

Cooperative Learning Effectiveness to Teach Speaking: Teams-Games-Tournament (TGT) Versus Students Teams Achievement Division (STAD) in Terms of Students' Motivation (An Experimental Study)

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Abstract:

The present study aims to investigate whether: (1) TGT technique is more effective than STAD technique in teaching speaking for the first semester Intensive Course students of English Department; (2) The first semester Intensive Course students of English Department with high motivation have better speaking ability than those having low motivation; (3) There is an interaction between teaching techniques and students' motivation in teaching speaking.

The design of this study was experimental study. The study was conducted at Intensive Course class of English Department in STKIP PGRI Bangkalan. The population of the study was 60 first semester Intensive Course students of English Department. The sample was taken by using cluster sampling technique. The class I-B was used as the experimental class and class I-A as the control class. The instruments of collecting data were motivation questionnaire and speaking test. The data then were analyzed by using ANOVA 2x2 and continued by using Tukey test.

The result of data analysis shows that: (1) TGT technique is more effective than STAD technique to teach speaking at the first semester Intensive Course students class in English Department; (2) The students who have high motivation have better speaking ability than those who have low motivation; (3) There is an interaction between teaching techniques and the students' motivation in teaching speaking at the first semester Intensive Course students class in English Department of STKIP PGRI Bangkalan.

The result implies that TGT can affect students' speaking ability. It is proved that this technique is more effective than STAD.

Keywords: *TGT, STAD, Speaking and Motivation.*

Background of the Study

Among four skills in English, speaking is considered as the most important one since good speaking plays important rules in communication. Ur (1996) in Dincer and Yesilyurt (2013: 88) says that speaking is also considered a neglected skill in foreign language education and is called the most complex and difficult skill to acquire. It is neglected because some lecturers still use traditional method in the golden age of communicative approaches in language education. Then, speaking is complex and difficult to master because it contains linguistic and non-linguistic elements such as vocabulary, intonation, articulation, formal and informal expression, gestures, and so forth.

Based on the preliminary research at speaking class of English Department Intensive Course in STKIP PGRI Bangkalan, there are some problems in teaching speaking. Students lack motivation to speak. They are shy if they are asked to speak. Besides, some students realize that they do not have enough vocabulary which makes their speaking slow.

Dealing with the problems, there are many factors that may affect students' speaking ability. The factors can come from the lecturers, and students themselves. One of the factors that come from lecturers is the technique of teaching. They usually use boring technique that makes students sleepy and the materials are not delivered well to the students.

There are actually many techniques or methods that can be used by lecturers to teach English, like Total Physical Respond, Role Play, and Cooperative Learning. The lecturers in STKIP PGRI Bangkalan have used several techniques or methods in teaching English, like discussion method, role play, drama and STAD. When the researcher asks about TGT, the lecturers know about it but they use it rarely in the classroom. The researcher chooses TGT and STAD as the techniques that will be studied in this research, as both of them belong to cooperative learning.

According to Li & Lam (2013: 1), cooperative learning is student-centered, instructor-facilitated instructional strategy in which a small group of students is responsible for its own learning and all group members. The main concept of cooperative learning is that students work together through structured activities. Cooperative learning offers good learning strategy which creates warm atmosphere in the classroom. It is supported by the five key elements of cooperative learning: positive interdependence, team formation, accountability, social skill, and structuring (Kessler, 1992: 8). In line with Kessler's statement, Faunce in Anjarwati (2012: 19) states that children learn from each other often more significantly than from books or lecturers.

Eunice Kit-Lam Tang (2001) writes in his article "Developing Speaking Skills with Games: Towards A Co-Operative Learning Approach" learning speaking through games seems to be an effective way to develop speaking skills for young learners. Not only are games an important part of their everyday life, the game setting also allows students to co-operate and interact, a natural way for developing speaking skills. When the students speak to prepare and run the games, they are not just answering questions or asking questions, but interacting with the others by making suggestions, responding to others' suggestions, asking questions and evaluating the answers from the others. The researcher believes that Teams-Games-Tournament is effective and interesting for students to improve their speaking skill.

Beside TGT, the other cooperative learning method that will also be researched by the researcher is STAD. It is one of the techniques of Student Study Team developed at Johns Hopkins University is a based on cooperative learning. In STAD, students learn with 4-5 member teams of teachers following the presentation (Gumilang, 2014: 2). STAD can be used as effective way because students can learn English from their friends rather than asking the teacher because they are shy or afraid to ask. In STAD, the group is heterogeneous means that the group consists of students with different performance in speaking.

There are also other factors that may affect students' speaking ability. The factor which is included in this research is students' motivation. Brown (2000: 73) says that in behavioristic view, motivation is the anticipation or reinforcement. While in cognitive view, motivation is factors such as the need for exploration, activity, stimulation, new knowledge, and ego enhancement (Brown in Harmer, 2000: 160-166).

Based on the problems above, the researcher intends to study "Cooperative Learning Effectiveness to Teach Speaking: TGT versus STAD in Terms of Students' Motivation."

