

Improving Students' Achievement on Writing Procedure Text by Using Group Investigation Strategy at SMK Sandhy Putra Medan

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ABSTRACT

The objective of this study was to find out if there was significant effect of applying Group Investigation Strategy on students' Achievement in Writing Procedure text. The population of this study was the second year students of SMK Sandhy Putra Medan, which consisted of seven parallel classes. Two classes were as the sample of the research. Every class consisted of 35 students. Therefore, there were 70 students became the sample of the study. The total number of students was divided into two groups, namely 35 students for experimental groups and another 35 students for control group. The experimental group was taught by Group Investigation Strategy, while control group was taught by using Explanation. The instruments of collecting data used the writing test. To obtain the reliability of the test, the researcher used Spearman Brown formula. The pre-test and post-test were administrated and then the data were analyzed by using the t-test formula. The result showed that the t-test was (3.57) is higher than t-table value (2.04) at the level of significance (0.05) for α - two tail test (3.57 > 2.04), and the degree of freedom (df) was 68 Based on the analysis of the study, the result indicated that the he was accepted. It means that there is significant effect of applying Group Investigation Strategy on Students' Achievement in Writing Procedure Text.

Key Words: *Group Investigation Strategy, Students SMK Sandhy Putra Grade XI,
And Writing Procedure Text.*

BACKGROUND

In the world of education will be a process which is a process that will involve learning between teachers and students. In the world of education the teacher is an educator, mentor, coach, and curriculum developers who can create the conditions and atmosphere of learning that is fun, exciting, provide security, and provide a space for students to think of active, creative, and innovative in developing their potential. To be someone who is able in English must master the four language skills, namely: listening, writing, reading and speaking.

Indrilla (2018) Writing is very important skill in English language because the students' can pour their ideas in a written form of text like Procedure Text. Writing can be said to be act of forming these symbols: making marks on flat surface of some kind. But writing is clearly much more than the production of graphic symbols, just as a speech is more than the production of sounds. The symbols have to be arranged, according to certain conventions, to form words, and words have to be arranged to arrange to form sentences, although again we can be said "writing" if we are merely making lists of words, as in inventories of items such as shopping list Aminah (2018). In this researcher the students' are less achievement to write the Procedure Text. This research focused in writing Procedure Text. Procedure text is to provide information to others about the steps or procedures in completing a task or problem.

Ernayeti (2018) Seeing these conditions, it is necessary to develop a model of learning that can improve student learning outcomes through the application of knowledge, working to solve the problem, determine something for themselves, and each other discussing the issue with friends. One model of learning that is appropriate to the needs of the above is a cooperative learning GI (Group Investigation) Strategy.

Maharani (2018) Group Investigation appropriate to projects that integrated studies associated with that sort of mastery, analysis, and synthesizes the information in connection with an attempt to resolve the problem that is multi-faceted. The students seek information from a variety of cracked like (books, institutions, people) offer a range of ideas, opinions, data, solutions, or position with regard to the problem being studied).

Arsy (2019) Cooperative Learning is a learning model that emphasizes teaching by peer teaching. In Cooperative Learning, the learning process does not flow must come from the teacher to the student. Students can also teach each other fellow students. Cooperative Learning model that can change attitudes and student learning outcomes is a Cooperative Learning GI (Group Investigation) Strategy. Based on the above, the researcher intends to conduct research under the title "*Improving student's achievement on riting procedure text by using group investigation strategy at SMK Sandy Putra Medan*". The reasons for choosing the topic are: the first is based on the researcher's experience when made a

research, that students cannot write, especially write procedure text. The second is difficulty for students to write procedure text.

METHOD

This study was conducted by using experimental research. In this research, the sample was divided two groups, namely experimental group and control group. The experimental group was the one who used Group Investigation Strategy while the control with Explanation.

This study was conducted at SMK Sandhy Putra Medan. This school is located at Jl. Pancur Batu Medan. The researcher chooses this school because of these reasons; The first, based on the researcher never been conducted on the improving of using Group Investigation Strategy in writing procedure text in SMK Sandhy Putra. The second, based on the researcher's experience during Practice Field, they need a new model to improve their achievement in writing especially writing procedure text.

The population of this research was the second year classes of SMK Sandhy Putra. There were seven parallel classes. Each class consisted of 35 students. The total number of the students was 245 students. The sample was selected by using random sampling technique. Based on the technique, two classes of seven classes were selected as sample. Each class was written down in a slip of paper and the papers were placed in a box. Two of the papers were taken, the first were as the experimental group XI TKJ 1 and the second were the control group XI TKJ 2.

To collect the data, the writing test was given to the students. The students was instructed to make writing test-instructional text-based on key concept. They are pre-test and post-test. The tests were given to both groups, experimental and the control group.

