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THE EFFECT OF THE TGT-TYPE COOPERATIVE MODEL ASSISTED BY QUESTION CARD MEDIA ON THE MOTIVATION AND LEARNING OUTCOMES OF MAETHMATICS OF GRADE IV ELEMENTARY SCHOOL GROUP IV BEBANDEM DISTRICT

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ABSTRACT
The motivation and results of math education in elementary school should be emphasized because math is a fundamental component of developing arithmetic skills, problem-solving abilities, and applications in daily life, as well as because students' lack of motivation is frequently caused by less than ideal teaching methods. This study aims to determine the magnitude of the influence of the Cooperative Type Teams Games Tournament (TGT) Assisted by Question Card Media on Student Learning Motivation and Mathematics Learning Outcomes. The study population was all fourth-grade elementary school students in Cluster IV, Bebandem District. The sample was determined by group random sampling technique. The sample in this study amounted to 43 people. Learning outcome data used a multiple-choice test consisting of 20 questions, student learning motivation was collected through a questionnaire. Data were analyzed using MANOVA (multivariate Analysis of Variance). The results of the study showed that: First, there was a significant difference in Mathematics learning motivation between students who studied with the Cooperative Learning Model TGT Type Assisted by Question Card Media and students who studied with conventional learning models in fourth-grade elementary school students. Second, there was a significant difference in learning outcomes between students who studied with the Cooperative Model TGT Type Assisted by Question Card Media and conventional learning models in fourth-grade elementary school students. Third, Simultaneously, there is a significant difference in learning motivation and learning outcomes in Mathematics between students who learn with the TGT Type Cooperative Learning Model Assisted by Question Card Media and students who learn with the conventional learning model in grade IV of elementary school students. The conclusion is that there is an influence of the TGT model assisted by question card media on student motivation and learning outcomes.

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INTRODUCTION

Mathematics needs to be given to all students starting from elementary school to equip students with logical, analytical, systematic, critical, and creative thinking skills, as well as the ability to work together. These competencies are needed so that students can have the ability to acquire, manage, and utilize information to survive in ever-changing, uncertain, and competitive circumstances. Mathematics learning not only emphasizes numeracy skills and the ability to solve problems, attitudes and the ability to apply Mathematics are important supports to form students' ability to solve daily problems that students will face in the future. Based on these uses, mathematics should be given to students at every level of education. Logical mathematical intelligence is the ability to use numbers effectively. The things included in this ability are sensitivity to logic, causality, function and abstraction. For this reason, DThe role of teachers as facilitators, mediators and motivators is needed in order to package Mathematics learning according to the characteristics and mindset of elementary school students (N. N. L. Handayani, 2020).

When the Mathematics learning process should be assisted by the media to make it easier for students to understand abstract concepts. Efforts to promote education in Karangasem Regency are in line with Karangasem Regency Regional Regulation Number 11 of 2013 concerning the Education Implementation System in Karangasem Regency to implement compulsory education for at least 9 years which must be followed by district residents on the responsibility of the district. This is supported by a guarantee of funding for the implementation of compulsory education of at least 20% of the regional revenue and expenditure budget used for the development of educational units, improving teacher welfare and improving teacher competence. However, the Karangasem district education balance in 2022 shows that the Human Development Index is still low, namely 68.28, while the provincial HDI is at 76.44 and the National HDI is at 72.91. There are also many students who drop out of school, namely 35 students from elementary, junior high, high school, vocational and SLB levels (Disdikpora Karangasem Regency, 2022).

Education in Cluster IV of Bebandem District is also expected to be in accordance with the government's expectations, namely creating outstanding students. In fact, the phenomenon faced by formal education, especially in Cluster IV of Bebandem District, is that in the Mathematics learning process, some students have not reached the Learning Goal Achievement Criteria (KKTP) determined by the school. From the results of observation, facts and data were obtained that student motivation and learning outcomes are still lacking. The learning outcomes, especially the Mathematics subject of grade IV students in Cluster IV, Bebandem sub-district, are still relatively low. This data was obtained from the results of observations analyzed from the report card scores for semester 2 of the 2022/2023 academic year with data displayed in table 1.1 as follows.

