

HOW COOPERATIVE LEARNING MODELS EFFECT LEARNING OUTCOMES IN VOCATIONAL EDUCATION?

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ABSTRACT

This research aims to determine the effect of using the Team Games Tournament (TGT) type cooperative learning model on the learning outcomes of class XI Office Management and Business Services (MPLB) students in the Office Management Concentration 1 subject at State Vocational Schools 3 Jakarta. The research uses a quantitative approach with quasi-experimentation. This study involved 71 class XI students from the MPLB department. This study uses a saturated sampling method, which is included in the non-probability sampling method category. The results of the research show that the TGT type cooperative learning model influences student learning outcomes. The results of hypothesis testing using the Independent Sample t-test show that the result is $0.009 < 0.05$, and the calculated t value is greater than the t table, namely $2.701 > 1.995$. Post-test calculations show that the experimental class using the TGT learning model obtained an average score of 80.08 which was higher than the average score of the control class using conventional learning methods of 75.51.

Keywords: Cooperative learning model, Team games tournament, Learning outcomes

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh penggunaan model pembelajaran kooperatif tipe *Team Games Tournament* (TGT) terhadap hasil belajar siswa kelas XI Manajemen Perkantoran dan Layanan Bisnis (MPLB) pada mata pelajaran Konsentrasi Manajemen Perkantoran 1 di SMK Negeri 3 Jakarta. Penelitian menggunakan pendekatan kuantitatif dengan kuasi eksperimen. Studi ini melibatkan 71 siswa kelas XI dari jurusan MPLB. Studi ini menggunakan metode sampling jenuh, yang termasuk dalam kategori metode *non-probability sampling*. Hasil penelitian menunjukkan bahwa model pembelajaran kooperatif tipe TGT mempengaruhi hasil belajar siswa. Hasil pengujian hipotesis menggunakan uji Independent Sample t-test, menunjukkan bahwa hasilnya $0.009 < 0.05$, dan nilai t hitung lebih besar dari t tabel, yaitu $2.701 > 1.995$. Perhitungan *post-test* menunjukkan bahwa kelas eksperimen yang menggunakan model pembelajaran TGT memperoleh nilai rata-rata 80.08 lebih tinggi daripada nilai rata-rata kelas kontrol dengan metode pembelajaran konvensional sebesar 75.51.

Kata kunci: Model pembelajaran kooperatif, Team games tournament, Hasil belajar

INTRODUCTION

Learning is one pillar that must be upheld continuously for the sake of continuity in educating and developing the potential that exists in humans themselves. It is known that the

school environment has a role that is no less important in the realization of educational goals, because the school is a place where the process of formal teaching and learning activities takes place which has a legal and structured status.

One of the benchmarks for evaluating the improvement the enhancement of student learning outcomes is a measure of the quality of education. According to Erfin et al. (2022), at the conclusion of the teaching and learning process are learning outcomes, because it is the goal that teaching and learning activities want to achieve. In its implementation, many students experience learning difficulties therefore it has an impact on low academic performance. Teachers must look into the causes of poor learning outcomes in order to identify remedies for these issues.

Improving student learning outcomes requires factors such as interest and motivation to achieve learning goals. Decreased student motivation can affect the improve student learning outcomes. One way to improve learning outcomes is by applying interactive models during the educational process (Shi et al., 2019). Considering the results from the observations and interviews with Office Management Concentration 1 teachers at Public Vocational School 3 Jakarta, it is known that the efforts used by teachers in the learning process are by applying conventional learning models, namely lectures and assignments. From the methods used, it is known that students in class XI Office Management and Business Services are less eager to participate in classroom learning and students lack positive cooperation in completing their assignments.

Considering the daily assessment findings documented outcomes of the subject of Office Management Concentration 1, it is known that class XI Office Management and Business Services 1 as many as 34 students out of a total of 36 students are not yet at KKM and the average score obtained on the daily test is 62, where the average score does not reach the specified KKM, which is 80. Addresses the elements of simple financial management with the goal of learning petty money management. Thus, a method of instruction that sparks students interest must exist and excitement and encourages active learning to learn. Students who are not bored and are able to apply reasoning to solve problems can be achieved by incorporating game elements into learning.

Therefore, to properly conduct instructional and learning activities, it is essential to select the appropriate learning model. The teacher chosen the learning model needs to be capable of supporting the pupils analysis process during the educational process. One of the various learning models that may be applied to enhance learning outcomes is the cooperative learning model known as Team Games Tournament (TGT). Damayanty et al. (2022) stated that the Team Games Tournament (TGT) model is a model that can involve students in study groups by paying attention to the explanations given by the teacher. Researchers chose the TGT learning model because it contains game elements, roles in peer tutoring, and activities carried out by all students regardless of student status.

