Research Paper

Cooperative Learning Model: The Power of Two Vs Tea Party

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ABSTRACT

This study is a comparative experiment which uses "completely randomized design" which aims to test the effect of cooperative learning model of "the power of two dan tea party" toward student's learning activities with test the difference of cooperative learning model usage with "the power of two with tea party" type in student's activities. Population sample is taken in 16 Palembang National Senior High School with using all students in Social Tenth Grade. Sampling technique uses cluster random sampling technique that differentiates Social Tenth Grade of class 4 as the experimental class 1 and Social Tenth Grade of class 1 as the experimental class 2. Data collection uses observation sheet (students and teachers). Experiment study is conducted in three phases: preparation phase, conducting phase, and finalization phase. The result shows (1) there is an influence from cooperative learning model "the power of two" type in student's study activities, (2) there is an influence from cooperative learning model "tea party" type in student's learning activities, and (3) there is an influence from cooperative learning model "the power of two" type toward student's learning activities.

Keywords: The Power of Two, Tea Party, learning Activities

INTRODUCTION

In the previous study we identified that education in Indonesia was inseparable from the old teaching strategies and methods such as lectures, assignments, and question and answer. [1] Though various kinds of learning models that have been introduced to create varied learning so that students are not passive. Several alternatives have been offered to teachers such as applying, direct-based learning models, contextual learning models, [9] avenue problem solving - heuristic logan learning model, [2] cooperative. [1]

Cooperative learning models are seen as more suitable when used for education today. Cooperative learning models are very suitable to overcome student differences and allow students to work together and build relationships between students to achieve learning goals easier. Through study groups students have the opportunity to interact with their friends. By interacting, students are expected to be active in learning, not just silently accepting learning from the teacher but getting involved. [3]

There are several cooperative learning models. Among them is: student teams achievement decisions, teams games tournaments, snowball throwing, jigsaw, learning together, cooperative learning structures, group investigation, complex instruction, team accelerated instruction, team assisted individualization, cooperative integrated reading and composition, numbered head together, team product, cooperative review, co-op, think pair share,

discussion group-group project, make a match, switching pairs, structured numbered together, two stay two stray, moving around the group, jingling buttons, moving around the class, role playing, scramble, tea party, send greetings and questions, write around, listening team, student team learning, inside outside circle, bamboo dance, the power of two, dan paired storyteller. [1,11]

Some types have been used and applied to the learning process and some types are rarely used even before the power of two and tea party. Therefore, this study wants to learn more about the cooperative learning model of the power of two and tea party types both theoretically and practically using experimental classes and control classes.

This study is divided into several sections which can be detailed as follows. In the first section, discuss the introduction to expressing the problem, the opinions and meanings of this study. In the second part, the study explains more about the cooperative learning model of the power of two and tea party theoretically. In the third part, this study will explain the types and methods used to complete this study. In the fourth section, explain and discuss the results of the studies that have been conducted. Fifth part is about conclusion.

LITERATURE REVIEW

1. Cooperative Learning Model Type of The Power of Two in Student Activity

Cooperative learning model type the power of two is defined as the activity carried out by two people who work together to increase the capacity of their abilities, [4,12] means, when together with friends we will know our strengths and weaknesses so that we can optimize the capabilities that we have. The benefits of cooperative learning model using the power of two that students become more confident in delivering its opinion, and students can exchange ideas or ideas with a partner in understanding the concepts and finding the best answer of the task that has been given. By discussing thoughts that have been

thought of by themselves, students can minimize failures or misunderstandings of the material being studied. Discuss in pairs can enhance collaborative learning but minimize the gap between a student with a friend. [5]

To apply the model of learning the power of two, there are several steps that must be done: (1) The teacher provides information and course materials as a knowledge base for students, (2) Teachers form small study groups (consisting of 2 students), (3) teachers provide the questions, then students answer questions individually. If the answer is not right then, students should discuss with his team-mates, (4) Each student discussing a suitable answer to the question that has been given by teachers with limited time, (5) The teacher asks each group to compare answers with other groups, (6) The teacher guides each group to present the results of the group discussions that have been carried out, and (7) the teacher clarifies the answers of each group and summarizes the answers. [6,7] So, what is emphasized in the cooperative learning model type the power of two is student activity in solving a problem in pairs, so that students easily understand the material and get more optimal learning outcomes. [6]