Table 1. Mathematics Learning Outcomes of Grade IV Students of Cluster IV Bebandem District

Yes	School Name	Average Math Score
1	SD Negeri 1 Budakeling	72.00
2	State Elementary School 2 Budakeling	69.83
3	SD Negeri 3 Budakeling	70.65
4	SD Negeri 1 Bhuana Giri	70.18
5	SD Negeri 2 Bhuana Giri	66.63
6	SD Negeri 3 Bhuana Giri	69.65
7	SD Negeri 4 Bhuana Giri	68.55
8	State Elementary School 5 Bhuana Giri	67.36
9	SD Negeri 6 Bhuana Giri	61.17
10	SD Negeri 7 Bhuana Giri	66.43

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Group Average Values	**68,24**

Source : Bebandem District Cluster IV Data Archive

According to Table 1, the results of learning with a rata-rata of 68,24 are due to the use of a more conventional teaching model, the lack of a game method, and the asymmetrical nature of mathematics instruction. From the results of observations with grade IV school teachers in Cluster IV of Bebandem District, data was obtained that in the learning process, teachers still tend to apply conventional learning methods, which are limited to the use of lecture and question and answer methods. Learning activities are still predominantly held by teachers. Students consider mathematics to be a difficult subject. This causes students to be less enthusiastic in working on the practice questions given by the teacher. In addition, the low understanding of the concept of counting in mathematics lessons makes it difficult for students to do math problems (N. N. L. Handayani, 2023). The lack of relevant learning media to support learning activities also causes students to lack enthusiasm to learn. Unsupportive learning facilities and learning media are also the cause of low Mathematics learning outcomes, besides that lack of teacher motivation and lack of interaction between teachers and students can cause the learning process to be less interesting for students which results in low student learning motivation. Given this reality, teachers are expected to try to find the best solution in an effort to improve students' motivation and learning outcomes. One of them is by implementing a cooperative learning model.

Several research results prove that the use of cooperative learning can increase student learning achievement while improving social relations skills, fostering an attitude of accepting one's own and others' shortcomings, and can increase self-esteem (Mayor Febsi Khairatul et al., 2025). Cooperative learning can realize students' needs in learning to think, solve problems, and integrate knowledge and skills (S. Handayani, 2022). There are many types of cooperative learning models, one type of cooperative learning that is suitable for use in Mathematics subjects in the independent curriculum is the cooperative learning model type *Teams Games Tournament.* Cooperative learning type *Teams Games Tournament* (*TGT*) Involving the role of students as peer tutors, contains elements of games that can excite the spirit of learning. Learn with games designed in a cooperative learning model *TGT* allowing students to learn more casually as well as fostering responsibility, honesty, cooperation, healthy competition and learning engagement (Sari, 2024). *TGT* by utilizing learning media, it will be able to create a pleasant learning atmosphere for students and reduce students' fear of Mathematics lessons (Listiani et al., 2025). Through *TGT* Student interaction through games as learning innovations packaged in tournaments will invite students to interact in real life and cooperate with each other in teams like doing interactive games (Yuliana & Wantika, 2023).

The application of learning methods using media, especially in the field of Mathematics study is based on the fact that in the field of Mathematics there are many subjects that require tools to explain them, including the material on fraction counting operations. Therefore, learning using the media of question cards in the subject is considered very appropriate to help make it easier for students to understand the material. On the other hand, the learning atmosphere will be more lively, and communication between teachers and students can be well established. This is also suspected to help students in their efforts to improve their learning outcomes in the field of Mathematics study. Basedon this description, a study was carried out with the title "The Influence of the Cooperative Learning Model of *the Teams Games Tournament Type* Assisted by Question Card Media on the Learning Motivation and Learning Outcomes of Mathematics Students in Grade IV Cluster IV Bebandem District".

METHOD

This research is an experimental research, which according to Dantes (2012: 85) "*experimental research* generally requires strict control on the influence of other variables outside of the *treatment* variable". As for the type of experiment in this study, namely *quasi-experimental,* this is seen from the experimental subjects who are not randomized to determine samples to be placed in the experimental group and control group. With the basic pattern of "*The Posttest-Only Control-Group Design*". In this study, learning management using a TGT-type cooperative

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learning model is opposed to the usual learning model or conventional learning to determine the influence of learning motivation and mathematics learning outcomes of students in grade IV Cluster IV Bebandem District.

