EXPLORING THE IMPACT OF MIND MAPPING AND CLUSTERING TECHNIQUES ON RECOUNT TEXT LEARNING FOR 10TH GRADE STUDENTS AT SMK NEGERI 1 DHARMA CARAKA

Febriwan Harefa*, Sahlan Tampubolon, Arsen Nahum Pasaribu
Universitas HKBP Nommensen, Medan, Indonesia
febriwanharefa02@gmail.com*

Abstract
The purpose of this research is to find out (1) the effectiveness of the clustering and mind mapping techniques in improving student's writing ability on Recount text learning for 10th grade at SMK Negeri 1 Dharma Caraka, Gunungsitoli Selatan. This research used quasi-experimental research. It conducted for 10th grade at SMK Negeri 1 Dharma Caraka, Gunungsitoli Selatan. The populations of this research were 231 students, which consisted of 7 classes in the school. The samples of the research were 93 students. The samples were divided into three classes. It consisted of 31 students used the mind mapping technique class, 31 students used the clustering technique class, and 31 students used the conventional technique class. The researcher calculated the data using the SPSS 29.00 program. The results of the data analysis showed the clustering and mind mapping techniques had a significant effect in improving the students' writing ability on Recount text learning. The mean score of the post-test in mind mapping technique was 84.51. It was higher than mean score of the pre-test was 51.451. The mean score of the post-test in the clustering technique was 89.482. It was higher than mean score of pre-tests was 54.838. Moreover, the result of the analysis of Anova's variance showed the average of the mind mapping technique score was 84.51. The average score of the clustering technique showed was 89.48 and the average score of the conventional technique was 78.09. Therefore, the better significance effect between the mind mapping and the clustering techniques in improving students' writing skill on Recount text learning for 10th Grade at SMK Negeri 1 Dharma Caraka was the clustering technique. It means that the clustering technique effectiveness in improving students' writing skill on Recount text learning.
Keywords: writing, recount text, mind mapping technique, clustering technique

INTRODUCTION

Writing is one of the language skills that students must master. The students are expected to be able to express their ideas, opinions, feelings, and emotions well in writing a text. Writing combines process and product. The process presented with gathering ideas and comprehending words into sentences or products of writing contains a complex process in writing.

Writing is a process of transferring the word that comes from our mind effectively, writing is considered a difficult subject. Sari et al (2014:213) stated that writing is not just simple to put ideas in grammatical correctly. Instead, writing is critical thinking that needs to be modified for use in many fields and genres.

Moreover, it is crucial to plan and visualize what we will write before producing a text. Writing is difficult because in writing they have to imagine what they want to write. In writing text, foreign students always think that they should write a good sentence and they are afraid of false grammar. It is difficult to think about what they want to write because they do not have any ideas to write. Rajagukguk et al. (2020: 96) argue that writing skills are difficult to master by the students because they must balance multiple issues such as content, organization, purpose, audience, spelling, and capitalization. Writing skills should balance content, organization, purpose, audience, vocabulary, punctuation, spelling, and capitalization.

Therefore, writing skills are difficult because of some factors the content, the organization, the purpose, the audience, the vocabulary, and the mechanics. The conclusion that writing is part of language skills is complicated. Besides the other factors, some aspects are also important according to Putra Alam (2017:102) said that some aspects of writing that are very important in producing good, clear, fluent, and effective writing, are grammar, vocabulary, mechanics, organization, and content. Thus, he said writing is the most difficult skill that must be mastered, and it will never be left in education.

In teaching the writing skills, there are some typical texts that are learned by English teachers to students. Based on the *Kurikulum Merdeka* and English textbook learned in Public Vocational High School, the students for 10th grade of students learn descriptive, procedure, and recount texts, etc.

The researcher who is a teacher for 10th grade students in Public Vocational High School is interested in doing the research about recount text learning and how to improve the students' writing ability. Concerning the level, the English teachers teach the students about personal recount text, which is defined as one type of recount text in addition to factual, autobiographical, biographical, literary, and historical recount. It retells the writer's past experiences to either inform or to either inform or to entertain the audience. It often consists of orientation, a series of events, and reorientation. Another definition that recounts text can also be defined as a text that is written to make a report about an experience of a series of related events. These events are then sequenced and completed with characters in a particular set of time and place. This shows that the information about characters, time, and place is crucial in writing a good recount text. Define a recount text as the text to retell a past event or to retell something that happened. It is one specific instructional objective in teaching English, one in typical genre lesson activities using, including in factual genres, and as a competence of achievement target, should be understood by students.

