THE EFFECT OF THE ICEBREAKING-ASSISTED TEAMGAMESTOURNAMENT MODEL ON THE STUDENTS' LEARNING OUTCOMES ON MATHEMATICS IN ELEMENTARY SCHOOL

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PENGARUH MODEL *TEAM GAMES TOURNAMENT* BERBASIS *ICEBREAKING* TERHADAP HASIL BELAJAR MATEMATIKA DI SEKOLAH DASAR

ARTICLE HISTORY	ABSTRACT
	***Abstract:** This paper describes the effects of the TGT (Team Games Tournament) model assisted by Icebreaking on the student's learning outcomes in mathematics in elementary school. The population of the research involves all of the students in class IV. The sample was selected through a probability sampling technique, which consisted of 24 students for class IV-A as a control class and 24 students for class IV-B as an experimental class. The research used a quantitative method of quasi-experimental design with a pretest and posttest control group design and the instrument used was multiple choice questions to find out the student's learning outcomes. Hypothesis data analysis was carried out by one-way ANOVA through a computer program of SPSS 21. Based on the results of a one-way variance analysis with a significant degree of 0.05, the value of sig was 0,000 in which 0,000 < 0.05. It implies that the TGT model assisted by Icebreaking had a significant effect. The average score of students' learning outcomes in the experimental class was 81.3 with a difference between pretest and post-test scores at 51.9. Conversely, the average score of student learning outcomes through the conventional method was 71.8 with a difference between pretest and posttest class control scores at 42.3. Thus, it can be inferred that the application of the TGT (Team Games Tournament) model assisted by Icebreaking is better than the conventional method and there is a significant effect on student learning outcomes in mathematics in elementary school.*
	***Abstrak:** Artikel ini mendeskripsikan pengaruh model TGT (Team-Games-Tournament) berbantuan Icebreaking terhadap hasil matematika siswa di Sekolah Dasar. Populasi pada penelitian melibatkan seluruh siswa kelas IV. Sampel diambil dengan teknik probability sampling, yang terdiri dari 24 siswa pada kelas IV-A sebagai kelas kontrol dan 24 siswa pada kelas IV-C sebagai kelas eksperimen. Penelitian menggunakan metode kuantitatif jenis penelitian desain kuasi eksperimen (eksperimen semu) dengan bentuk penelitian desain Pretest-Posttest Control Group dan instrumen yang digunakan berupa soal tes pilihan ganda untuk mengetahui hasil belajar. Analisis data hipotesis dilakukan dengan uji Anova satu jalur (One Way Anova) melalui program komputer SPSS 21. Berdasarkan hasil perhitungan menggunakan analisis varians satu jalur dengan taraf signifikan 0,05, diperoleh nilai Sig 0,000, dimana 0,000 < 0,05. Hal ini menunjukkan bahwa model TGT berbantuan Icebreaking memberikan pengaruh yang signifikan. Rata-rata hasil belajar siswa pada kelas eksperimen dengan penerapan model TGT berbantuan Icebreaking adalah 81,3 dengan selisih antara nilai pretest dan posttest sebesar 51,9. Sedangkan rata-rata hasil belajar siswa dengan metode konvensional adalah 71,8 dengan selisih nilai pretest dan posttest kelas kontrol sebesar 42,3. Berdasarkan hasil tersebut, dapat disimpulkan bahwa penerapan model TGT (Team Games Tournament) berbantuan Icebreaking lebih baik dari pada metode konvensional serta terdapat pengaruh yang signifikan terhadap hasil belajar matematika siswa di sekolah dasar.*

INTRODUCTION

Education is essential for everyone, especially education aims to educate and develop a person's potential. In educational institutions in Indonesia ranging from elementary school to college, there are various mandatory subjects to be taken. Mathematical subjects are important subjects that can be used in all aspects of life. Mathematics is a mandatory subject that should be held in parallel education from primary schools to the college level (Maharani, 2018).

Mathematics subjects themselves have an important role in the progress of human civilization. Other opinions, Amir (2014: 77) Maths subjects are given to all levels of education in addition to getting the science of math itself, also to develop the thinking of logical, analytical, systematic, critical, creative and developing patterns of collaborates in collaboration. Therefore Mathematics as a basic science needs to be well-controlled by students, especially from the age of elementary school (Susanto, 2013).