$H_1=$ There is an influence of cooperative learning model the power of two of the students' learning activities

2. Cooperative Learning Model Type of Tea Party in Students Activity

Based on Creswell dan Clark, [10] cooperative learning model of tea party type is a concept where students form two lines and face each other, while the teacher gives questions, then students discuss with friends in front of them. Simply put, the tea party concept is like a group of people who are having a tea party facing and sharing information. [8] Pebriani et al [3] adds that type of cooperative learning model can improve the tea party quick thinking ability of students through questions asked of teachers, realizing dynamic cooperation between students, make learning fun,

enhance the activity of students and improve student achievement.

According to Fathurrohman, [11] and Khamidiyah [8] cooperative learning model of tea party type can be done in the following way. (1) Students form two concentric circles or two rows facing each other, (2) The teacher asks a question related to the subject matter to be taught, and students begin to discuss the answers with the friends they are dealing with, (3) After one minute, the outermost line or the outer circle moves clockwise so that it will deal with a new partner, (4) The teacher asks the second question to discuss, (5) Steps like this continue until the teacher finishes asking 5 or more questions to discuss.

H_2 = There is an influence of cooperative learning model tea party type in students' activities

3. Comparation between The Power of Two and Tea Party Type

Cooperative learning model type the power of two with tea party has several differences when applied. Cooperative learning model type the power of two is more focused on small groups consisting of two people to overcome a problem in learning including student learning activities while cooperative learning models of tea party type focus on large groups even though both discuss with two people, the difference is every people have time and can change partners.

On the implementation of cooperative learning model type of the power of two and the tea party, the teacher provides questions that should be completed by the student. The difference is time and teammates. Cooperative learning model type the power of two is only allowed to get one colleague from beginning to end and the time of the question from the beginning to the end, while the cooperative learning model of tea party type is limited and teammates can be obtained when the seat change begins . This raises some advantages and disadvantages of both the learning process and of the individual itself.

Each learning model has its own strengths and weaknesses. Therefore, cooperative learning model type of the power of two with tea party needs to be compared to see the cooperative learning model which is better for student learning activities on economic subjects in particular.

H_3 = there are differences of cooperative learning model usage between the power of two and tea party type
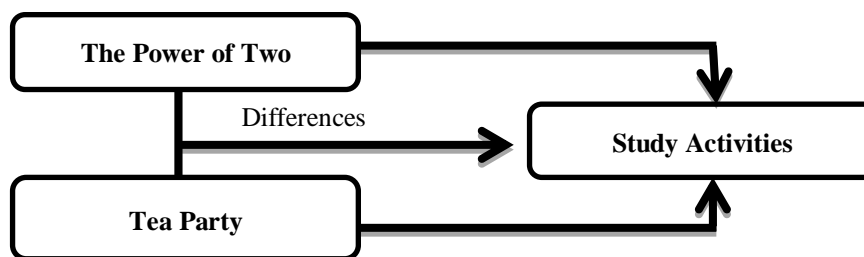

Figure 1. Experimental Study Concept Framework

MATERIALS & METHODS

The type of study conducted is using comparative experiments which is 'completely randomized design' with Pre-Post observation as the form. According to Imam (2008:25) experimental study with completely randomized design is one of the simplest designs that are used for comparative analysis of two independent samples. This study uses two experimental classes namely experiment 1 which will be treated using the Power of Two model and experiment 2 is given a treatment using the Tea Party model. The implementation of this study was conducted during 4 meetings (face to face), both in experimental class 1 and experimental class 2 with details of the first meeting of pre observation, the second meeting until the fourth meeting next with the giving of an observation post.

