

The Effect of Using Clustering Technique on Writing Achievement of the Eighth Grade Students of SMP Bala Keselamatan Kalawara

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A B S T R A C T

Writing is one of the four basic skills in learning foreign language besides listening, reading, and speaking. In fact, writing becomes the most difficult lesson for the students, so that the writing always becomes passive in class in every meeting. To overcome this problem, a technique which can improve the student's English writing is needed. There are a lot of teaching techniques that can help the students and the teacher to get the English learning and teaching effectively, but the researcher is interested in using clustering technique. This research aims to determine whether the use of Clustering Technique can improve the writing achievement of class VIII students at SMP Bala Keselamatan Kalawara. This research used a quasi-experimental design by applying nonequivalent control group design. The population was class VIII students at SMP Bala Keselamatan Kalawara, consisting 37 students from two classes. The sample was class A as the experimental group and class B as the control group. Sample selection was carried out using saturated sampling. Tests were used to collect data consisting of pre-test and post-test. The tests result show that the average pre-test score obtained by the experimental group is 43.86, while the pre-test score obtained by the control group is 46.91. Then, the average post-test score for the experimental group is 69.00, while the control group is 54.94; the t-counted value (5.52) was higher than t-table value (1.690), which means that the hypothesis was accepted.

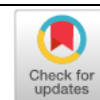
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INTRODUCTION

Writing is one of the four basic skills in learning foreign language besides listening, reading, and speaking. In fact, writing becomes the most difficult lesson for the students, so that the writing always becomes passive in class in every meeting. In writing, someone can deliver about their experiences or imagination to written form to be a meaningful sentence. According to Yuningsih and Novarita (2020:62) writing is a popular form of communication that is used to convey ideas and make an impression. It means the writer can communicate with the reader through writing. Thus, the aim is to conveyed information clearly for readers until they can feel about someone's experience trough their writing skills. Writing has been considered a very important skills in teaching and learning English as a foreign language (EFL) because it helps to strengthen vocabulary, grammar, thinking, planning, editing, revising, and other elements. Weigle (2009) considers that writing skill plays a crucial role that is not only to express information but also to transform knowledge to create knowledge. In addition, by learning writing students are also able to enhance language acquisition due to the fact that they experiment with words in sentences in forming writing to convey their ideas effectively.

According to the Merdeka English Curriculum, the students are expected to have an ability to communicate in writing. But in reality, writing is not easy and needs hard work to make a good writing. Not many students able to write English as well as to speak it. General problems faced by EFL/ESL students' regarding writing skill are the students often find it difficult to organize their ideas into paragraphs or text, this causes them difficulty in conveying

message to readers, they make mistakes given the lack of vocabulary understanding and grammar. They often bored of the way teacher teaches them. Based on pre-liminary research conducted on student's writing skills at SMP Bala Keselamatan Kalawara through interview, it was found that student's writing skill were still low. Especially, in descriptive text, according to Jayanti (2020:274) A descriptive text is a type of text that focuses on describing a certain place, person, or object. . Students find difficulties in writing certain type of text, especially descriptive text. In writing descriptive text, students with poor vocabulary mastery often make mistake in selecting the appropriate words to describe the characteristic of the subject. They do not know how to organize their ideas and some of them confuse how to start their writing. With those problems, students find writing as a difficult task. It makes them less interested in writing.

To overcome this problem, a technique which can improve the student's English writing is needed. According to Widyawati (2018) a technique that can be used during the planning stage of writing is clustering. This technique is introduced by Gabriele Loser Rico a professor of English and Creativity at San Jose State University California in 1990s. It is a technique which provides an alternative way for writers to do the brainstorming before starting to write. It helps the writer come up with ideas and arrange them on paper so they may be connected to one another. By helping students gather words and stimulating their ideas about a topic, this technique will make the writing process simple and enjoyable. So, this technique can help the students to stimulate their ideas and to arrange them before they develop into paragraphs. Besides that, this technique can motivate them to write. Research consistently supports the efficacy of this technique: Hayati (2017) showed that clustering technique significantly improved students' achievement, while Andayani (2017) noted clustering technique helped students easier to understand the material. In addition, studies conducted by Tsaniya (2018) and Restika (2022) also reported significant improvements in students' achievement on writing skill through clustering technique.

Building up to this evidence, this research aims to investigate the effectiveness of using clustering technique on students' writing achievement, specifically focusing on writing descriptive text, among eighth grade students at SMP Bala Keselamatan Kalawara. It was hoped that this engaging technique would not only increase students' motivation but also lead measurable improvements in their writing skills.