As long as the researcher teaches English at SMK Negeri 1 Dharma Caraka, Gunungsitoli Selatan, the researcher found out that the students for 10th grade of Fashion and Design and Nurse Assistant and Care Giver classes, almost all students cannot write the recount text well and it impacts for the students' scores in the class. There is 60 percent of students in 3 classes have a score below of KKM (*Kriteria Ketuntasan Minimal*) in writing recount text topics, as we know the English standard score for 10th grade students is 65. It happens because the students also faced some difficulties in writing Recount text. Some factors why it happens are because the students lack of vocabularies, grammar, they do not how to

organize the sentences and the content of Recount text. Because of it, the students got the low score below the standards score of English teaching. Therefore, the researcher as an English teacher interested to analyze and to find out what is the effectiveness of techniques by applying the clustering and mind mapping techniques in improving students' writing ability on recount text learning, which allows the students can understand to write recount text well and the impact both of techniques to increase the student's score to be better than before.

The two techniques that the researcher wants to apply in this study are mind mapping and clustering techniques. Mind Mapping is a powerful technique to help students visually develop and organize ideas and information. On the other hand, it is a diagram that combines both scheme and writing. It allows the teacher and students to organize a written form to make it easy for the mind to recall and retrieve information. Nia et al. (2019:24) stated Mind mapping technique is a graphic tool that represents the world, images, or ideas that spread out into branches that in linked to keywords or ideas.

Mind mapping helps teachers not only to teach the students, but also to think, learn, and make meaningful connections between prior knowledge and new knowledge. The maps project ideas, as is done during brainstorming, show a hierarchical structure and interconnect the major components with the minor details. All level students can be provided with appropriate structure through Mind maps to help them make sense, organize thoughts, and create connections. It works similarly to the human brain and includes keywords that are easy to remember. The use of lines, arrows, color-coding, pictures, and symbols in Mind maps not only makes the process of writing interesting, but also suits the learning profile of the individual learner.

Meanwhile, the clustering technique is one of guided writing that can be applied in teaching writing and can be used to improve students' writing competence. In addition, this technique can help the students to generate, develop, and arrange their ideas. The technique has several advantages one of which is to generate ideas. Sadapotto et al, (2019: 298) said that grouping, or what we know as diagramming or mapping is a strategy that can be used to visually generate essay material to connect ideas in circles and lines and group them. Clustering is one of the techniques to generate the ideas like brainstorming technique. Through this technique students can write down the ideas that relate to the topic (Wati, et.al, 2023: 357).

According to Ullah et al. (2019:111) said that to make clustering, a topic should be written by drawing a balloon around the topic. This is the center or core balloon. Then write whatever ideas come into mind in a balloon around the core. More clusters are associated with the activities aimed at a group of people. This technique is associated with determining the place and time to achieve a goal that is beneficial to divide and set targets. It is a technique that is made by the data analysis shaping; sorting overspecializes in specific target groups, and types. Meanwhile, Berlianti et al. (2023:171) have stated that the clustering technique is another brainstorming activity that the students can use to generate ideas. This technique was hoped to solve the problems faced by the students usually they got difficulties in developing their ideas in writing activity because they were poor in vocabulary and grammar.

The form of clustering technique was easy to understand, especially by the students, and it gave a new style in writing activity. It also had the aim to make students' confidence in writing and to decide the best dictions that were going to be used in writing recount paragraphs according to him or her. The researcher was very interested in using the

clustering technique as a source in his research because it helped the students organize their ideas before they started to write. Moreover, to teach and apply clustering techniques for students has technique. According to Hendrawaty et al. (2017:355) stated that to cluster, write the subject in the middle of the page and then circle it and write related ideas around the circle around the subject. Rusdin & Tabise, (2020:94-103) said that the researcher tries to find out the significant difference between clustering and mind mapping techniques in improving students' writing ability in the eighth grades of SMPN 2 Tolitoli. It used experimental research and SPPS 29.00. Finally, the researcher found out that in mind mapping technique was more effective than clustering technique.

Based on the explanation above, the researcher would apply both of techniques; clustering and mind mapping techniques at SMK Negeri 1 Dharma Caraka, Gunungsitoli Selatan. This school is located in Gunungsitoli Selatan, North Sumatra. It is a public vocational school, which has five departments. They are Nurse Assistant and Care Giver, Tourism Business Service, Electrical Installation, and Design and Fashion Product. This study only applies two techniques for the students of Design and Fashion Product and Nurse Assistant and Care Giver Department. The researcher would apply two techniques for 93 students of 231 students for 10th grade. It will be divided into 3 classes; the first class applies the mind mapping technique, the second class applies the clustering class, and the third class is the controlled class. In the last class, the researcher does not do any treatment or do not give any technique. The students in controlled class use conventional techniques. However, the researcher still does the pre-test and post-test on 31 students.