Before starting the experiment, a pre-test was needed to know how far the students know about the subjects that were taught. Both groups, the experimental and control group were given pre-test before treatment. The teacher asked the students to write a procedure text based on the topic given. The function of the pre-test was to know the mean scores of experimental and control group as correctly as possible. Having done the teaching to both groups, the researcher conducted the post-test. This was applied to find out the result of teaching presentation in both the experimental and control group.

The Validity and reliability of the test are different concept referring to the term of language test. The two terms validity and reliability are described as the following. The validity is always specific to the particular situation and to the particular purpose for which it is being used. A test that has validity in one situation may not be valid in a different situation. The concept of validity that was concerned with meaning and the interpretation of the score obtained in the terms of the theoretical construct. It was to measure the writing achievements that established

by the topic based on the streaming of the events were provided by the researcher.

The reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring. Reliability is a necessary characteristic of any good test, for it to be valid at all. A test must be reliable as measuring instrument. If the test is administered to the same candidates on different occasion, then to the extent it produces differing result, it is not reliable.

The test in this study used writing test form. In the scoring of the test, it involved subjectivity might be minimized on order to produce more objective scoring thus to find out whether the test is reliable, the researcher used inter – rather reliability. The coefficient correlation was obtain by using Spearman Brown formula as follows:

$$a. \quad r = \frac{N(\sum xy) - (\sum x)(\sum y)}{\sqrt{[N(\sum x^2) - (\sum x)^2][N(\sum y^2) - (\sum y)^2]}}$$

$$b. \quad r_{12} = \frac{2r^{1/2} 1/2}{1 + r^{1/2} 1/2}$$

$$= r^{1/2} 1/2$$

Where:

r = Reliability

$\sum x$ = Sum of score x

$\sum y$ = Sum of score y

N = Number of student.

From the data, a calculation was made to find out whether the use of model was absolutely helpful in writing procedure text or not. In order to see and to test whether the mean of two groups was significant or not, the most common instrument used was t-test:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left(\frac{\sum X_1^2 + \sum X_2^2}{n_1 + n_2 - 2}\right) \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

Where :

$\bar{X}_1$ = mean of experimental group

$\bar{X}_2$ = mean of control group

$\sum X_1^2$ = the standard deviation of experimental group

$\sum X_2^2$ = the standard deviation of control group

n_1 = the number of experimental group

n_2 = the number of control group

RESULT

This data were collected by a test which was divided into pre-test and post-test. In this research, the sample has two groups. They are the experimental and the control group. Each group was given pre-test and post-test. From the data were collected the highest and the lowest pre-test in experimental group were 75 and 44 while post-test 83 and 58 whereas in control group, the highest and the lowest score of pre-test were 71 and 37 while in post-test were 72 and 50.

Table 1 Experimental Group

NO	Stu den ts	Pre- Test	Post Test	(d)	d-ma	X_2^2
1	R1	51	69	18	10.46	109.41
2	R2	64	70	6	-1.54	2.37
3	R3	52	64	12	4.46	19.89
4	R4	73	80	7	-0.54	0.29
5	R5	53	62	9	1.46	2.13
6	R6	50	65	15	7.46	55.65
7	R7	58	60	2	-5.54	30.69
8	R8	64	65	1	-6.54	42.77
9	R9	53	58	5	-2.54	6.45
10	R10	57	60	3	-4.54	20.61
11	R11	53	71	18	10.46	109.41
12	R12	71	70	-1	-8.54	72.93
13	R13	62	75	13	5.46	29.81
14	R14	70	83	13	5.46	29.81
15	R15	74	78	4	-3.54	12.53
16	R16	59	68	9	1.46	2.13
17	R17	70	67	-3	-	111.09
					10.54	
18	R18	75	80	5	-2.54	6.45
19	R19	71	82	3	6.46	41.73
20	R20	60	70	10	2.46	6.05
21	R21	72	70	-2	-9.54	91.01
22	R22	44	58	14	6.46	41.73
23	R23	60	71	11	3.46	11.97
23	R23	60	71	11	3.46	11.97
24	R24	74	70	-4	-	133.17
					11.54	
25	R25	53	75	22	14.46	209.09
26	R26	61	68	7	-0.54	0.29
27	R27	56	68	12	4.46	19.89
28	R28	73	69	-14	-	133.17
					11.54	
29	R29	63	69	6	-1.54	2.37
30	R30	63	64	1	-6.54	42.77
31	R31	53	56	3	-4.54	20.61
32	R32	60	70	10	2.46	6.05
33	R33	55	58	3	-4.54	20.61
34	R34	60	65	5	-2.54	6.45
35	R35	45	55	10	2.46	6.05
Σ	35	2132	2387	26		1457.4
				4		3
	Me an	60.91	68.2			