Promwongsai and Poonputta (2023) stated their knowledge grew when the learning management strategy was implemented, as evidenced by their scores above 90% for each lesson plan. Consequently, there is a relationship between class VIII students histogram learning achievement and the implementation of the Team Games Tournament learning paradigm. It is stated by Putra et al. (2021), Team Games Tournament style cooperative learning (TGT), one of many types of cooperative learning. One example of cooperative learning is the TGT, in which student study in groups before competing in academic competitions. Therefore, this research aims to determine the effect of using the Team Games Tournament (TGT) type cooperative learning model on the learning outcomes of class XI Office Management and Business Services (MPLB) students in the Office Management Concentration 1 subject at State Vocational Schools 3 Jakarta

LITERATURE REVIEW

Learning Outcomes

Ulum (2021) states that learning is the acquisition of new experiences by a person in the form of changes in behavior resulting from the process of learning interactions with objects in the learning environment. When the process of learning is complete, students receive a learning outcome. Nabillah and Abadi (2019) explain that learning outcomes are things related to learning activities, because learning activities are a process. Bloom quoted in Ulfah and Arifudin (2023) classifies learning outcomes into three domains called Bloom's Taxonomy. First, the cognitive domain involves the ability to repeat learned concepts or principles. Second, the affective domain is related to the degree of acceptance or rejection of attitudes, values, feelings, emotions and objects in teaching and learning activities. Third, the psychomotor domain includes the ability to perform tasks of body parts and abilities related to body movements (motor).

Many factors affect the success or failure of a person learning, both those that come from within (internal factors) and those that come from outside themselves (external factors) (Jarl et al., 2021). Realizing the factors that influence learning success is very important for students to achieve the best learning outcomes. Learning outcomes play an awfully imperative part within the instructing and learning handle because they provide information for teachers about the progress of each student. This is consistent with the viewpoint Nabillah and Abadi (2019) identifying factors that affect student learning outcomes, where instrumental factors (learning devices) are included in influence learning results.

Subjects Office Management Concentration 1

Office Management Concentration 1 contains theory and practicum, this subject requires students to understand all basic competencies because this subject greatly affects the expertise of students. Office Management Concentration 1 is one of the subjects of the Office Management and Business Services department which consists of two elements, namely economic and business elements and simple financial management elements. The learning outcomes (CP) for the basic financial management aspect can be explained by looking at the following Table 1, which is based on the learning outcomes of each stage according to its elements.

Table 1. CP Phase F Elements of Simple Financial Management

Elements	Learning Outcomes
Simple Financial Management	By the end of stage F, students can manage petty cash, prepare petty cash reports, perform simpler banking transactions, and perform cash and non-cash transactions.

Based on the learning objectives of Public Vocational School 3 Jakarta majoring in Office Management and Business Services independent curriculum, the achievement indicators in the learning objectives of managing petty cash include defining the definition of petty cash in accordance with the purpose and benefits of petty cash, explaining the characteristics of petty cash in accordance with the criteria for petty cash management officers, classifying methods of recording petty cash funds in accordance with petty cash management procedures.

Hairawaty et al. (2022) suggests that for petty cash material in a company, students are required to analyze the petty cash fund recording system related to its inception and the journaling process for petty cash transactions used. Money recording framework is based on bookkeeping standards concurred upon by the company, the recording framework comprises of the settled support strategy and the non-fixed support strategy.

Team Games Tournament (TGT)

In light of Marjalena et al. (2023), students that apply the model of cooperative learning work in small groups to complete assignments with different ability levels. When completing group tasks, each member works together to help each other understand the material. One learning technique is the learning paradigm known as Team Games Tournament (TGT) that divides students into learning groups that have different ability levels (Wardani & Burhanuddin, 2021).

This aligns with the viewpoint of Handayani (2022), claiming that a collaborative learning model called the Team Games Tournament (TGT) divides students into learning groups of five to six people that are equal in terms of ability, gender, ethnicity, and race. Based on what was uncovered by Slavin (2015), the following steps are included in the cooperative learning paradigm under the format of TGT. First, for the initial stage of learning, the class presentation, the instructor presents the fabric in a lesson introduction or frequently too called a course introduction. Second, teams of five to six people with varying talents, genders, and races or ethnicities make up learning groups. Third, games consist of questions outlined to test the information picked up by understudies from the teacher lesson introduction and gather learning. Fourth, tournaments or competitions are usually conducted at the end of the week or in each unit. Fifth, group awards will be given to the group that scores the highest.

METHOD

This study uses a quantitative method with a quasi-experimental research design. Reichardt (2019) states that quasi-experimentation is an experimental design that is carried out without randomization and involves dividing participants into several groups. There was one experimental class and one control class in this study. Students who received two treatments, one utilizing a cooperative learning environment modeled after a Team Games Tournament (TGT) and the other utilizing a traditional learning model, specifically the lecture method.