But unfortunately, based on the results of the International Student Assessment (PISA) program, stated Indonesia is in the 63rd of 70 countries participating in the field of mathematics and science. These results are generally improved especially in science and mathematics. In 2012 last, Science and Mathered Rankings are 64 of 65 countries. Surveys conducted by Trends in International Mathematics and Science Study (TIMSS) showed that there was an increase between 2015 and 2012, but the increase could not change the mindset of Indonesian students (Utami, 2017: 49). Currently, Indonesian students are still in a very low ranking in several categories, such as understanding complex information, understanding theory,

critical thinking, analysis, and troubleshooting. This does not show understanding and mastery of mathematical learning.

The low rank of Indonesia of them is due to student disinfection against mathematics subjects, where mathematics subjects are one lesson that is considered difficult on the basic education levels even at the college level. No wonder, because mathematics is a lesson with a lot of concepts that the material of the abstract idea with which we can group objects into an example or not an example.

According to Dewiyanti (2018: 30) reality in SD has not been under the expected conditions. This suggests that mathematical learning that is still dominated by the teacher's conventional learning and does not provide students opportunities to develop independence through the discovery and the thinking of the process. The use of lecture methods to students become passive in learning. Communication occurs only in one direction of the teacher to the student, so the students are not actively establishing their knowledge. This is what makes mathematics one of the bore and less fried. Boredoms arise because students are allowed to actualize the ability to think it has. While fear appears, because often the students are only crammed with a variety of formulas to face, so learning is so tense and rigid. The atmosphere of course can reduce the level of concentration and maturity of the understanding of the material that ultimately impacts student learning outcomes.

Based on the results of observations and interviews conducted with the teacher in class IV SD, on November 16, 2021, obtained the result of student learning was not satisfactory, even from the total students in each class only 1 to 3 people achieved KKM.

The average value of mathematical learning output class IV is 51.13 from the KKM boundary (minimum qualification criteria) which is 70 in the year 2021/2022. This shows still far outcoming mathematical results obtained by students from the minimum target of learning results. This is certainly a better mathematical learning process as many of the students who have learning results have not reached KKM.

The telling method is often performed by teachers at school, so the teachers do not teach students to work together in learning. Students can only listen and pay attention to the teacher's explanation without participating in active play in learning so that which raises fat tiredness of learning in students. The telling method is the monitoring of lessons by teachers to students in the classroom, where teachers as a learning center for students and students can not play an active role in learning. Though many learning models that the teacher can choose from students to make an active role in its learning to learning of these mathematics such as the Team Games Tournament (TGT), Student Teams Achievement Divisions (STAD), etc. Where these learning models can improve the role of students, with interactions and cooperation between students where learning can be centered on the students themselves.

The reality is not all teachers can turn on an active and fun learning atmosphere. The method used by teachers can be said monotonous because teachers only use the lecture method and questions. Master also has not used the learning media available, so students are easily bored and choose to sleep in class during the hours of the lesson. One of supportive learning effectiveness is the delivery of materials packed in a happy and no-pressure atmosphere. Many ways can be made to create such an atmosphere, including the utilization of Ice Breaking, Fun stories, Music, Music Relaxation, and Braingym.

Through the statements and problems above, researchers may conclude that there is an increase and change in the learning process. The teacher is required to face students' involvement in the learning process in the classroom. There is a need to be made to modify the learning process in the classroom so that students do not feel bored which affects the increasing student learning outcomes. Among them by using more modernized learning models, especially in mathematical subjects. One of the learning models that demand the student's activity is to use of one of the cooperative learning models that are Teams Games Tournament (TGT). Where the learning model allows students to be more active in classes besides growing attitudes of responsibility, student cooperation, and healthy competition. The TGT model is a cooperative learning model that has differences from other cooperative models. The difference between TGT models with other cooperative models is located in the tournament carried out by students.

In addition, the use of less technical learning techniques, where students can learn with relaxing not relaxing are also not boring. One technique to support mathematical learning is ice breaking technique where students can learn in a happy state, this activity can change the atmosphere of the rewards in the class to be more exciting, so the learning process becomes more effective.

Sunarto (2012) The term Ice Breaking itself consists of two foreign words, ice which meant the ice that is where the ice is known to have as stiff, cold, and hard, whereas breaking means solving. The meaning of Ice Breaking is "ice thrust". So, Ice Breaking itself can be interpreted as an attempt to solve or melt the stiff of ice to be more comfortable and flowing. This aims to keep those materials presented to be accepted by learners. Where learners will be more able to receive lesson material if the atmosphere is not tense, relaxed, comfortable, and more friendly.