The researcher wants to find out the effectiveness of two techniques: mind mapping technique and clustering technique in teaching recount text for 10th grade students at SMK Negeri 1 Dharma Caraka. The objectives of this study are 1) to describe the mind mapping and clustering techniques for writing recount text for 10th grade students; 2) to develop and describe how to apply mind mapping and clustering techniques to writing recount text in 10th-grade students; and 3) to find out which one is more effective mind mapping technique or clustering technique in writing recount text for 10th grade students. Moreover, it can help English teachers at the students to develop and enrich the writing ability of students, and generally, English teachers who teach writing recount text. It can be one of the recommended techniques to solve the same problem that is faced by the researcher. Therefore, the researcher arranges research which is entitled Exploring the impact mind mapping and clustering techniques in writing recount text for 10th grade at SMK Negeri 1 Dharma Caraka, Gunungsitoli Selatan.

METHOD

This research applied a quasi-experimental research design. This quasi-experiment research design was conducted at SMK Negeri 1 Dharma Caraka, Gunungsitoli Selatan, Gunungsitoli City because the researcher controllered all possible variables in this experiment, volunteers were assigned to groups at random by the researcher. As a result, the researcher selected both control and experiment classes based on a recommendation from a tenth-grade English teacher for available courses for this study. It studies that aimed to evaluate interventions, but that did not use randomization. Similar to randomized trials, to demonstrate causality between an intervention and an outcome.

Furthermore, Pendidikan et al (2021:30) stated in a quasi-experimental research design, the researcher uses intact classes for the experiment. That is due to the fact the researcher cannot artificially created groups for the test which meant the approach and created groups

for the test which meant the approach and devised contain numerical dimensions and the statistical quantification might be conducted. Experimental research involves one group: experimental. An experimental group received a new treatment. This study used pre-tests and post-tests.

The population of this research was 231 students which consisted of 7 classes. Nurmayanti et al. (2023:36) said that the sample was a portion of the amount and the characteristics possessed by the population. The sample was 93 students. It consisted of 31 students in the mind mapping technique class, 31 students in the clustering technique class, and 31 students in the conventional technique class. The researcher took the population of research in SMK Negeri 1 Dharma Caraka Gunung sitoli Selatan. Based on the school's admiration, the researcher found of total of 10th grade is 231 students as follows:

Table 1.1

(The Population of the Tenth-Grade Students SMK N. 1 Dharma Caraka)

No	Class	Total
1.	X-AKC 1	36 Students
2.	X-AKC 2	31 Students
3.	X-DPB 1	31 Students
4.	X-DPB 2	31 Students
5.	X-TITL 1	34 Students
6.	X-TITL 2	34 Students
7.	X-ULW	34 Students
	TOTAL	**231 Students**

Source: Office Administration of SMK N. 1 Dharma Caraka

Samples in this research classified into two experimental groups to implement the techniques, which was experimental group A used the mind mapping technique, experimental group B used the clustering technique and experimental group C used the conventional technique.

The test was applied in Group A and Group B, and Group C did not give treatment. After the test was finished, did a treatment. Lastly, the researcher administered a post-test for two groups to find out the effectiveness of mind mapping and clustering techniques for 10th-grade students. The researcher formulated the design of the research into a table as the following:

Table 2.2
(Design of Research)

Sample	Pre-Test	Treatment	Post-Test	Number of Students
Experimental group A	✓	Mind Mapping Technique	✓	31
Experimental group B	✓	Clustering Technique	✓	31
Group Control group C	✓	Conventional Technique	✓	31

Source: Office Administration of SMK Negeri 1 Dharma Caraka Gunungsitoli Selatan

The variables in this study were classified into two categories: independent and dependent variables. The independent variable was the variable that was not affected by the dependent variable, whereas the dependent variable was the variable that was influenced by the independent variable. The influence of applying both the mind mapping and clustering techniques on writing skills was investigated in this research. Mind Mapping and clustering techniques were both independent variables while writing recount text was the dependent variable.

The research instrument that the researcher used was to create a writing recount test. The test was used in pre-test and post-test and the test used 93 students which were on three groups. In this research, the researcher intended to see whether the students were able or not to write 3 to 5 paragraphs applied in the pre-test and post-test. And then, the researcher sought the homogeneity of the sample by using the data of the pretest. After knowing that the data was homogeneous, the researcher gave treatment for two experimental classes by using mind mapping and clustering techniques. Then, the researcher collected the data after giving a post-test to the students as a sample.the last, the researcher examined the hypothesis by using an F-test.