The data collection method in this study is to use questionnaires to collect data on learning motivation. The questionnaire used is in the form of a questionnaire with positive statements and negative statements totaling 30 statements. To obtain data on Mathematics learning outcomes, a Mathematics test method with an instrument of 20 multiple-choice questions was used. The data analysis method in this study uses descriptive analysis techniques and multivariate analysis (*Multivariete Analysis of Variance*). Descriptive analysis is used to describe the average values of the standard deviation of variables, learning motivation, and mathematics learning outcomes. Meanwhile, MANOVA is used to test research hypotheses. In this study, we investigated the influence of one independent variable, namely the Team Games Tournament-type cooperative learning model, on two dependent variables, namely learning motivation and Mathematics learning outcomes. The analysis prerequisite test consists of a data normality test aimed at convincing that the sample comes from a normally distributed population, the variance homogeneity test is carried out with the *SPSS-21 matrix similarity test for windows* through *the bok's M* test for homogeneity test together, while for the homogeneity test separately it is carried out with *the Levenes's* test, The test between bound variables was carried out to find out whether there was a high enough relationship between the variables of learning motivation in learning and the learning outcomes in Mathematics subjects which were carried out using product moment correlation, and the hypothesis test was followed by the manova test.

The population in this study is based on a trial of a TGT-type cooperative learning model assisted by question card media on the learning motivation and mathematics learning outcomes of grade IV students of Cluster IV Bebandem District. So that the population in this study is grade IV students of Cluster IV of Bebandem District in semester 1 of the 2023/2024 school year. Cluster IV of Bebandem District consists of 10 State Elementary Schools without parallel classes so that there are 10 classes IV with a total of 184 people. Based on the data from the test results that have been carried out, it can be concluded that the learning outcomes of grade IV elementary school students in Cluster IV of Bebandem District have equivalent abilities. After the draw was carried out, the school that became the experimental class was SD Negeri 1 Budakeling, and the control class was SD Negeri 2 Budakeling. The two classes have a level of equality and significance number, namely with a value of t = 0.537, df = 19 and a significance value of 0.597. The total number of samples in this study is 43 students. The complete composition of the members of the research sample can be seen in table 2.

Table 2. Composition of Sample Members

Group	Grade IV Students of SD Gugus IV Bebandem
Experiment (SD Negeri 1 Budakeling)	20
Control (SD Negeri 2 Budakeling)	23
Total	43

Source : Bebandem District Cluster IV Data

RESULT AND DISCUSSIONS

Research Results

The data in this study are grouped into four, namely 1) student learning motivation taught with a cooperative learning model of the Teams Games Tournament type assisted by question card media, 2) the learning motivation of students taught using a conventional learning model, 3) the learning outcomes of students who are taught using a cooperative learning model of the Teams Games Tournament type assisted by question card media, and 4) students' mathematics learning outcomes taught using conventional learning models.

The calculation of the central size (average, mode, median) and the size of the data spread (standard deviation) gives the results as listed in table 3.

Table 3. Recapitulation of Descriptive Analysis Results

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Statistics	A1		A2	
	Y1	Y2	Y1	Y2
Number of subjects	20	20	23	23
Mean	14,55	133,85	11,30	124,56
Median	14,5	134	12	125
Mood	14	134	12	125
Standard Deviation	2,35025	2,13431	2,26505	2,23253
Variance	5,524	4,555	5,130	4,984
Stretch	9	9	9	9
Minimum Score	10	130	7	120
Maximum Score	19	139	16	129
Sum	291	2677	260	2865

Information:
A1 = Cooperative learning model of *teams games tournament* type assisted by question card media
A2 = Conventional model
Y1 = Students' motivation to learn
Y2 = Mathematics learning outcomes

Based on the results of the data recapitulation in the table above, it can be concluded that the average learning motivation and mathematics learning outcomes of students in the group of cooperative learning models of *the team games tournament* type assisted by question card media are greater than the average learning motivation and mathematics learning outcomes of students in the conventional learning model group.

Results of the Prerequisite Test Analysis

The analysis prerequisite test is carried out before carrying out the hypothesis test. There are several analysis requirements that must be met, including: 1) data distribution normality test, 2) variance homogeneity test, and 3) correlation test between bound variables.

Results of the Data Distribution Normality Test

The normality test of data distribution was carried out using the *kolmogorov-smirnov* statistical test at a significance level of 0.05. The test criterion is that if the significance value produced is greater than 0.05, then the data is said to be normally distributed, and vice versa. This test uses the help of the SPSS-17.00 *for windows program.* The results of the test are presented in table 4.