The population taken in this research is class XI Office Management and Business Services (MPLB) students of Public Vocational School 3 Jakarta, totaling 71 people divided into two classes. The sampling technique used in this study was determined by saturated sampling technique which is a category of non-probability sampling technique. Amin et al. (2023) if every member of the population is sampled, then say that saturated sampling is a sample selection technique. The samples taken amounted to two classes, class XI MPLB 1 as an experimental class consisting of 36 students and class XI MPLB 2 consisting of 35 students as a control class (as shown in Table 2).

Table 2. Research Population of Public Vocational School 3 Jakarta

No	Class	Amount
1	XI MPLB 1	36 student
2	XI MPLB 2	35 student
Total		71 student

Source: Data from Public Vocational School 3 Jakarta

Data analysis in this research conducted descriptive analysis using Microsoft Excel and the SPSS 26 program. The primary data used in this study were those that were obtained straight from researchers distributing pre and post-test to respondents via Google Forms, the results of which are then processed using the SPSS 26 program. When measuring learning outcomes, students receive a score of 1 who can answer questions correctly and a score of 0 as the score of students who are unable to answer questions correctly. The data analysis technique used in this research is the SPSS 26 program. The normality test was carried out using the

Kolmogorov Smirnov test, the homogeneity test used the Levene test, and the hypothesis test used the t-test (Independent Sample t-test).

RESULTS AND DISCUSSION

Normality Test

The SPSS 26 application was used to perform the normalcy test using the Kolmogorov Smirnov test. According to the test criteria recommended by Priyastama (2020), if the Sig value (p-value) > 0.05, the data is thought to be normally distributed; on the other hand, if the Sig value (p-value) <0.05, the data is thought to be non-normally distributed. A significance value of 0.074 is found for the experimental pre-test (TGT), a significance value of 0.200 for the experimental post-test (TGT), a significance value of 0.200 for the control pre-test (conventional), and a significance value of 0.097 for the control post-test (conventional), as determined by the normality test computation shown in the Table 3. It can be interpreted that there is a Sig value for the data in both classes that are experimental and control (p-value) higher than 0.05. So it is stated that both groups of data are normally distributed.

Table 3. Normality Test Results

No	Group	Kolmogorov-Smirnov ^a		
		Statistic	df	Sig.
1	Pre-test Experiment (TGT)	.140	36	.074
2	Post-test Experiment (TGT)	.121	36	.200*
3	Pre-test Control (Conventional)	.120	35	.200*
4	Post-test Control (Conventional)	.136	35	.097

Homogeneity Test

The SPSS 26 software was used to perform homogeneity testing with the Levene test with the provisions according to Sianturi (2022), in the event that Sig. (p-value) > 0.05 then the data is stated to be obtained from a population that has the same variance and in the event that Sig. (p-value) < 0.05, the data is said to originate from a population with unequal variations. The findings of the Sig value calculation for the homogeneity tests above using the Levene test are based on Table 4. Given that the value of 0.055 > 0.05 and the (p-value) is 0.055, it can be concluded that the data is homogeneously distributed or originates from a population with the same variance.

Table 4. Homogeneity Test Results

		Levene Statistic	df1	df2	Sig.
Student Learning Outcomes	Based on Mean	3.795	1	69	.055
	Based on Median	2.940	1	69	.091
	Based on Median and with adjusted df	2.940	1	62.568	.091
	Based on trimmed mean	3.737	1	69	.057

Hypothesis Testing

An instrument used in parametric statistics is the t test (Independent Sample T-Test) used in hypothesis testing. Rahayu and Sumargo (2021) recommend that H_a be accepted if the 2-tailed Sig value is less than 0.05. Nonetheless, if the Sig. (2-tailed) > 0.05, H₀ is accepted. Furthermore, it is evident from the t table and t count values. H_a is acceptable if the t count is greater than the t table, and H₀ is acceptable if the count is less than the t table.

H_a = there is an effects of a cooperative learning paradigm akin to Team Games Tournaments (TGT) on students learning outcomes in class XI MPLB in the subject of Office Management Concentration 1 at Public Vocational School 3 Jakarta.

H_0 = there is no effect of a cooperative learning paradigm akin to Team Games Tournaments (TGT) on students learning outcomes in class XI MPLB in the subject of Office Management Concentration 1 at Public Vocational School 3 Jakarta.

Table 5. Calculation of Average Values of Pre-test and Post-test Experiment and Control

Class	N	Mean	
		Pre-test	Post-test
Experiment	36	47.44	80.08
Control	35	51.51	75.51

Based on Table 5 in the experimental class, 47.44 was the pre-test score, while 80.08 was the post-test score, an increase of 32.64. Pre-test scores in the control group were 51.51 and post-test scores were 75.51, an increase of 24. Based on the findings of pre-test and post-test computations for the two classes, the increase in the experimental class was greater than the control class. The post-test comparison for the experimental class results of 80.08 is greater than the post-test result of 75.51 for the control class with a difference of 4.57.