Population and Samples

Population in this study is all Social Tenth Grade student in Senior High School 16 Palembang in year 2016/2017 that is consisted of 4 classes, which are:

Table 1. Population

Class	Students Total
X Social 1	40 persons
X Social 2	40 persons
X Social 3	40 persons
X Social 4	40 persons
Total	160 persons

Source: Secondary Data – Senior High School 16 Palembang

Sampling technique uses 'Cluster Random Sampling' so, it can get two classes as the samples for the data:

Table 2. Sample

Samples	Total	Information
X Social.4	40 persons	Experimental Class 1
X Social.1	40 persons	Experimental Class 2
Total	80 persons	

Source: Secondary Data – Senior High School 16 Palembang

Experimental Study Procedure

This study is consisted of three phases which are preparation phase, conducting phase, and final phase of experiment.

a. Preparation Phase

Activities that will be done in this phase are:

1. Observation, preliminary survey to see the problems in the field that will be researched and for knowing the total classes that will used as the population and sampling technique uses 'cluster random sampling' for deciding experimental class 1 and class 2.
2. Make Learning Implementation Planning (RPP)
3. Arrange learning implementation observation sheet and students' activeness observation paper sheet.
4. Consult the observation paper to the experts and test the observation paper, then evaluate and reliability along with validity check.

b. Implementation Phase

Implementation of experimental study activities that will be done are:

1. Conduct pre-observation to get the preliminary data regarding students' activeness before learning model usage.
2. Conduct learning activities with using cooperative learning model, 'The Power of two' for experimental class I and 'Tea Party' for experimental class 2.
3. Conduct post-observation during learning process in experimental class 1 and class 2 to obtain students' activeness data. Then, the researcher is directly observed by teacher during learning process.

c. Final phase

1. Activities that will be done in this phase are:
2. Process and analyse students' activeness data from the result of observation sheet.
3. Conduct hypotheses testing.
4. Draw a conclusion and give an advice based on experimental study that has been done.

RESULT AND DISCUSSION

1.1 Description before and after using cooperative learning model 'The Power of Two' type in Experimental class 1

Using cooperative learning model 'the power of two' type will be divided into many parts. First part discusses about students' learning activities as individual to see the differences before using the cooperative learning model, and after using it, second part shows the differences as a whole with indicators that are already decided.

Students' activities as individual shows the students' activeness level before and after using the cooperative learning model that can be seen in below table:

Table 3. Criteria for Students' Learning Activities Before and after use Cooperative Learning Model 'The Power of Two' type in Experimental Class 1(Individual)

No.	Score	Criteria	Before		After	
			Total	%	Total	%
1.	81 – 100	Very Active	-	-	3	7,5
2.	61 – 80	Active	4	10	29	72,5
3.	41 – 60	Quite Active	14	35	8	20
4.	21 – 40	Less Active	15	37,5	-	-
5.	0 – 20	Not Active	7	17,5	-	-
Total			40	100	40	100

Source: Research result at 2017

Table 3 shows that student activity before the use of 'the power of two' cooperative learning model, there are 4

(10%) students who are included in the active criteria, 14 (35%) students who are quite active criteria, 15 (37.5%) students who are included in the criteria are less active, and 7 (17.5%) of students who fall into the criteria of not active. Overall, it can be concluded that before the use of the cooperative learning model of 'the power of two', most students are less active when the learning process takes places.

From table 3 it can also be seen that, after the use of cooperative learning type 'the power of two' there are 3 (7.5%) students who are very active criteria, 29 (72.5%) students are included in the active criteria, and 8 (20%) students who are included in the criteria are quite active. Overall it can be said that after being given the treatment of cooperative learning model type 'the power of two', most students become active when the learning process takes place.