Table 4. Results of the Data Distribution Normality Test

No.	Data Groups	Kolmogorov-Smirnov			Conclusion
		Statistics	Dk	Sig.	Usual
1	A1Y1	0,163	22	0,436	Usual
2	A2Y1	0,082	23	0,838	Usual
3	A1Y2	0,140	22	0,437	Usual
4	A2Y2	0,093	23	0,571	Usual

Information:
A1Y1 = Learning motivation in the experimental group
A2Y1 = Learning motivation in the control group
A1Y2 = Learning outcomes in the experimental group
A2Y2 = Learning outcomes in the control group

Based on the above data, the statistical value of *Kolmogorov-Smirnov* on the statistical data of students' learning motivation score for the experimental and control groups was 0.163 and 0.82 with significance values of 0.436 and 0.838 while for statistical data the mathematics learning outcomes of the experimental and control groups were 0.140 and 0.93 with significance values of 0.437 and 0.571. Based on these results, it can be concluded that statistically the four data groups are normally distributed because the significance value is greater than 0.05. Thus, all data distribution

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of learning motivation and mathematics learning outcomes in grade IV students of Cluster IV Bebandem District, Karangasem Regency have been distributed normally so that *MANOVA* analysis can be continued.

Variance Homogeneity Test Results

The variance homogeneity test was conducted using the SPSS-17.00 *for windows* program at a significance level of 0.05. The test criterion is that if the significance value produced in the *Levene's* test and *the Box's M* test is greater than 0.05, then the data has the same or homogeneous variance matrix, and vice versa. The results of the test are presented in the following table.

Table 5. Results of the Variance Homogeneity Test for Learning Motivation Score Data

No.	Data Groups	F	DK1	DK2	Sig.	Simplification
1	A1Y1	0,143	1	45	0,706	Homogeneous
2	A2Y1					

Based on the data in the table above, an F value of 0.143 with a significance of 0.706 was obtained, so statistically it can be concluded that all student learning discipline score data has a homogeneous variance because the significance value is greater than 0.05.

Results of the Variance Homogeneity Test for Mathematics Learning Outcomes Value Data

Table 6. Results of the Variance Homogeneity Test for Mathematics Learning Outcomes Value Data

No.	Data Groups	F	DK1	DK2	Sig.	Simplification
1	A1Y2	2,469	1	43	0,123	Homogeneous
2	A2Y2					

Based on the data in the table above, an F value of 2.469 with a significance of 0.123 was obtained, so statistically it can be concluded that all mathematics learning outcome value data has a homogeneous variance because the significance value is greater than 0.05.

Meanwhile, the results of the analysis of the variance-covariance similarity test through *the Box's M* test for homogeneity test together can be seen in the table below.

Table 7. Results of Box's M Test Analysis

Box's M	2,781
F	0,880
DK1	3
DK2	357043,829
Sig.	0,450

Based on the data in the table above, it shows that the *value of Box's M* is 2.781 with a significance of 0.450, then statistically it can be concluded that all data on learning motivation scores and mathematics learning outcomes have homogeneous variance-covariance because the significance value is greater than 0.05 so that *the MANOVA* analysis can be continued.

Correlation Test Results between Bound Variables

This test was carried out using VIF (*Variance Inflation Factors*) values with the help of the SPSS-17.00 *for windows program*. If the VIF value is around 1 and if the significant coefficient of correlation between the variables is less than 0.5, it means that there is no multicoloniality problem. The results of the test are presented in the following table 8.

Table 8. Test Results Between Bound Variables

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		Unstandardized Coefficients			*Collinearity Statistics*	
Type		B	T	Sig.	*Tolerance*	VIVID
1	(*Constant*)	-0,18	0,599	0,000		
	AIY2A2Y2	-0,36	0,014	0,000	1,000	1,000

a.Dependent *variable*: A1Y1A2Y1
Information:
A1Y1A2Y1= Learning motivation in the experimental and control groups
A1Y2A2Y2= Mathematics learning outcomes in the experimental and control groups

Based on the results of the test between bound variables, the VIF value was equal to 1/*tolerance*. Thus, the two instruments in this study did not experience multicollineity. Because all the analysis prerequisite tests have been met, namely the data distribution normality test, the variance homogeneity test, and the correlation test between bound variables, the hypothesis test can be continued.