Method

This research is conducted in the first semester English speaking intensive course class of STKIP PGRI Bangkalan. Each of the classes consists of 30 students. An experimental design is used in this research, the purpose of an experimental study is to investigate the correlation between cause and effect by giving certain treatment to experimental class and to control class as the comparison (Fraenkel and Wallen, 2000: 8). This type of research involves three variables: dependent, independent, and moderator variables. The appropriate research design for experimental research is factorial design 2x2 (Nunan, 1992: 91). Acting as the dependent variable in this research is speaking ability of the students. There are two independent variables in this research: the first being TGT in experimental class and the second is STAD in control class. The third variable is the students' motivation which acts as moderator variable.

Population is the first semester English intensive course students of English Departments in STKIP PGRI Bangkalan which has 2 classes and 60 students. To get the sample of this research, the researcher used cluster random sampling because the population consists of some classes and each class is homogeneous. Gay (1992: 140) says that cluster random sampling is a sampling in which group, not individuals, are randomly selected. In this case, all members of selected groups have similar characteristics. Among the two classes, the researcher decided to take both two classes (I-B and I-A) as the sample of this research, which consists of 60 students. To determine which class that become the experimental group and the control group, the researcher takes the class randomly by lottery. The experimental group is taught by using TGT technique and the control group is taught by using STAD technique.

The instruments that are used by the researcher are test and questionnaire. To measure the students' motivation, the researcher used questionnaire which is in form Likert scale. The techniques used to analyze the data of this research are descriptive and inferential statistics. Testing hypothesis is conducted to manage the research data which are in the form of numbers, so they can provide a real conclusion. It is also used to test whether the hypothesis of the research is accepted or rejected. The researcher uses ANOVA to know the variances which appear due to the different treatments as a basis to draw conclusion.

Table 3.3 Factorial Design of 2 x 2 ANOVA

Motivation	Teaching	TGT(A ₁)	STAD(A ₂)	Total
High Motivation (B ₁)		A ₁ B ₁	A ₂ B ₁	
Low Motivation (B ₂)		A ₁ B ₂	A ₂ B ₂	
Total				

Before applying the ANOVA, the researcher conducted prerequisite tests which consist of normality and homogeneity test. After the data pass the prerequisite tests, they are then analyzed to examine the effects of two independent variables to dependent variable by using *Hypothesis Testing*. Tukey test is used to look for which is found by comparing the difference between the means by the square root of the ratio of the within group variation and sample size.

Three hypotheses are proposed based on the formulation of the problems.

- a. The difference between TGT (A_1) and STAD (A_2) to teach speaking.

$$H_0 : \mu A_1 = \mu A_2$$

$$H_a : \mu A_1 > \mu A_2$$

- b. The difference between the students having high motivation (B_1) and those having low motivation (B_2).

$$H_0 : \mu B_1 = \mu B_2$$

$$H_a : \mu B_1 > \mu B_2$$

- c. Interaction between teaching techniques used, TGT and STAD (A), and students' motivation (B) in teaching speaking.

$$H_0 : A \times B = 0$$

$$H_a : A \times B > 0$$

Findings and Discussion

The descriptions of the data are based on the groups analyzed which are divided into eight groups:

1. The scores of speaking test of the students who are taught using TGT (A_1).
The descriptive analysis of the data A_1 shows that the score range is from 58 up to 88. The mean is 71.9, the mode is 65.9, the median is 69.5, and the standard deviation is 9.31.
2. The scores of speaking test of the students who are taught using STAD (A_2).
The descriptive analysis of the data A_2 shows that the score range is from 58 up to 80. The mean is 67.7, the mode is 66.83, the median is 67.1, and the standard deviation is 6.42.
3. The scores of speaking test of the students who have high motivation (B_1).
The descriptive analysis of the data B_1 shows that the score range is from 60 up to 88. The mean is 74.25, the mode is 81.64, the median is 77.83, and the standard deviation is 8.95.
4. The scores of speaking test of the students who have low motivation (B_2).
The descriptive analysis of the data B_2 shows that the score range is from 58 up to 74. The mean is 65.3, the mode is 65.3, the median is 65.3, and the standard deviation is 4.85.
5. The scores of speaking test of the students who have high motivation who are taught by using TGT (A_1B_1).
The descriptive analysis of the data A_1B_1 shows that the score range is from 67 up to 88. The mean is 78.95, the mode is 81.5, the median is 79.83 and the standard deviation is 4.53.
6. The scores of speaking test of the students who have low motivation who are taught by using TGT (A_1B_2).
The descriptive analysis of the data A_1B_2 shows that the score range is from 58 up to 70. The mean is 64.1, the mode is 65.5, the median is 64.5 and the standard deviation is 2.93.
7. The scores of speaking test of the students who have high motivation who are taught by using STAD (A_2B_1).
The descriptive analysis of the data A_2B_1 shows that the score range is from 60 up to 80. The mean is 68.5, the mode is 63.5, the median is 65.75 and the standard deviation is 5.14.
8. The scores of speaking test of the students who have low motivation who are taught by using STAD (A_2B_2).
The descriptive analysis of the data A_2B_2 shows that the score range is from 58 up to 74.