Therefore the use of TGT models integrated with Ice Breaking on mathematics subjects can be the right choice to improve

student learning outcomes. Based on the description, the researchers are interested in conducting research with the title of the effect of the TGT model (Team Games Tournament) of Ice Breaking assistance on the results of student mathematics learning in elementary school.

METHOD

The research was conducted at one of the primary schools in Kecamatan Percut Sei Tuan, Kabupaten Deli Serdang. The research activity was conducted in the second semester of the year lesson of 2021/2022 from November until March 2022. The population in this study was determined through the detection of research characteristics of student mathematics learning in MIS Ikhwanul Muslimin Kec. Percut Sei Tuan with 442 students. The determination of the population in this research used a limited population with the characteristics of mathematical learning output of class students IV, the amount of population in this study amounted to 72 students consisting of students of IV-A, IV-B, and IV-C.

The sample in this study is determined by using a nonprobability sampling technique with a purposive sampling type which is a sample determination technique with certain considerations (Sugiyono, 2018). Considerations in this study are based on the educational personnel that is easy to communicate and interact with researchers, there have been several meetings of researchers do not encounter Class IV-B classes because some things make classifiers not present so that researchers only encounter a substitute teacher who is less understanding the characteristics of the learners in the class. With this researcher chose the IV-A class and class IV-C as sample classes in the research process. So the sample in this study is class IV-A amounting to 24 students and class IV-C totaling 24 students.

This research uses a quantitative research approach with a quasi-experimental design and the research form is Pretest-posttest Control Group Design, experimented with and implemented in two groups with a quantitative approach. The treatment will be given to researchers with samples with two treatments. The sample that acts as a sample of control is given treatment by applying conventional learning while the samples that act as an experiment sample are given the treatment of the application of the Teams Games Tournament (TGT) with Ice Breaking. To see how the effect of implementing the TGT and Ice Breaking model on the mathematics learning students of IV class students.

The description of research procedures conducted by researchers with a quasi-experimental design, namely: first, researchers chose two subject groups that as much as possible may have no significant condition of conditions. Secondly, the researchers provide a pretest to both the subject of subjects to control the difference in the initial conditions of both. In the third step, researchers provide experimental treatment by using TGT and Ice Breaking to-level model to one group and let other groups (control) without treatment without using the TGT and Ice Breaking. Fourth, after experimental treatment was given, both subject groups were posttest by using the same test as used in the pretest. Furthermore, the fifth, researchers see how changes/increases between pretest and posttest scores between experimental groups and control groups are assessed from student mathematics learning results.

The learning outstanding test instrument was implemented with a pretest and posttest with the same question of 15 questions for the pretest before treatment and the posttest after treatment. The study of student mathematics learning was then analyzed using a prerequisite test namely the normality test using the one sample kolmogrov-smirnov with the help of SPSS version 21 to know whether the data is normally distributed. In addition, also homogeneity tests with sample comparisons to know the variance of two

samples. The homogeneity test is done by using the homogeneity of variance test at One-Way Anova with the help of SPSS version 21.

RESULTS AND DISCUSSIONS

The results of the description of the pretest data description (before treatment) and posttest (after treatment) control class and experimental class may be shown in the following table:

Table 1. The Results Of Learning In The Control Class And Experimental

Class	Average score		Discrepancies Value of Pretest-Posttest
	Pretest	*Posttest*	
Control	29.5	71.8	42.3
Experiment	29.4	81.3	51.9

Source: Data Processing SPSS 21.

Based on Table 1 shows the pretest and post-test values in the experimental class that has treated model TGT (Team Games Tournament) with Ice Breaking as more efficient than the control class.

The average value obtained after the treatment of 81.3 states is quite far above the KKM (minimum qualification criteria) worth 70 compared with the control class. Furthermore, the results of the prerequisites test know the normal and homogeneous

distributed data. Test normality in this study used a single kolmogrov-smirnov sample test with a significant level of 0.05. If Sig> 0.05 then the data is normally distributed and if 0 <.0 05, the data is not a normal distribution. Testing normality data using student value learning value on mathematical learning in experimental class treated by TGT with Ice Breaking model controlled by the conventional method. The result of normality test results is as follows:

Table 2. The Results of Normality Test

Data (Results Test)	Students (N)	Sig. Score	Conclusion
Pretest Eksperimen	24	0,108	
Posttest Eksperimen	24	0,132	**Sig > 0,05 Normal distributed data**
Pretest Kontrol	24	0,200	
Posttest Kontrol	24	0,103	

Source: Data Processing SPSS 21.

