Integrated Group Investigation Model Impact on Students' Writing Achievement

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A R T I C L E   I N F O

ABSTRACT

This research was purposed to find out if integrated group investigation model could give significance impact to the students' writing achievement. The instruments that used in this study was tests. The tests were divided into two, there were pre-test and post test. Both test consisted of 1 item. In this study, the study applied the pre-test in both control and experiment groups. After that, the study applied the teaching process by using group investigation model in experiment class and conventional way in control class. After the teaching process finished, the study took the data of the post-test. In the pre-test, the data showed that the students' achievement in writing was low, both in control and experiment classes. The result was the students writing achievement in control class got 54.66mean score and in experiment class the students got 60.00 mean score both in pre-tests. Then, the researcher conduct the study with the students in control class taught by using conventional way and students in experiment class taught by using group investigation model. When the post-test was given to each class, the result was the students in control class got 71.00 mean score and students in experiment class got 87.66 mean score. From the data, it could be concluded that teaching writing by using group investigation model could give significance effect to the students' writing achievement.

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1.   INTRODUCTION

Language had central role in students' intellectual, social, and emotional development and it supports the success in learning of all subjects. The language learning expected to help the students to know themselves, their culture and another culture. Besides that, language learning also helped students to express their idea, and to participate in their society. Since English was an international language, it was important to teach English in Indonesia.

English as the first foreign language for Indonesian taught to the students of each level school. Students were expected to be able to communicate in English well. Communication meant comprehending and expressing information, thoughts, feeling, developing knowledge technology, and culture. The communication skill was the ability in producing and applying oral and written text that realized in four-language skill, those were listening speaking, reading and writing.

Writing was also central to a student's experiences in school and in everyday life. Thus, teaching students to write was a major task for teachers today. Since students arrive at schools at different writing developmental stages of writing, teachers therefore faced with helping less capable writers to improve their writing skills by providing the best writing instruction as possible.

Teaching writing was the most important factor in teaching exercises that was the students need to be personally involved in order to make the learning experience of lasting value. Encouraging students' participation in the exercise, while at the same time refining and expanding writing skills, requires a certain approach. The teacher should be clear on what skills he/she is trying to develop. Next, the teacher needed to decide on which means (or type of exercise) could facilitate learning of the target area. Once the target skill areas and means of implementation were defined, the teacher could then proceed to focus on what topic could be employed to ensure student participation. By combining these objectives, the teacher could expect both enthusiasm and effective learning.

One of the objectives of English subject at senior high school in writing was the ability to understand and to make some short functional texts and monologues, such as: procedure, descriptive, recount, narrative, and report. In this study, this study focused on descriptive text. Descriptive text was a text that described about something generally.

However, to see the students' achievement score from the preliminary study at grade x students, the objective of English subject above was clearly failed to achieve. It was reasonable since most of the students at grade x had lack knowledge in grammar. It could be seen from the students that asked to make a descriptive text. Students made mistakes in contributing suitable subject and verb agreement in the sentence. Moreover, students also failed to make the descriptive text based on the text organization of the text. Students also failed in contributing the suitable tenses based on the descriptive text that is simple present. Some of them write the text based on the past tense which is wrong in use to write a descriptive text. The students' score in English subject also low. That made sense since the students also had low interest in learning especially in learning writing.

To make the English teaching successfully some factors such as the quality of teacher, student's interest and motivation had to be considered. There are many kinds of teaching models, one of them was group investigation. This model was used in this study as a tool to see if the students' learning could be better or not.

Robert E. Slavin (1979) stated that Group Investigation as follow; "Group Investigation is a form of cooperative learning that dates back to John Dewey, but has been refined and researched in more recent years by Shlomo and Yael Sharan and Rachel Herts-Lazarowitz in Israel." Group Investigation which developed by Shlomo and Yael Sharan at Tel Aviv University, is planning of common class setting where the students work in small group using cooperative question, group discussion, and planning and project cooperative.

Roy Killen said that Group Investigation is one of cooperative learning model which focused on student's participation and activity. The teacher who use this model firstly he/she divides the class into small heterogeneous groups. This group consists of two to six and may form around friendships or around an interest in a particular topic.

Students select topics for study, then every group decides what is to be investigated as well as the goals of their study, and then prepare and present a report in form of writing. This type demands to the student's abilities of the group skill. Group Investigation model exercises the students to grow up their brain skill.

The students as the followers actively will show from the first step until the last step of the learning process. According to Robert E. Slavin important for Group Investigation is students' cooperative planning of their inquiry. Group members take part in planning the various dimensions and requirements of their project. Together they determine what they want to investigate in order to solve their problem; which resources they require; who will do what; and how they will present their completed project to the class.