The mean is 67.1, the mode is 70.83, the median is 68.16 and the standard deviation is 3.77.

Prerequisite Tests

1. Normality Test

The sample is in normal distribution if L_o (L obtained) is lower than L_t at the level of significance $\alpha = 0.05$. L stands for liliefors (Setiyadi, 2006: 175). The test results are presented in table 4.9.

Table 4.9 Normality Test

No	Data	Sample	(Lo)	(Lt)	(a)	Test Decision	Description
1	A ₁	20	0.1480	0.190	0.05	H ₀ is accepted	Normal
2	A ₂	20	0.1102	0.190	0.05	H ₀ is accepted	Normal
3	B ₁	20	0.1486	0.190	0.05	H ₀ is accepted	Normal
4	B ₂	20	0.1054	0.190	0.05	H ₀ is accepted	Normal
5	A ₁	10	0.0980	0.258	0.05	H ₀ is accepted	Normal
6	A ₁	10	0.1289	0.258	0.05	H ₀ is accepted	Normal
7	A ₂	10	0.2160	0.258	0.05	H ₀ is accepted	Normal
8	A ₂	10	0.1147	0.258	0.05	H ₀ is accepted	Normal

Based on the table of normality above, it can be seen that all of the values of L_o are lower than L_t at the level of significance $\alpha = 0.05$. It can be concluded that the data is in normal distribution.

2. Homogeneity Test

Homogeneity test is conducted to know whether the data are homogeneous or not. The data are homogeneous if χ_o^2 is lower than χ_t^2 at the level of significance $\alpha = 0.05$. The result of the analysis is as follows:

Table 4.10 Homogeneity Test

Sample	Df	1/(df)	s_i^2	$\text{Log } s_i^2$	(df) $\text{Log } s_i^2$
1	9	0.11	43.60	1.639486	14.75538
2	9	0.11	16.77	1.224447	11.02002
3	9	0.11	49.79	1.697132	15.27419
4	9	0.11	29.38	1.468019	13.21217
Σ	36				54.26176
χ_o^2	2.93			χ_t^2	7.81

Because χ_o^2 (2.93) is lower than χ_t^2 (7.81) at the level of significance $\alpha =$

0.05, it can be concluded that the data are homogeneous.

3. Hypothesis Testing

The data analysis is conducted by using Multifactor Analysis of Variance (ANOVA). H_0 is rejected if F_0 is higher than F_t . It means that there is significant difference. If H_0 is rejected, the analysis is continued by using Tukey test. The multifactor analysis of variance and Tukey test are described as follows:

1. Summary of a 2 x 2 Multifactor Analysis of Variance

Table 4.11 Mean Scores

Motivation (B)	Teaching Techniques (A)		Total
	TGT (A_1)	STAD (A_2)	
High Motivation (B_1)	79.40	68.30	73.85
Low Motivation (B_2)	63.90	66.40	65.15
Total	71.65	67.35	

Table 4.12 Multifactor Analysis of Variance

Source of Variance	SS	df	MS	F0	$F_t(.05)$	Test Decision
Between columns	185	1	184.9	5.30	4.08	H_0 is rejected
Between rows	757	1	756.9	21.70	4.08	H_0 is rejected
Columns by rows	462	1	462.4	13.26	4.08	H_0 is rejected
Between groups	1404	3	468.07			
Within groups	1256	36	34.88			
Total	2660	39				

4. Summary of Tukey Test

The finding of q is found by dividing the difference between the means by the square root of the ratio of the within group variation and the sample size.

Table 4.13 Summary of Tukey Test

Between groups	Sample	q_0	$q_t(0.05)$	Meaning	Category
A_1-A_2	20	3.26	2.95	$q_0 > q_t$	Significant
B_1-B_2	20	6.59	2.95	$q_0 > q_t$	Significant
$A_1B_1-A_2B_1$	10	9.23	3.15	$q_0 > q_t$	Significant
$A_1B_2-A_2B_2$	10	0.63	3.15	$q_0 < q_t$	Not Significant

Discussion of Research Result

1. TGT is more effective than STAD to teach speaking.

In teaching and learning process, it is better for students if they work in teams joyfully, work cooperatively rather than compete individually to develop their ability in speaking. TGT is one of the techniques to teach speaking which creates opportunity for students to develop group and personal communication skill.

2. The students having high motivation have better speaking ability than those having low motivation.

The students who have high motivation are able to share their ideas confidently and receive ideas from others. They are not afraid of making mistakes when they speak up.

3. There is an interaction between teaching techniques and students' motivation in teaching speaking.

The result of last hypothesis testing shows that there is an interaction between teaching techniques and students' motivation to teach speaking.

Conclusions

1. TGT technique is more effective than STAD technique in teaching speaking.
2. The students having high motivation have better speaking ability than those having low motivation.
3. There is an interaction between teaching techniques and students' motivation in teaching speaking.

Suggestions

1. For The Lecturers
 - a. The researcher suggests that lecturers implement TGT technique to teach speaking because it has been proven to be a good technique.
 - b. Having known that the students who have high motivation have better speaking ability than those who have low motivation, the lecturers should give more attention to the students having low motivation.

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