Table 4. Students' Activities Distribution in Experimental Classs 1

Data	Student Activities (%)					Average
	Visual	Oral	Listening	Motion	Writing	
Before	47,5	12,5	38,1	58,1	40	39,3
After	85,6	46,3	72,5	85,6	56,3	69,3

Source: Research Results at 2017

Based on table 4, it can be analyzed that the average student activity before and after the use of cooperative learning model type 'the power of two' in the experimental class 1, the result is there are differences. Before applying the cooperative learning model 'the power of two type', visual activity of students 47.5%, oral 12.5%, listening to 38.1%, motion 58.1% and writing 40%, from that result, it obtains a value of 39.3% which belongs to the less active category. Whereas after the use of the cooperative learning model of 'the power of two' type, visual activity of students is increasing to 85.6%, oral 46.3%, listening to 72.5%, motion 85.6%, and writing 56.3%, overall obtained value of 69.3% which is included in the active category. For more details can be illustrated in the diagram below:
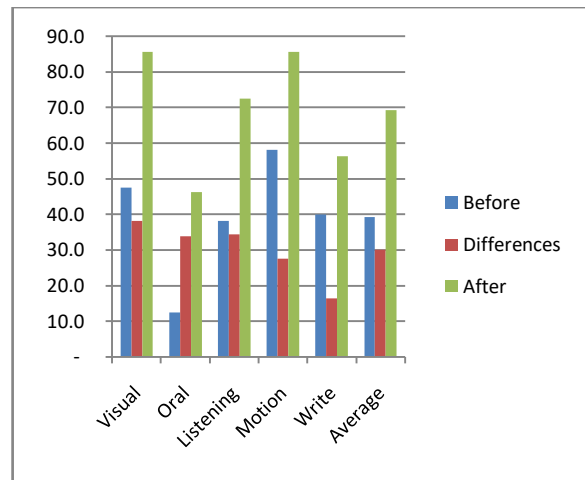

Figure 2. The Differences of Students' Activity Before and After Using Cooperative Learning Model of 'The Power of Two' type in Experimental Class 1

1.2 The influence from 'The Power of Two' cooperative learning model type in students' learning activities

Before testing the hypothesis, a normality test is performed to find out whether the data is normally distributed or not and the data homogeneity is tested to determine whether the data is homogeneous (similar) or derived from the same variance. Normality test data using the chi square formula with the requirement if $X^2_{count} \leq X^2_{Table}$, so, the data is normally distributed. According total calculation with error level, α = 0,05 (5%) and the degrees of freedom (dk) = 7 − 1 = 6, pre-observation score is obtained about 2,46 ≤ 12,592 and post-observation score is obtained about 10,83 ≤ 12,592 so the data can be stated normal.

Then the homogeneity of the data is tested by using the Bartlett formula with the condition if $X^2_{count} \leq X^2_{Table}$, so the data is homogeneous. According calculation with error level, α = 0,05 (5%) and the degrees of freedom (dk) = 4 − 1 = 3, score that is obtained is 0,529 ≤ 7,815 then it can be stated that the data is homogeneous.

After the data is normal and homogeneous, it can be continued by hypothesis testing. Hypothesis testing based on regression analysis obtained the equation values are as follows: $\hat{Y} = 31,43 + 0,28 X_1 + 0,28 X_2$. From these equations gives the sense that the learning activities of students

are affected by the usage of cooperative learning model type of 'the power of two' of 0.28. That is, the higher the implementation of cooperative learning model type of the power of two, the higher the learning activities of students in the classroom. The correlation coefficient between the cooperative learning type of 'the power of two' and student learning activities is 74.1% while 25.9% is determined by other factors.

2.1 Description Before and After using Cooperative Learning Model 'Tea Party' type in Experimental Class 2

Student learning activities individually in the experimental class 2 at the time before and after the use of cooperative party type 'tea party; learning models can be seen in the table as follows:

Table 5. Criteria for Student Learning Activities Before and After Use of 'Tea Party' Type Cooperative Learning Models in Experiment class 2 (Individual)

No.	Score	Criteria	Before		After	
			Amount	%	Amount	%
1.	81 – 100	Very Active	3	7,5	10	25
2.	61 – 80	Active	8	20	22	55
3.	41 – 60	Quite Active	17	42,5	8	20
4.	21 – 40	Less Active	10	25	-	-
5.	0 – 20	Not active	2	5	-	-
Total			40	100	40	100

Source: Research results at 2017

Based on Table 5 shows that the activeness of students before the use of the 'tea party' cooperative learning model is consisted of 3 (7.5%) students who are included in the criteria of being very active, 8 (20%) students that are included in the active criteria, 17 (42.5%) students who are included in the criteria are quite active, 10 (25%) students who are included in the criteria are less active, and 2 (5%) students are included in the criteria of being inactive. Overall, it can be said that before the use of cooperative party type tea party learning models, some students are quite active when the learning process took place.