Presentation technique is done in front of class with several of presentation forms, while other group shift wait to presentation, to evaluate and give response from the topic presentation. The teacher's role in conducting a Group Investigation project the teacher serves as a resource

person and facilitator. He or she circulates among the groups, sees that they are managing their work, and helps out with any difficulties they encounter in group interaction and the performance of the specific tasks related to the learning project.

2. RESEARCH METHOD

The design of this study was experimental research. The sample of this study was divided into experiment class and control class where the experiment class was taught by using group investigation learning model and control class was taught by using conventional learning model.

The study started from applying the pre test first. Pre test was a test that was given at the beginning of the study in order to find out the students ability in the specific instrument of the study or in this case in writing. After getting the data of the pre test, the study was continued by applying the treatment that was the teaching writing by using group investigation model. When the treatment had been done, the study was continued by the gathering of the post data from the post test. Post test was a test that was applied in order to get the students achievement after conducting the study by applying the appropriate treatment or in this case group investigation model. The result of the post test of both experiment class and control class was compared to see if the complete sentence learning model gave any positive effect to the students' writing descriptive text or not.

The instrument of this research was a test. Wallace (1978) stated that test was broadly used to describe what could be measured or counted and therefore be considered objective. There were a pre-test and a post test for both experimental and control class. The pre-test was an essay test that consisted of 1 essay item that ask the student to write a descriptive text while the post test was an essay test too that consisted of 1 essay item which ask the students to write a descriptive text too.

The test of writing scored as a whole on the basis of the following elements:

Table 1. Scoring Writing

	Score 4	Score 3	Score 2	Score 1
Audience and Pupose	Uses appropriately formal tone; clearly addreses writing prompt	Uses mostly formal tone; adequately addresses prompt	Uses some informal tone; addresses writing prompt	Uses inappropriately informal tone; does not addresses writing prompt
Organization	Present an effective, consistent organizational strategy	Presents a clear organizational strategy with few inconsistencies	Presents an inconsistent organizational strategy	Show a lack of organizational strategy
Elaboration	Provides several ideas to support the thesis; elaborates each idea; links all information to support thesis	Provides several ideas to support the thesis; elaborates most idea with facts; details, or examples; links most information to thesis	Provides some ideas to support the thesis; does not elaborates some idea does not links some details to thesis	Provides no thesis; not elaborates ideas
Use of Language	Uses excellent sentence and vocabulary variety; include very few errors	Uses adequate sentence and vocabulary variety; include few errors	Uses revetitive sentence structure and vocabulary; include many errors	Demonstrates poor use of language; generates confusion; include many errors

The data of this research based on the result of the instrument of the research. The students' worksheet was the main source of the data of this study. As a valid data, the students' score in each instrument was tested by using a formula to know if the test was reliable or not. This was to make sure if the source of the data could be trusted or not.

3.   RESULTS AND DISCUSSIONS

Below was the table that showed the difference scores between the students' score in pre test and post test in control class.

Table 2 The Difference Score of the Control Class

NO	Students' Initial Name	Y_1	Y_2	$Y_2 - Y_1$
1	A2	50	70	20
2	B2	60	80	20
3	C2	50	80	30
4	D2	60	70	10
5	E2	40	80	40
6	F2	60	60	0
7	G2	60	80	20
8	H2	60	80	20
9	I2	40	60	20
10	J2	50	60	10
11	K2	50	80	30
12	L2	60	70	10
13	M2	80	80	0
14	N2	60	70	10
15	O2	60	70	10
16	P2	50	60	10
17	Q2	60	60	0
18	R2	50	80	30
19	S2	50	70	20
20	T2	50	80	30
21	U2	40	70	30
22	V2	70	70	0
23	W2	60	60	0
24	X2	60	60	0
25	Y2	60	80	20
26	Z2	50	70	20
27	BA	60	80	20
28	BB	60	70	10
29	BC	40	70	30
30	BD	40	60	20
				490

$My = \frac{\sum y}{N}$

$My = \frac{490}{30}$

$My = 16.33$

Explanation:

$Y^2 - Y^1$: The subtraction of the students' score

My   : The mean score of the subtracted score.

The deviation of the students' scores in experiment class was explained in the table below.