In the analysis data the researcher used quasi-experimental research and SPPS (Statistical Package for the Social Science), especially the ANOVA. The researcher analyzed raw numbers into meaningful data through the application of rational and critical thinking. In this descriptive analysis, the result of students' writing recount test was compared before (Pre-Test) and after treatment (Post-Test). The findings of pre-test and post-test activities were used to describe students' abilities in this research. The mean, minimum score, maximum score, and standard deviation statistic were some statistical formulas employed in the computation. Finally, a comparison between the treatment and control groups was offered, and the conclusion was the effectiveness of the two techniques for 10th grade students.   Descriptive   statistics summarize data; inferential statistics helped the researcher to make some predictions based on your data and draw conclusions.

Determining the mean in the research was important, since it took into account the individual weighting of every score. To know the students', mean of degree comprehension the researcher used the formula as follows:

$$\ddot{X}^2 = \frac{\sum x}{N}$$

Which:
$\ddot{X}^2$:   Mean
$\sum x$:   The total of the students' degree of comprehension
N   :   The total of students

Based on the formula above, the researcher used formula mean score in pre-test and post-test. To get the standard deviation, the researcher used the formula suggested by (Sugiyono, 2010):

$$S = \sqrt{\frac{\sum (X-X)^2}{N}}$$

Which:

S : Standard deviation of sample
X : The score of item
$\sum$: The mean of data
N : The number of the sample

Based on the formula above, the researcher used formula of deviation in pre-test and post-test. Variant was the quadrate from standard deviation. To determine the variant, the researcher used the formula suggested by (H.Douglas Brown, 2000):

$$S^2 = \frac{\sum(X - \ddot{X})^2}{N}$$

Which:
S^2 : Variance
X : The score of item
$\ddot{X}$: The mean for data
N : The number of the sample

Based on the formula above, the researcher used formula of variance in pre-test and post-test. To measure how strong, the effect of talking stick, the researcher adopts Cohen's d formula as follows:

$$d = \frac{M^1 - M^2}{Pooled\ standard\ deviation}$$

d : The significance effect of method
M^1 : The mean score of experimental groups
M^2 : The mean score of control group

After getting the results, it can be interpreted according to the criteria:
0.00 – 0.20 : Weak effect
0.21 – 0.50 : Modest effect
0.51 – 1.00 : Moderate effect
> 1.00 : Strong effect

In the research, the result from both of the groups (experimental group) in the post-test has been used by the researcher to examine the hypothesis. To examine the hypothesis of the research, the researcher used the T independent test. It was because T independents test is used to examine the hypothesis cooperative between two mean that is gotten from independent sample. Independent sample meant the sample are difference or separated and usually used for experimental research with pre-test and post-test both of the experimental group's design. (Sugiyono, 2010) gives two formulas to examine the research hypothesis with the different way, one formula if the number group sample is same and one formula is the number group sample is different.

So, the researcher used the formula which is specialized samples that have the same number as follows:

$$t = \frac{\ddot{X}_1 - \ddot{X}_2}{\sqrt{\frac{S\frac{1}{2} + s\frac{2}{2}}{n}}}$$

So, the researcher hypotheses in the research are:
H_a : There is a significant effectiveness of the mind mapping or clustering

technique on students' ability in writing recount text at the Tenth Grade SMK Negeri 1 Dharma Caraka Gunungsitoli Selatan.

H_0 : There is no significant effectiveness of the mind mapping technique or clustering technique on students' ability in writing recount text at the Tenth Grade SMK Negeri 1 Dharma Caraka Gunungsitoli Selatan

If the result of the post-test data has a normal distribution and homogenous, the researcher examined the hypothesis by using parametric statistic formula from (H.Douglas Brown, 2000), as follows:

$$t = \frac{\ddot{X}_1 - \ddot{X}_2}{\sqrt{\frac{s\frac{1}{2} + s\frac{2}{2}}{n}}}$$

Which:

$\ddot{X}_1$: : Mean of the first group

$\ddot{X}_2$: : Mean of the second group

$s\frac{1}{2}$: Variance of the first group

$s\frac{2}{2}$: Variance of the second group

n_1 : The total of the experimental group

n_2 : The total of the control group

The formulation of hypothesis that is examined by using t-independent test as follows. So, the examining criterion is "Ho is accepted, and Ha is refused if $- t\frac{1}{2}\alpha$ (dk) $\leq t \geq - t\frac{1}{2}\alpha$ (dk) or Ho refused, and Ha is accepted for the opposite condition".