Research Hypothesis Test Results

The hypothesis test was carried out using *MANOVA* with the help of the SPSS 21.00 *for windows* program at a significance level of 0.05. There are three hypotheses tested in this study, including:

Results of the First Hypothesis Test

Hypothesis 1 testing using *MANOVA* through F variance statistics. The test criterion is that if the value of F with a significance of less than 0.05, then the null hypothesis (H_0) is rejected and an alternative hypothesis (H_1) is accepted.

Table 9. Hypothesis Test Results 1

Source	Variable Bound	JK (SS)	Dk	RJK	F	Sig.
Escort	Learning motivation	3223,254	1	24257,653	**101,386**	**0,000**
Deep	Learning motivation	1367,057	43	31,792		
Total	Learning motivation	4590,311	44			

Based on Table 9. The results of the F table with Df 43 are 3,214 < F calculated 101,386 and the significance level is 0.0000 < 0.05, this means that H_0 rejected and accepted H_1 which states that there is a difference in learning motivation between students who study with the cooperative learning model type *Teams Games Tournament* with the help of question card media and students who learn with the conventional learning model in grade IV students of Cluster IV Bebandem District, Karangasem Regency. So, based on the results of the hypothesis test 1, it is stated that there is a significant difference in learning motivation between students who study with the cooperative learning model type *Teams Games Tournament* with the help of question card media and students who learn with the conventional learning model in grade IV students of Cluster IV Bebandem District, Karangasem Regency. Social activities like peer tutoring, in which more experienced students assist their less experienced peers, foster constructive relationships and deepen understanding in the Team Games Tournament (TGT). Additionally, inter-team competitions foster healthy rivalry, which motivates students to put in more effort in their studies in order to help their team score the most points and win prizes. This, in turn, makes learning more fun, relaxed, and motivated (Novia et al., 2022). TGT can bedifferent influences in improving students' cognitive abilities or learning outcomes because they can meet the needs of students' learning styles who do not only listen to explanations from teachers, but also learn more interesting using

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cards. The advantage of TGT is that it awakens students' full intelligence through the combination of physical movement with intellectual activity and is a variation in learning style, so that is why the TGT model is very suitable for the learning characteristics of students in elementary school so that the TGT learning model is able to improve student learning outcomes (Melindawati, 2021).

Results of the Second Hypothesis Test

Hypothesis test 2 stated that there was a difference in mathematics learning outcomes between students who studied with the cooperative learning model of *the team games tournament* type assisted by question card media and students who learned with the conventional learning model in grade IV students of Cluster IV Bebandem District, Karangasem Regency. The results of Hypothesis Test 2 are shown in the following table.

Table 10. Hypothesis Test Results 2

Source	VariableBound	JK (SS)	Dk	RJK	F	Sig.
Escort	Learning Outcomes	4415,200	1	3146,376	53,685	0,000
Deep	Learning Outcomes	3536,441	43	82,243		
Total	Learning Outcomes	7951,641	44			

Based on Table 10. The results of the F table with Df 43 are 3,214 < F calculated 53,685 and the significance level is 0.0000 < 0.05, then the significance value is much smaller than α until F is significant. This means that H_{0}rejected and receiving H_1 which states that there is a difference in mathematics learning outcomes between students who study with the cooperative learning model type *Teams Games Tournament* with the help of question card media and students who learn with the conventional learning model in grade IV students of Cluster IV Bebandem District, Karangasem Regency. So, based on the results of the hypothesis test 2, there is a significant difference in mathematics learning outcomes between students who study with the cooperative learning model type *Teams Games Tournament* with the help of question card media and students who learn with the conventional learning model in grade IV students of Cluster IV Bebandem District, Karangasem Regency. In line with the statement that the motivation to learn mathematics is influenced by the Teams Games Tournament (TGT) learning model (Ginting & Siregar, 2023). In TG, actively incorporates every student in the learning process, the TGT approach has the potential to enhance student learning outcomes. Students take an active part in tournaments and group discussions. Students become less passive as a result, and they remain completely involved in the learning process. In group discussions, students actively digest and create their own knowledge of the subject matter. As a result, the acquired knowledge becomes easier to recall and more significant (Yuliana & Wantika, 2023).