Table 5 shows that after using the tea party cooperative learning model, there are 10 (25%) students who are included in the criteria of being very active, 22 (55%) students are included in the active criteria, and 8 (20%) students are included in the

criteria quite active. Overall, it can be concluded that after the use of cooperative party type 'tea party' learning models, students become active when the learning process takes place.

Table 6. Students' Activities Distribution in Experimental Class 1

Data	Students' Activities (%)					Average
	Visual	Oral	Listening	Motion	Writing	
Before	54,4	42,5	53,3	55,6	51,9	51,5
After	83,1	55	70	86,3	73,8	73,6

Source: Research Result at 2017

Based on Table 6, it can be analyzed that the average activity of students before and after the use of cooperative learning model type 'tea party' in the experimental class 2 is different. Before applying the tea party cooperative learning model, students' visual activity was 54.4%, oral 42.5%, listening to 53.3%, motion 55.6% and writing 51.9%, overall a score of 51.5% is obtained, which is included in the category of being quite active. Whereas after the use of the cooperative party type of 'tea party' model, students' visual activity rose to 83.1%, oral 55%, listening to 70%, motion 86.3%, and writing 73.8%, overall a score of 73.6% is obtained, which is included in the active category. To be more clearly described in the diagram below:
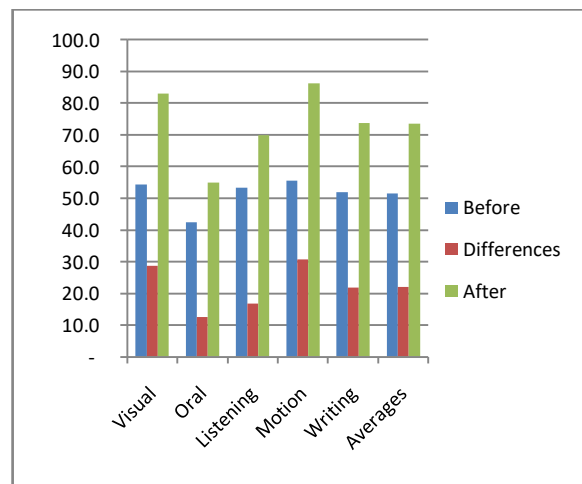

Figure 3. Differences in Students' Activities before and after using Cooperative Learning Model 'Tea Party' type in Experimental Class 2

2.2 The influence of the tea party cooperative learning model on student learning activities

Before testing the hypothesis, a normality test is performed to find out whether the data is normally distributed or not and the data homogeneity is tested to determine whether the data is homogeneous (similar) or derived from the same variance. Normality test data using the chi square formula with the requirement $X^2_{count} \leq X^2_{Table}$, so, data is normally distributed. According calculation on error level, α = 0,05 (5%) and the degrees of freedom (dk) = 7-1 = 6, pre-observation score that is obtained is 4,87 ≤ 12,592 and post-observation score that is obtained is 2,77 ≤ 12,592 maka so, it can be stated that the data is normal.

Then the homogeneity of the data is tested by using the Bartlett formula with the condition if $X^2_{count} \leq X^2_{Table}$, so the data is homogeneous. According calculation with error level α = 0,05 (5%) nd the degrees of freedom (dk) = 4 – 1 = 3, score that is obtained is 0,529 ≤ 7,815 then it can be stated that the data is homogeneous.