$$Ma = \frac{\Sigma d}{N} = \frac{264}{35} = 7.54$$

Table 2 Control Group

N	Student	Pre- Test	Post Test	(d)	d-ma	X_2^2
1	R1	70	69	-1	-3.54	12.53

2	R2	54	62	8	5.46	29.81
3	R3	63	60	-3	5.54	30.69
4	R4	66	67	1	-1.54	2.37
5	R5	63	72	9	6.46	41.73
6	R6	58	56	-2	-4.54	20.61
7	R7	58	62	4	-1.46	2.13
8	R8	55	59	4	2.46	6.05
9	R9	53	54	1	-1.54	2.37
10	R10	58	68	10	7.46	55.65
11	R11	55	62	7	4.46	19.89
12	R12	63	55	-8	-	111.09
					10.54	
13	R13	62	64	2	-0.54	0.29
14	R14	62	65	3	0.46	0.21
15	R15	58	62	4	1.46	2.13
16	R16	51	52	1	-1.54	2.37
17	R17	60	59	-1	-3.54	12.53
18	R18	37	50	13	10.46	109.41
19	R19	58	59	1	-1.54	2.37
20	R20	54	56	2	-0.54	0.29
21	R21	62	59	-3	0.46	0.21
22	R22	45	54	9	6.46	41.73
23	R23	49	51	2	-0.54	0.29
24	R24	45	55	10	7.46	55.65
25	R 25	63	60	-3	-5.54	30.69
26	R26	71	68	-3	-5.54	30.69
27	R27	70	71	1	-1.54	2.37
28	R28	66	67	1	-1.54	2.37
29	R29	70	65	-5	-7.54	56.85
30	R30	60	63	3	5.54	30.69
31	R31	53	60	7	0.46	0.21
32	R32	60	65	5	2.46	6.05
33	R33	55	58	3	0.46	0.21
34	R34	60	65	5	2.46	6.05
35	R35	60	65	5	2.46	6.05
Σ	35	2047	2139	89		734.63
	Mean	58.4	61.1			

$$Mb = \frac{\Sigma d}{N} = \frac{89}{35} = 2.54$$

To know whether using Group Investigation Strategy affects significantly or not, the t-test formula was applied:

$$t = \frac{\bar{X}_1 - X_2}{\sqrt{\left(\frac{\Sigma X_1^2 + \Sigma X_2^2}{n_1 + n_2 - 2}\right) \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

Where :

$$\bar{X}_1 = 7.54$$

$$\bar{X}_2 = 2.54$$

$$\Sigma X_1^2 = 1457.43$$

$$\Sigma X_2^2 = 734.63$$

$$n_1 = 35$$

$$n_2 = 35$$

$$t = \frac{\overline{7.54} - 2.54}{\sqrt{\left(\frac{1457.43 + 743.63}{35+35-2}\right)\left(\frac{1}{35} + \frac{1}{35}\right)}}$$

$$t = \frac{5}{\sqrt{\left(\frac{2201.63}{68}\right)\left(\frac{2}{35}\right)}}$$

$$t = \frac{5}{\sqrt{(32.38)(0.06)}}$$

$$t = \frac{5}{\sqrt{1.9428}}$$

$$t = \frac{5}{1.40} = 3.57$$

The basic of testing hypothesis in this research were:

If t-observed > t-table, the hypothesis will be accepted

If t-observed < t-table, the hypothesis will be rejected

In this research, the value of t-table for the degree of freedom (df) 68 at level of significance (α) 0.05 was 2.04. The result of computing t-test shows that t-observed (t-obs) is higher than t-table as follows:

$$\begin{array}{ll} \text{t-obs} > \text{t-table} & (\alpha = 0.05; \text{df} = 68) \\ 3.57 > 2.04 & (\alpha = 0.05; \text{df} = 68) \end{array}$$

The result of this research shows that there is difference of output between both of classes. Based on statistic calculation, t-observed (3.57) is higher than t-table (2.04) for the degree of freedom (df) 68 at level of significance (α) 0.05. This difference takes place because the effect of different treatment in each class. The experimental class was taught by applying Group Investigation Strategy while control group with Explanation. Based on theoretical and statistical findings, this research concludes that teaching writing achievement by applying Group Investigation Strategy significantly affects that than with Explanation.

CONCLUSION

Having calculated the data, it was found that the Group Investigation Strategy significantly affects on students' achievement in writing procedure text, since t-obs (3.57) > t-table (2.04) df 68. The use of Group Investigation Strategy makes the students more able to write procedure. Therefore, it means that the hypothesis is accepted.

The students who were taught by using Group Investigation Strategy have higher score than the students who were taught without Group Investigation Strategy. In other words, the Group Investigation Strategy gives the significant effect to the students' writing achievement.

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