Results of the Third Hypothesis Test

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Table 11. Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.998	13642.297a	2.000	42.000	.000
	Wilks' Lambda	.002	13642.297a	2.000	42.000	.000
	Hotelling's Trace	649.633	13642.297a	2.000	42.000	.000
	Roy's Largest Root	649.633	13642.297a	2.000	42.000	.000
K	Pillai's Trace	.788	77.887a	2.000	42.000	.000
	Wilks' Lambda	.212	77.887a	2.000	42.000	.000
	Hotelling's Trace	3.709	77.887a	2.000	42.000	.000
	Roy's Largest Root	3.709	77.887a	2.000	42.000	.000

a. Exact statistic

b. Design: Intercept+K

Hypothesis 3 testing was carried out with the F test through *MANOVA*. The decision was taken with reference to the F values for *Pillai's Trace, Wilks' Lambda, Hotelling's Trace,* and *Roy's Largest Root*. The test criterion is that if the value of F with a significance of less than 0.05, then the null hypothesis (H_0) is rejected and an alternative hypothesis (H_1) is accepted.

Based on the data in the table above, it can be seen that the value of F for *Pillai's Trace, Wilks' Lambda, Hotelling's Trace,* and *Roy's Largest Root* of 77,887 with a significance value of 0.000. If the significance level is set α=0.05, then the significance value is much smaller than α until F is significant. This means that H_0 rejected and accepted H_1 which states that simultaneously there is a difference in learning motivation and mathematics learning outcomes between students who study with the cooperative learning model type *Teams Games Tournament* with the help of question card media and students who learn with the conventional learning model in grade IV students of Cluster IV Bebandem District, Karangasem Regency. So, based on the results of hypothesis test 3, it can be concluded that simultaneously there is a significant difference in learning motivation and mathematics learning outcomes between students who learn with the cooperative learning model type *Teams Games Tournament* with the help of question card media and students who learn with the conventional learning model in grade IV students of Cluster IV Bebandem District, Karangasem Regency. The results of this study are corroborated by the finding that the TGT Model when applied causes students to be happier in learning can have a good influence on learning motivation. Activities in TGT allow students to learn more relaxed and foster a sense of responsibility, cooperation, healthy competition, and improve their learning outcomes (Hermansyah et al., 2025)

Discussion of Research Results

The effect of the Teams Games Tournament (TGT) Type Cooperative Model assisted by question card media on the learning motivation and mathematics learning outcomes of grade IV students of Cluster IV Bebandem District showed positive results. The TGT model can increase cooperation between students so that other students are not left behind, able to improve students' critical thinking skills and learning outcomes (Lestari et al., 2022). The TGT model as one of the cooperative learning strategies provides opportunities for students to learn actively and interactively through games and competitions in teams. The use of question card media as a learning tool also makes it easier for students to understand math material in a more fun and challenging way, thereby increasing their interest and motivation to learn (Ilma & Maulfi Syaiful Rizal, 2024).

The results of the study indicate that the application of the TGT Type Cooperative Model with question card media is able to significantly increase student learning motivation. This high motivation to learn can be seen from the students' enthusiasm in participating in the learning process, activeness in group discussions, and enthusiasm in solving the questions given. Through the application of this TGT model Involving student activities without having

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to have a difference in status in the tournament, students will compete with other groups to get as many points as possible can increase students' motivation to learn (Tanjung et al., 2022). This increased motivation directly contributes to the improvement of students' mathematics learning outcomes, which can be seen from the better test scores compared to before the implementation of the model. The use of the TGT learning model compared to the conventional learning model will improve student learning outcomes (Natasya et al., 2024)

Overall, this study proves that the Teams Games Tournament Type Cooperative Model supported by question card media is effective in improving the motivation and learning outcomes of mathematics students in Cluster IV of Bebandem District. This learning model not only makes the learning process more engaging and enjoyable, but also encourages students to more actively participate and work together in teams. Thus, the application of this model can be used as an alternative effective learning strategy to improve the quality of mathematics learning in elementary schools (Fakhriyah & Baalwi, 2025).

CONCLUSION

There was a significant difference in learning motivation between students who studied with the *team games tournament* type cooperative learning model assisted by question card media and students who learned with the conventional learning model, there was a significant difference in mathematics learning outcomes between students who studied with *the teams games tournament* type cooperative learning modelwith the help of question card media and students who learn with the conventional learning model, and simultaneously there is a significant difference in learning motivation and mathematics learning outcomes between students who learn with the cooperative learning model *of the Teams Games Tournament type* assisted by question card media and students who learn with the conventional learning model in grade IV students of Cluster IV Bebandem District, Karangasem Regency.

Through the results of this research , it is suggested that it can be used as an empirical study through the development of further research on learning models more broadly and in-depth in order to bring a positive contribution and become a reference in the development of science.

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