Table 6. Calculation of t test (Independent Sample T Test)

Class	N	Levene Test for Equality of Variances			
		df	t count	t table	Sig. (2-tailed)
Experiment	36	69	2.701	1.995	.009
Control	35				

Furthermore, Sig. (2-tailed) of 0.009 was found in Table 6, based on the computation of the t test (Independent Sample T Test) with the Levene test. Additionally, t count is $2.701 > t$ table, which is 1.995, as can be observed. The t table value is obtained from df (69) with a 2-way test using a significance of 0.05 or 5%. With this it can be said that H_0 is rejected while H_a is accepted.

Discussion

To achieve the educational goals that have been set, a teacher must be able to educate as effectively as possible so that the learning goals are achieved. Implementing effective and new learning models is one way to optimize progress towards these learning goals (Fauziah & Anugraheni, 2020). As an alternative, adopting the Team Games Tournament (TGT) learning model, this learning model divides students into heterogeneous learning teams consisting of five or six people with different academic levels.

Students are asked to study in discussion groups, to ensure all group members understand the learning topic. The advantages of TGT according to Handayani (2022), students in classes that use TGT make more friends from their racial group than students in conventional classes, increase students feelings that learning outcomes are based on performance, increase students social self-esteem, and increase collaboration with other people.

Based on the research results, it is known that both classes experienced an increase in scores, but a significant increase occurred in the experimental class. In the experimental class, the pre-test results were 47.44 and the post-test were 80.08, there was an increase of 32.64. In the control class, the pre-test result was 51.51 and the post-test was 75.51, there was an increase of 24. The significant difference in increase was due to differences in treatment between the experimental class and the control class. The experimental class received treatment in the form of implementing the Team Games Tournament (TGT) type cooperative learning model, while

the control class did not receive this treatment. Experimental class students are directly involved in the learning process because a fun learning situation is created.

It can be tested to the next stage, namely the t test (Independent Sample T Test) which obtained Sig results. (2-tailed) is $0.009 < 0.05$ and it can also be seen that t count is $2.701 > t$ table which is 1.995, which states that H_a is accepted. The same thing as research by Ardila et al. (2022) shows that the final data analysis results obtained (2-tailed) $0.000 < 0.05$, thus there is an influence of using the Teams Games Tournament learning model on student learning outcomes. Through a series of tests, it was found that the use of the Team Games Tournament (TGT) type cooperative learning model had an effect on the learning outcomes of class XI MPLB students in the Office Management Concentration 1 subject at SMK Negeri 3 Jakarta. Research by Anitha and Kavitha (2023) also stated that the use of the TGT learning model can improve problem-solving skills which will later affect student achievement. It can be interpreted that the TGT learning model can be an alternative learning that can increase student enthusiasm and learning outcomes (Dewi & Arini, 2021).

CONCLUSION AND RECOMMENDATION

Conclusion

In light of the studies that have been carried out, empirical conclusions can be drawn based on data processing and the discussion that has been had within the past chapter, it can be concluded that: (1) After receiving treatment, the TGT cooperative learning the experimental class had a considerable rise in scores. The pre-test result in the experimental class ranged from 33 to 70, with 33 being the lowest score. The post-test results showed that the highest score was 93 and the lowest was 67; (2) The control class that received treatment, namely the conventional learning model, obtained a smaller increase in value than the increase in the control class pre-test results had a lowest value of 30 and a maximum value of 73, the post-test results had a lowest value of 63 and a maximum value of 90; and (3) The hypothesis was assessed using the Independent Sample T test. The outcome revealed a value of t count $> t$ table, particularly $2.701 > 1.995$, with a Sig. (2-tailed) of $0.009 < 0.05$. It can conclude that the learning outcomes by the cooperative learning model of type TGT of students in class XI MPLB in the subject of Office Management Concentration 1 at Public Vocational School 3 Jakarta. Based on the results of this research, the following theoretical and practical implications can be stated: (1) Theoretical, TGT provides many benefits if applied in the learning process because it uses game activities that create a sense of fun in students so that students are interested and try to compete to get good learning results. (2) Practical, can increase knowledge and provide alternative or reference learning models so that students can participate directly, be more active and the learning process will run effectively.

Recommendation

Limitations in this study include: (1) The research carried out was only limited to one place, namely Public Vocational School 3 Jakarta, so the results cannot be generalized to other regions or places. (2) Learning outcomes use material on the learning objective of Managing Petty Cash, so it does not rule out the possibility of different results when research is carried out on different material. Based on this limitation, for other researchers, it is recommended to improve the study findings, such as increasing the number of research samples or changing the research subject, which may affect the research results, so that the results of further research will be more diverse.

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