METHOD

This research utilized a quasi-experimental research design to assess the effect of using clustering technique on writing achievement of the eighth grade students of SMP Bala Keselamatan Kalawara. The population consisted of 37 students and all of the students will be involved in this research. VIII A as an experimental group that received treatment through clustering technique and VIII B as a control group, thought using conventional methods. The design of this research proposed by Arikunto (2006) is as follows:

Table 1. Research Design

Group	Pre-Test	Treatment	Post-Test
Experimental Class	O ₁	X	O ₂
Control Class	O ₃	-	O ₄

Where:

X = Treatment

- = No Treatment

The technique used to collect the data is a test: the researcher chose this technique to collect the data because this technique is easy to apply to the students. In this technique, the students were given a pre-test before the treatment to know the student's ability to write skills, and at last, the researcher gave a post-test after the

treatment to know student's writing skills achievement. The researcher measured their writing skill by use the scoring system of writing by Weigle (2009) as follows:

Table 2. Writing Assessment

Aspect of Writing	Range Score	Explanation
Organization	3	Excellent Overall shape and internal pattern clear
	2	Good Underlying structure not sufficiently controlled
	1	Poor Organization skill adequately controlled. Very little organization of content
	0	Very Poor No apparent organization of content
Grammar	3	Excellent Almost no grammatical inaccuracies
	2	Good Some grammatical inaccuracies
	1	Poor Frequent grammatical inaccuracies
	0	Very Poor Almost all grammatical pattern inaccurate
Vocabulary	3	Excellent Correct and precise
	2	Good Almost correct and precise
	1	Poor Difficult to understand
	0	Very Poor No writing

After giving the pre-test, the researcher was given the treatment to the students. It was conducted in the second meeting. The researcher expected to improve the students' writing skill by using clustering technique for six meeting. The teaching outline of the treatment can be seen as follows:

Table 3. Teaching Outline of Treatment

Meeting	Topic	Activities	
		Teacher	Student
1 st & 2 nd (Meeting)	Describing People	➤ Gives some questions related to the topic	➤ Answer the question
		➤ Shows pictures related to the topic	➤ Observe the picture
		➤ Explains about the generic structure and language features	➤ Listen to the teacher
		➤ Shows a video about describing people	➤ Watch the video
		➤ Gives some question based on the video	➤ Answer the question
		➤ Gives students some text to play "Guess Who?"	➤ 1-3 students read the text and the other try the guess
		➤ Divides the students into several groups	➤ Choosing their groups
		➤ Gives some topic about describing people	➤ Choose one of the topic
		➤ Ask students to write a descriptive text about their favorite person using clustering technique	➤ Answer the exercises
		➤ Asks students to practice in front of the class	➤ Practice the material in front of the class
3 rd & 4 th (Meeting)	Describing Place	➤ Gives some questions related to the topic	➤ Answer the teacher's question
		➤ Shows some pictures related to the topic	➤ Observe the pictures
		➤ Gives a text about describing place (Library)	➤ Identify the generic structure and language features
		➤ Asks students to do exercises (Pair work)	➤ Answer the exercise
		➤ Divides the students into several groups	➤ Choosing their groups
		➤ Asks students to write a descriptive text about their favorite school facilities using clustering technique	➤ Discuss the topic with their group

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5 th & 6 th (Meeting)	Describing Animal	➤ Asks each group to present in front of the class	➤ Give feedback or comment about the presentation
		➤ Gives some questions related to the topic	➤ Answer the teacher's question
		➤ Shows some pictures related to the topic (animal)	➤ Identify the characteristics of the animal
		➤ Shows a video and text about describing animal	➤ Identify the generic structure and language features
		➤ Divides the students into several groups	➤ Choosing their group
		➤ Asks the students to write descriptive text about their favorite animal using clustering technique	➤ Discuss the topic with their group
		➤ Asks students to present in front of the class	➤ Give feedback or comment about the presentation

FINDINGS AND DISCUSSION

Findings

The Result of Test

Table 4. Pre-test Score of Participants in the Experimental Group

No	Initial	Pre-Test Score
1	ACM	66.67
2	AT	55.55
3	CA	66.67
4	CS	11.11
5	DAP	33.33
6	ESG	66.67
7	HD	66.67
8	MA	44.44
9	MR	44.44
10	NALP	11.11
11	OG	55.55
12	OR	44.44
13	PPM	22.22
14	RE	33.33
15	SA	33.33
16	SH	33.33
17	TY	44.44
18	VV	33.33
19	YA	66.67
Total Score		833.30