After the data is normal and homogeneous, it can be continued by hypothesis testing. Hypothesis testing based on regression analysis obtained the equation values are as follows: $\hat{Y} = 31,43 + 0,28\ X_1 + 0,28\ X_2$. From these equations gives the sense that the learning activities of students are affected by the usage of cooperative learning model type of 'tea party' about 0,28. That is, the higher the implementation of cooperative learning model type of 'tea party', the higher the learning activities of students in the classroom. The correlation coefficient between the cooperative learning type of 'tea party' and student learning activities is 90,25% while 9,75% is determined by other factors.

3.1 Differences between Cooperative Learning Model of 'the power of two' and 'tea party'

Table 7. Comparation of Students Learning Activities before and after using Cooperative Learning model of 'the Power of Two' and 'Tea Party'

Score	Criteria	The Power of Two (%)		Tea Party (%)	
		Before	After	Before	After
81 – 100	Very Active	-	-	3	7,5	3	7,5	10	25
61 – 81	Active	4	10	29	72,5	8	20	22	55
41 – 60	Quite Active	14	35	8	20	17	42,5	8	20
21 – 40	Less Active	15	37,5	-	-	10	25	-	-
0 – 20	Inactive	7	17,5	-	-	2	5	-	-

Table 7 shows the difference in student learning activities prior to the implementation of cooperative learning model, where the experimental class 2 has a better motivation than the experimental class 1 so that the learning activities of students in the experimental class 2 is more active than the experimental class 1. Student learning activities after implementation of cooperative learning model, each experimental classes have made very good progress. However, when viewed from the development of students, the experimental class 1 is the best.
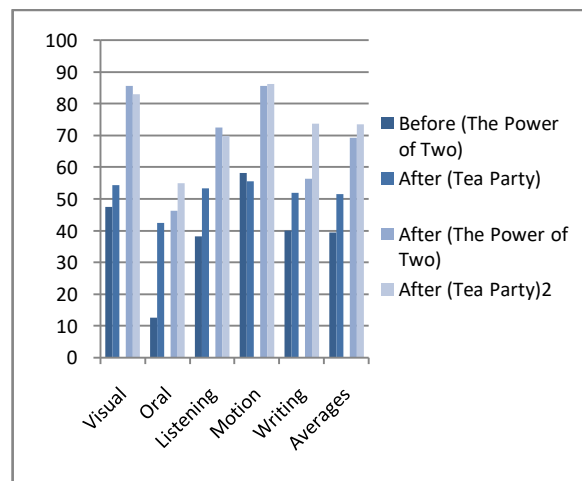

Figure 4. Comparison of Student Learning Activities before and after using Cooperative Learning Model of 'The Power of Two' with 'Tea Party'

3.2 There are differences of using Cooperative Learning Model of 'the

power of two' with 'tea party' in Students' Learning Activities

The difference in the use of 'the power of two' cooperative learning model with 'tea party' in student learning activities is calculated using the ANOVA formula with the hypothesis testing criteria if $F_{count} \geq F_{table}$, so Ho is rejected and Ha is accepted. According to statistic calculation data, F_{count} 23,79 $\geq F_{table}$ 3,25, It is concluded so Ho is rejected and Ha is also accepted or there is many differences of using cooperative learning model of those two models in students' learning activities.

CONCLUSION

Studies using cooperative learning model in classroom experiments provide some information. Differences in time, subjects, teachers, and type of class affect each use of cooperative learning models, especially 'the power of two' and 'tea party'.

Giving time limit is to be done by the teacher, if neglected will affect the amount of time that has been specified so that the cooperative learning model becomes ineffective and inefficient even professional teachers will be weakened.

The subjects in the education unit is also involved in the use of cooperative learning model because there are some subject matter that is suitable and most of the material is not suitable for use. Therefore, the teacher must be good at matching subject matter with the learning model used.

The teacher is a facilitator at the time of application of learning models, should be able to guide their students in order to create a comfortable learning atmosphere. In addition, teachers also need to know when to start using the learning model and when to end the learning model.

Because most education units in Indonesia still use the classical class system (1 class consists of $\pm$ 35 students) the teacher must work optimally and must be able to adjust the situation by using the learning model because if the teacher is unable to handle this situation, the result is a class atmosphere chaotic and students will become unmanageable

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