Table 3 The Deviation of Experiment Class

NO	Students' Initial Name	X	X_1 (X-27.67)	X_1^2
1	A1	20	-7.67	58.82
2	B1	20	-7.67	58.82
3	C1	20	-7.67	58.82
4	D1	30	2.33	5.42
5	E1	30	2.33	5.42
6	F1	30	2.33	5.42
7	G1	20	-7.67	58.82
8	H1	20	-7.67	58.82
9	I1	20	-7.67	58.82
10	J1	20	-7.67	58.82
11	K1	30	2.33	5.42
12	L1	30	2.33	5.42
13	M1	30	2.33	5.42
14	N1	30	2.33	5.42
15	O1	20	-7.67	58.82
16	P1	20	-7.67	58.82
17	Q1	40	12.32	151.78
18	R1	40	12.32	151.78

19	S1	40	12.32	151.78
20	T1	20	-7.67	58.82
21	U1	30	2.33	5.42
22	V1	30	2.33	5.42
23	W1	30	2.33	5.42
24	X1	20	-7.67	58.82
25	Y1	40	12.32	151.78
26	Z1	20	-7.67	58.82
27	AA	30	2.33	5.42
28	AB	30	2.33	5.42
29	AC	40	12.32	151.78
30	AD	30	2.33	5.42
				1535

Explanation:

X_1 : Deviation score of the experiment class

X_1^2 : The squared of the deviation score of the experiment class

The deviation of the students' scores in control class was explained in the table below.

Table 4 The Deviation of Control Class

NO	Students' Initial Name	Y	Y_1 (Y-16.33)	Y_1^2
1	A2	20	3.67	13.46
2	B2	20	3.67	13.46
3	C2	30	13.67	186.86
4	D2	10	6.33	40.06
5	E2	40	23.67	560.26
6	F2	0	-16.33	263.42
7	G2	20	3.67	13.46
8	H2	20	3.67	13.46
9	I2	20	3.67	13.46
10	J2	10	6.33	40.06
11	K2	30	13.67	186.86
12	L2	10	6.33	40.06
13	M2	0	-16.33	263.42
14	N2	10	6.33	40.06
15	O2	10	6.33	40.06
16	P2	10	6.33	40.06
17	Q2	0	-16.33	263.42
18	R2	30	13.67	186.86
19	S2	20	3.67	13.46
20	T2	30	13.67	186.86
21	U2	30	13.67	186.86
22	V2	0	-16.33	263.42
23	W2	0	-16.33	263.42
24	X2	0	-16.33	263.42
25	Y2	20	3.67	13.46
26	Z2	20	3.67	13.46
27	BA	20	3.67	13.46
28	BB	10	6.33	40.06
29	BC	30	13.67	186.86
30	BD	20	3.67	13.46
				3677

Explanation:

Y_1 : Deviation score of control class

Y_1^2 : The square of the deviation of control class

Based on the data above, the calculation was obtained as follow:

X_1 = 27.67

Y_1 = 16.33

X_1^2 = 1535

Y_1^2 = 3677

n_1 = 30

n_2 = 30

The data above then calculated by applying t-test formula as follow:

$$T = \frac{X_1 - Y_1}{\sqrt{\left(\frac{X_1^2 + Y_2^2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

$$T = \frac{27.67 - 16.33}{\sqrt{\left(\frac{1535+3677}{30+30-2}\right)\left(\frac{1}{30}+\frac{1}{30}\right)}}$$

$$T = \frac{11.34}{\sqrt{\left(\frac{5212}{58}\right)\left(\frac{2}{30}\right)}}$$

$$T = \frac{11.34}{\sqrt{(89.86)(0.06)}}$$

$$T = \frac{11.34}{\sqrt{5.99}}$$

$$T = \frac{11.34}{2.44}$$

$$T = 4.647$$

After calculating the data above by using t-test, it shows that t-critical value was consulted to the distribution table of t-test and the degree of freedom.

$d \int = n_1 + n_2 - 2$
$d \int = 30 + 30 - 2$
$d \int = 60 - 2$
$d \int = 58$

In this value, the t-table was 4.647 for 0.05. To test the hypothesis, the formula of t-test and the distribution of t-table were applied the result that t-critical 4.647 was higher than the t-table 2.00 for 0.05. Therefore, Ha was accepted and Ho was rejected. In other word, there is an effect of group investigation model in students' writing achievement of descriptive text at grade X students.

The discussion of this study concerned in the significance writing achievement between the students who taught by using the group investigation and the students who taught by using conventional way. Both students in each groups showed different achievement. From all of the achievement it can be seen that all of the students who taught by using group investigation showed significance improvement in their writing skill of descriptive text whether the significance improvement from their scores in pre test or the significance different scores with the control class who did not teach by group investigation.   After all, from all of the data that had been gathered in this study, we can say that the group investigation had given significance impact to the students writing of descriptive text.

4.   CONCLUSION

At the end of this research, there are some conclusions that can be made. One of the conclusions is teaching writing by using by using group investigation model significantly affect the students' writing skill especially in writing descriptive text. The students' motivation in learning writing also shows improvements. Moreover, the teaching of writing descriptive text seems easier by applying the group investigation model in the teaching.

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