Table 5. Post-test Score of Participants in the Experimental Group

No	Initial	Post-Test Score
1	ACM	88.89
2	AT	77.77
3	CA	88.89
4	CS	55.55
5	DAP	77.77
6	ESG	88.89
7	HD	88.89
8	MA	77.77
9	MR	55.55
10	NALP	55.55
11	OG	77.77
12	OR	66.67
13	PPM	44.44
14	RE	55.55
15	SA	55.55
16	SH	66.67
17	TY	55.55
18	VV	66.67

19	YA	77.77
Total Score		1311.05

From the data above, it can be indicated that the students score before and after implementing Clustering Technique statistically presents significant difference. The average score of the students in pre-test was 43.86 while in the post-test was 69.00.

Table 6. Pre-test Score of Participants in the Control Group

No	Initial	Pre-Test Score
1	AD	44.44
2	AM	33.33
3	AWS	33.33
4	BSR	66.67
5	FA	44.44
6	MB	44.44
7	MAA	44.44
8	MSR	66.67
9	NH	55.55
10	NNM	44.44
11	PA	66.67
12	RR	55.55
13	S	44.44
14	SF	44.44
15	SR	33.33
16	SY	33.33
17	TA	44.44
18	WP	44.44
Total Score		844.39

Table 7. Post-test Score of Participants in the Control Group

No	Initial	Post-Test Score
1	AD	55.55
2	AM	44.44
3	AWS	55.55
4	BSR	66.67
5	FA	55.55
6	MB	44.44
7	MAA	66.67
8	MSR	66.67
9	NH	55.55
10	NNM	55.55
11	PA	66.67
12	RR	55.55
13	S	55.55
14	SF	44.44
15	SR	55.55
16	SY	44.44
17	TA	44.44
18	WP	55.55
Total Score		988.83

From the data above, it can be indicated that the students score before and after implementing traditional method does not statistically presents significant difference. The average score of the students in pre-test was 46.91 while in the post-test was 54.94.

Table 8. Deviation and Squared Deviation of Experimental and Control Group

Group	Deviation	Squared Deviation	N
Experimental	477.75	14196.25	19
Control	144.44	2345.65	18

Then, the researcher counted the mean deviation of pre-test and post-test from both groups by

$$M_x = \frac{\sum x}{N} = \frac{477.75}{19} = 25.14$$

$$M_y = \frac{\sum y}{N} = \frac{144.44}{18} = 8.02$$

Next, the researcher also continued calculating sum-squared deviation around the mean of the experimental class and control class as shown below:

$$\begin{aligned}\Sigma x^2 &= \Sigma x - \frac{(\Sigma x)^2}{N} & \Sigma y^2 &= \Sigma y - \frac{(\Sigma y)^2}{N} \\ \Sigma x^2 &= 14196.25 - \frac{(477.75)^2}{19} & \Sigma y^2 &= 2345.65 - \frac{(144.44)^2}{18} \\ \Sigma x^2 &= 14196.25 - \frac{228245.06}{19} & \Sigma y^2 &= 2345.65 - \frac{20862.91}{18} \\ \Sigma x^2 &= 14196.25 - 12012.90 & \Sigma y^2 &= 2345.65 - 1159.05 \\ \Sigma x^2 &= 2183.35 & \Sigma y^2 &= 1186.60\end{aligned}$$

After counting the sum of squared deviation around the mean, the researcher came to t-test formula to find out the significant difference between the experimental class and control class by using the formula proposed by Arikunto (2013:354) as follows:

$$\begin{aligned}t &= \frac{Mx - My}{\sqrt{\left(\frac{\Sigma x^2 + \Sigma y^2}{Nx + Ny}\right)\left(\frac{1}{Nx}\right) + \left(\frac{1}{Ny}\right)}} \\ t &= \frac{25.14 - 8.02}{\sqrt{\left(\frac{2183.35 + 1186.60}{19 + 18 - 2}\right)\left(\frac{1}{19}\right) + \left(\frac{1}{18}\right)}} \\ t &= \frac{17.12}{\sqrt{\left(\frac{3369.95}{35}\right)\left(\frac{37}{342}\right)}} \\ t &= \frac{17.12}{\sqrt{(96.28)(0.10)}} \\ t &= \frac{17.12}{\sqrt{9.628}} \\ t &= \frac{17.12}{3.10} \\ t &= 5.52\end{aligned}$$

To sum up, it can be stated that the t-counted of this research was 5.52.

