially 38.5% to 23.1%, or from 10 students to 6 students. In the "high" achievement motivation category, there was a percentage decrease of 7.7% from initially 46.2% to 38.5%, or from 12 students to 10 students. And, in the "very high" achievement motivation category, there was a percentage increase of 27% from initially 11.5% to 38.5%, or from 3 students to 10 students.

Based on the percentage data, it can also be seen that the level of student achievement motivation in the "very low" to "low" category has decreased, while the level of achievement motivation in the "high" to "very high" category has increased. In the pretest data group, students with achievement motivation categorized as "very low" to "low" accounted for 42.3% or 11 students out of the total, whereas in the posttest data group, students with achievement motivation categorized as "very low" to "low" accounted for 23.1% or 6 students out of the total. From these results, it can be seen that there was a decrease of 19.2% or 5 students in the posttest compared to the pretest data. Next, students with achievement motivation categorized as "high" to "very high" accounted for 57.7% or 15 students out of the total, whereas in the posttest data group, students with achievement motivation categorized as "high" to "very high" accounted for 77.0% or 20 students out of the total. From these results, it can be seen that there was an increase of 19.3% or 5 students in the posttest compared to the pretest data. The results are consistent with the research hypothesis test, which states that there is a significant difference in the application of TGT assisted by a leaderboard on the achievement motivation of elementary school students.

Significant differences in achievement motivation levels can occur due to various factors. For example, the learning process that differs from the usual becomes one of the main factors. Students generally follow learning with conventional methods, such as the lecture method, presentation method, and question-and-answer method. However, with the implementation of the cooperative learning model type the Team Games Tournament (TGT), students can experience a new or different learning experience from usual. This ignites the students' enthusiasm to engage in the learning process more effectively. The cooperative learning process using the TGT model also allows for very strong social interactions during the learning process. This learning model presents learning components in the form of games, consisting of groups of students who participate in academic tournaments and quizzes (Hakim & Syofyan, 2017). Thus, this model creates positive interdependence among students. This is in line with (Abramczyk & Jurkowski, 2020) who explain that in the implementation of this learning model, the contribution of each group member to the reward creates positive interdependence and individual accountability. Positive interdependence occurs because in this model, each group member is formed to depend on one another based on a common goal (Johnson & Johnson, 2009).

Besides the implementation of the cooperative learning model, type the Team Games Tournament (TGT). Another factor is the utilization of gamification elements, specifically the leaderboard element. (Kapp et al., 2014) in their book titled *The Gamification of Learning and*

Instruction Fieldbook: Ideas into Practice explain that gamification is an innovative approach in learning that facilitates the learning process and encourages motivation through the use of game-based elements, mechanisms, and thinking. Based on that definition, gamification can be associated with the improvement of achievement motivation among students at SDN Karangbesuki 1, Malang City. In this context, elementary school students who generally enjoy games and have a desire not to fall behind their peers tend to study harder to meet their psychological needs. These needs include the desire to be in a higher position compared to their peers, as well as to receive recognition for their achievements. In line with that, (Andjarwati, 2015) emphasizes that human needs are not limited to material needs but also encompass psychological needs. Students showed a better learning spirit compared to the learning process before the implementation of the leaderboard element. This is demonstrated by the behavior shown by the students, where they are more focused on paying attention when the teacher explains the material, and the students are not shy to ask the teacher or classmates when there is material they do not understand. During the tournament activity, the students also appeared enthusiastic about answering questions quickly, accurately, and based on their own abilities. The students seemed focused on answering questions with the results of their understanding after following the learning process.

Based on the literature review conducted by previous researchers, the results of this study are in line with several earlier research findings. As shown by the research results of (Nurhayati et al., 2018), TGT type has a positive effect on student motivation. The research conducted on 16 first-grade elementary school students successfully revealed an increase in motivation in the science subject, where in the first cycle, the students' motivation level reached 80%, and in the second cycle, it increased to 93%. In the context of the same research subjects, the study by (Hakim & Syofyan, 2017) also revealed an increase in student motivation after the implementation of TGT type. This study was conducted on 53 fourth-grade elementary school students and showed an increase of 26.33%, from an initial 66.67% to 93%. Similarly, the research by (Handayani, 2022) revealed that this model has a positive effect on increasing student motivation. The research was conducted on 20 students in one class in the subject of Mathematics. After the implementation of TGT, an increase in student motivation was observed, indicated by the questionnaire scores which rose from 39.5 before the treatment to 55 after the treatment. Thus, the cooperative model of the Team Games Tournament (TGT) type is not limited to use in certain educational levels and subjects. This is in line with (Slavin, 2005) explanation, which states that this model is one of three other cooperative models that can be applied to most subjects and grade levels.

#### 4. Conclusion

Based on the research data, it can be concluded that there is a significant difference in the application of the cooperative model type Team Games Tournament (TGT) assisted by a leaderboard on the achievement motivation of elementary school students. This is supported by the hypothesis test results using a One Sample T-Test of the Paired Sample Test type, which showed a 2-tailed significance value at a 5% significance level of  $0.000 < 0.05$ , thus  $H_0$  is rejected and  $H_a$  is accepted. In connection with this, it can be concluded that the application of TGT assisted by a leaderboard has a significant impact on the improvement of achievement motivation among elementary school students.

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