Based on calculations in Table 2. The pretest and posttest acquisition of learning results with a significant level of 0.05 obtained significant values in the experiment class of 0.108 and 0.132. And in the control class the pretest and posttest significance values of

0.200 and 0.103. Based on these results, it can be concluded that normally distributed data.

To see homogeneous data then he tested the homogeneity of variance test at One-Way Anova with a significant level of 0.05. If Sig> 0.05, then homogeneous data, and if 0 <.0

05, the data is not homogeneous. Homogeneity test results such as below:

Table 3. Result Of Homogeneity Test

Result Of Homogeneity Test	Significance	Conclusion
0,584	0,584 > 0,05	Homogen

Source: Data Processing SPSS 21

Based on table 3 result of homogeneity testing of 0.584> 0.05, it can be concluded that H_1 is accepted. This means in each sample comes from a homogeneous population.

From the results of prerequisites testing of student learning outcomes that have been obtained that data on control class and experimental classes are normal and homogeneous distribution. Based on the results continued the repetition of the research hypothesis. The result of the calculation (ANOVA) is one way to see the results of the hypothesis test in the SPSS program statistics 21 using a significant level of 0.05. If the Sig value> 0.05 then the same average or H_O is rejected and if the Sig value> 0.05 then the average is different or H_1 is accepted. A summary of the calculation of one-way variant calculation is presented in the following table:

Table 4. The Results Of The Hypothesis Test

The Results Of The Hypothesis Test	Significance	Keputusan Uji
0,000	0,000 < 0,05	Diterima

Source: Data Processing SPSS 21

Based on Table 4. The results of the hypothesis test of 0.000 <0.05, which means the average learning result between the two different groups it can be concluded that H0 is rejected and H1 is accepted, this means the treatment has a significant effect between the two classes, the control class, and the experimental class.

Conclusion the hypothesis is H_1 accepted, meaning there is a difference in student mathematics learning results that use the TGT with Ice Breaking model ($\mu1$) with the result of student mathematics learning that uses conventional methods/ telling methods ($\mu2$). Based on Table 1 is known that the average learning outcome of students in the control class with the application of conventional methods is 71.8 and the average learning outcome of students in the experimental class with the application of the TGT with Ice Breaking model is 81.3. The difference between the pretest and posttest control class control is 42.3 while the experiment class 51.9. So it can be said to learn the study in the experimental class has a significant effect on the learning outcomes of students in mathematical learning compared to the control class. So it can be concluded that the learning model of TGT (Team Games Tournament) with ice breaking model is better than conventional methods/ telling methods.

DISCUSSION
The learning process in the control class with conventional methods

The conventional methods is applied in the form of the telling method, where teachers have great power to provide full material to students. At the first meeting in the control class which is class IV-A researcher gives a pretest problem in the form of multiple choice to students to know the initial knowledge of students to the material to be brought. From the pretest results, students are

getting an average of 29.5 value, so it can be concluded that the student's initial ability is still low. The test is the instrument that has been tested for its validity and reliability.

The meeting of both researchers conducted learning activities with conventional methods, fractions material worth. At this meeting, the researchers describe the material following the previously designed RPP. There are several obstacles that researchers face when applying this model, where students do not pay attention to the explanation of the material submitted, so many students are less understanding of the subject matter. At the time of questioning the question and answer also the student is inactive in asking or asking teachers about the materials described, students tend to be silent and look bored and no interaction and communication occur between students and teachers in teaching and learning activities. Furthermore, the researcher gives the exercise that is there are members the student and asks students to do it, at this stage many students are confused and ask back to the teacher, this proves that is still a low understanding of the student's material that has been presented through this conventional method.

The final stage of the research provides learning evaluation by giving a test result (Posttest) to students to know the student learning outcomes in mathematical learning with the implementation of conventional methods that have been done. This control class obtained an average value of 71.8 with a pretest and posttest result difference of 42.3.

The learning process in experiment class on the TGT model with ice breaking

The TGT model (team games tournament) is a learning model of student competition. According to Slavin (2010: 10) that is a learning model by conducting an inter-team or group game. The TGT model application of learning can increase students' learning results, according to research done by Dewiyanti (2018) where the TGT model in the

math study indicates the results of learning that impact students. Application of a TGT model in learning activities on a math subject can increase the results of a student's score.

Ice breaking is a game or activity that serves to turn boredom and boredom into a fun, passionate atmosphere in the learning process. The breaking ice techniques applied to this experiment class will support the learning process to create a pleasant atmosphere, as the type of breaking ice implemented by a yel-yel group, applause such as applause and singing such as greeting for students.