To know the significant difference of the test, the researcher compares the value of the t-counted with the value of the t-table. In order to get the t-table value, the researcher applied the level of significance 0.05 for two-tailed test. The computation as follows:

Experimental group (Nx) = 19

Control group (Ny) = 18

Degree of freedom: Nx + Ny - 2

$$= 19 + 18 - 2$$

$$= 35 \text{ (between } 30 - 40)$$

Level of significance = 0.05

$$df (30) = 1.697$$

$$b = 40 - 30 = 10$$

$$df (40) = 1.684$$

$$c = 1.697 - 1.684 = 0.013$$

$$a = 35 - 30 = 5$$

$$t - \text{table} = \frac{a}{b} \times c$$

$$= \frac{5}{10} \times 0.013$$

$$= 0.0065$$

$$df (35) = 1.697 - 0.0065$$

$$= 1.690$$

The computation above presented that the value of t-table is 1.690. The researcher then compared the value of t-counted and the value of t-table. The result showed that the value of t-counted is higher than the value of t-table (5.52 > 1.690).

Discussion

In this section, the researcher would like to discuss all the research findings. The objective of this research is to find out whether or not applying Clustering Technique can improve students' achievement on writing skill of the eighth-grade students of SMP Bala Keselamatan Kalawara. Therefore, the researcher takes two classes as the sample, VIII A with

19 students as the experimental group and VIII B with 18 students as the control class. Assessment was carried out using a writing test which is administered in two stages: pre-test and post-test. This part including organization, vocabulary, and grammar.

First, for organization, in the pre-test many students find that it is difficult to develop idea in writing. For example, the students are able to write a good sentence on the subject but they are not able to organize it into a proper generic structure. As Hanafi (2017) said that many students had constraint in organizing paragraphs of descriptive text. Second, for vocabulary, in pre-test most of the students had lack of vocabulary. Some of the students combine their sentence with Indonesian language. The result of this research agrees with Rianto (2017) which found that many students had limited vocabulary list and poor choice of words. The problem in writing descriptive text could be happened because the students did not know many English vocabularies and they tend to put the words which were inappropriate in context. Lastly, for grammar, in the pre-test, the students still had considerable weaknesses in determining the verb and part of the speech. Sometimes the students' sentence has no verb and sometimes they put nouns before an adjective. For examples, sentences are written as in "He lives in the house big", "She cook good". Thus, to overcome these conditions, the researcher had applied clustering technique to write a descriptive text due to Diannita (2015) stated that clustering technique also known as diagramming or mapping is a technique which provides an alternative way to help the writer to start their writing, to generate the ideas, images, and feelings.

Finally, based on the research finding and discussion, the researcher make conclusion that to overcome these conditions, the researcher had applied clustering technique as a solution for improving students' writing skill especially in descriptive text. By using clustering technique, the problem of arrange the ideas can be solved. In grammatical rules, clustering technique can help the students to write the simple sentence by following the procedures. Moreover, it can help the students to use vocabulary carefully. Thus, it can be seen that there is a significant increase in the average students writing test scores between before and after treatment. The result of this research agrees with Khumairah (2025) which found that three aspects of writing content, language, organization, and grammar, which are the main focus of this study, were significantly improved by using clustering technique. It means that the alternative hypothesis (H_a) of this research had been proved that clustering technique to students' writing achievement at eighth grade of SMP Bala Keselamatan Kalawara is more effective than without using clustering technique. This statement is in line with research findings from Fitriani (2021), concluded that students' ability in writing descriptive text though by using clustering technique was higher than students thought by conventional learning models. Overall, the research underscores potential of using Clustering Technique as an effective tool for improving students' writing achievement, while also highlighting the need diverse teaching strategies to cater to different learning styles.

CONCLUSIONS

Based on result of the data analysis, it can be concluded that there was a significant effect on students writing achievement in improving students' descriptive text writing skills of SMP Bala Keselamatan Kalawara. This is proven through a hypothesis test that show the t-counted value (5.52) was higher than t-table value (1.690), so that the hypothesis (H_a) is accepted and the null hypothesis (H_0) is rejected. Thus, the application of clustering technique is effective in improving students' writing skills. Therefore, this research is expected to make positive contribution to the learning process and become a reference and guide for English teacher to use this technique that can improve students' learning motivations, so that it is easier for students to generate ideas and process vocabulary for students' writing skills.

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