At the first meeting, researchers gave pretesting a question of multiple-choice questions to students to know their early cognitive abilities of the student. The average results of pretest students in experiment class of 29.4 means that still lack the students' initial capability regarding per subject matter. The average results of the pretest of students on the experiment class of 29.4 mean that there was still little of the students' initial ability regarding the fraction of the matter to be brought up. In turn, researchers divide defined groups as heterogeneous in both learning and gender, so that each group has been equally divided and fair. At this stage, the researcher tells students to first discuss the group's name of animal names and to have a unique voice as their nicknames later, after which the researcher indicates the location of each group table for further preparation at the next meeting.

At the second meeting, the researchers applied TGT with ice breaking model in which all planned activities were contained in the RPP that had been designed beforehand. The initial activity began with an ice breaking song entitled "how are you" and shouts of "enthusiastic applause". Before applying the stages of the TGT model, the researcher provides an overview of the learning activities that will be carried out, that there will be a competition where each activity will get a score which is summarized in the "scoreboard." In the first game students are

asked to make group yells, the group with the best yells will get the highest score.

The next step following steps in the TGT model, Slavin says there are five steps (2016: 78) that are: 1) class presentation; 2) teams; 3) games; 4) the tournament; And 5) team recognition

In the first step, the researcher performs a brief material presentation, followed by studying in groups by working on the LKPD for each group, the group that works on LKPD will get the highest score. Then followed by the question and answer session, at this stage active students ask questions as well as those willing to answer questions, at this stage researchers as facilitators only to students and strengthen student knowledge. Students seem active during discussions and can solve problems in LKPD, showing that learning is centered on students in full. This is in harmony with the strong TGT model set out by Sholihah (2016) states that the demonstrated games tournament model (TGT) has some of its advantages: (a) further increases the outpouring of time for assignments, (b) advances acceptance of, individual differences, (c) with the limited time students can master the material, (d) the teaching process takes place with activation from students, (e) higher learning motivation, and (f) educating students to practice socializing with others.

Amidst researchers, ice-breaking has provided a call or call each group to get their focus and conducive back. Laughter smiles, and enthusiastic students as learning takes place, eliminating the atmosphere of tense learning. This agrees with Adnan (2020) that an application of ice breaking can increase students' enthusiasm and take a keen interest in following learning.

The next step is games of a true false hat game in which each group presents two members to play and selects a game card with the problem to play first. With these games, the right group to answer the question of the game will score the highest score. The fourth

step is the accumulated value of the overall learning sequence of the yel-yel, and games. The final stage is the group award, for those who get the highest amount of value get the prize. There was still a bright, bushy look on the students' faces, so no sleepy faces that the researchers closed the lesson. This is similar to Deswanti's, etc. (2018), which states that improving students' learning results can be done by increasing learning motivation which is obtained through ice breaking applications.

The final stage is a learning evaluation by providing a posttest to see if there is an influence on the TGT learning model with ice breaking on students' learning in math. The average student study results in 81.3 of this experiment class can be concluded that there was an increase in learning results with the application of the TGT model with ice breaking. As for a difference in pretest scores and a posttest result of 51.8.

Research conducted in both classes showed that the results of studying with the application of the TGT tournament help with ice breaking in the experiment class have reached far beyond the KKM limit. Based on the results of the average disparity tests shows that students' learning in an experimental class of mathematics is better than in the control class. Then it may be concluded that the application of the TGT model with ice breaking on mathematical learning is thought to increase the student's learning result.

CONCLUSION AND RECOMMENDATIONS

Based on analysis and discussion results, conclusions can be drawn as follows. The average result of studying mathematics in experiment class by applying the TGT (team games tournament) project in ice-breaking has an 81.3 score with an average of pretest 29.4 and a difference in pretest-posttest 51.9. When compared with the control class which had only average results of learning of 71.8 with a 42.3 preexisting posttest difference, it is said that the results of studying mathematics in

experiment classes were better than the control class. There is the TGT model (team games tournament) with ice breaking model effect of students' learning on math. With the results of anova test 0,000 and the value of sig 0,000 0.05 show there is an average difference in study results in experiment class. The application of the TGT model with ice breaking is shown to be better than the conventional method of students learning math lessons proved by an average study in an experiment class larger than the control class.

As for the use of the TGT with ice breaking model release can be an alternative to teaching to improve the results of student mathematics, so it can be applied by student educators in the learning process. As well as the need for an application of ice breaking to students to be able to break a potentially tense learning atmosphere that can motivate students in the learning process and improve student learning results, especially in math.

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