Analysis of variance (ANOVA) was an analysis tool used in statistics that splits an observed aggregate variability found inside a data set into two parts: systematic factors and random factors. The systematic factors have a statistical influence on the given data set, while the random factors did not. Analysts used the ANOVA test to determine the influence that independent variables have on the dependent variable in a regression study. According to Abdullah et. n.d (2014:1) in "*Stastika tempatnya pada bidang informasi*" stated to Anova or Anava was an analysis statistics method used to test the comparison of two or more averages of population data or sample data. Furthermore, the other ANOVA was used to test differences between several populations' means by comparing their variances. The numerator in the variance formula was nothing else was the sum of the squares of the deviation scores from the mean.

One Way of Anova Hypothesis

a. H0: μ1 = μ2 = μ3 = … = μn, There was no significant difference between the calculated means of the n groups

b. H1: μ1 ≠ μ2 ≠ μ3 ≠ … ≠ μn, There was a significant difference between the calculated meant of n groups.

In the ANOVA analysis of variance, the hypothesis used only a hypothesis for the two-way case. This meant that the hypotheses used for one-way ANOVA and two-way ANOVA are the same. Please note that in the analysis of variance, Our Anova cannot determine which groups were truly different. Anova's variance analysis capability was only able to detect whether it was presented differences in the means of several groups. The table below showed the analysis of Anova's Variance. The table below showed the analysis of Anova's Variance, that is:

Table 3.3
(The Analysis of Anova's Variance)

	1	2	…	K	
Sample	X_{11}	X_{21}	…	X_{k1}	
	X_{12}	X_{22}	…	X_{k2}	
	…	…	…	…	
	X_{1n}	X_{2n}	…	X_{kn}	
Total	T_1	T_2	…	T_k	T
Measurement	N_1	N_2	…	Nk	N
Average	X_1	X_2	…	X_k	

Explanation:

Xij : Individual (elemen) ke-i from sampel j
K : Number of population/treatment
Nj : The number of individuals in sample j
N : SNJ (j = 1, 2, 3, …, k) = total observation
T : T1 + T2 + … + Tk = the total number of individuals

The researcher analyzed raw numbers into meaningful data through the application of rational and critical thinking. In the descriptive analysis, the result of students' writing recount test was compared before (Pre-Test) and after treatment (Post-Test). The findings of pre-test and post-test activities were used to describe students' abilities in this research. The mean, minimum score, maximum score, and standard deviation statistic were some statistical formulas employed in the computation. Finally, a comparison between the treatment and control groups was offered, and the conclusion was the effectiveness of the two techniques for 10th-grade students. Descriptive statistics summarize data, inferential statistics help the researcher to make some predictions based on your data and draw conclusions.

RESULTS AND DISCUSSION

Result of the Pre-Test and Post-Test Data Description of Experimental Class

The treatment class was mind mapping technique and the students were from the ten grade of SMK Negeri 1 Gunungsitoli Selatan class X-DPB 2. In this study, a pre-test and post-test would be administered to determine the students' ability in a writing recount text. There were 31 students in the mind-mapping technique class. The table below shows the data description for pre-test and post-test scores:

Table 3.4
The Result of the Pre-Test and Post-Test in Mind Mapping Technique

No	Students Initial's Names	Pre-Test Score	Post-Test Score
1	AYH	49	84
2	ARD	75	81
3	COS	41	88
4	CPD	61	86
5	CAH	44	80
6	DVL	48	89
7	FKH	68	86

8	FWK	57	83
9	FZ	52	82
10	GAZ	43	90
11	HH	50	87
12	HEG	49	82
13	HAL	30	81
14	IJG	67	86
15	ICH	74	85
16	**ITH**	55	**80**
17	IBZ	53	83
18	**JZ**	50	**91**
19	JAG	36	87
20	JKZ	35	87
21	KNG	48	81
22	**KPZ**	**32**	87
23	LL	72	86
24	ML	60	81
25	MJG	70	84
26	NAH	51	87
27	ONL	68	83
28	PWL	36	82
29	RL	47	81
30	RAZ	38	85
31	SL	36	84
	TOTAL	**1595**	**2620**
	MEAN	**51.451**	**84.51**

From the table above, it has shown that the total score for the experimental group in the pre-test is 1595 and the mean score is 51.451. The lowest score for the pre-test was 32 and the highest was 75. In the post-test, the total score was 2620 and the mean score was 84.51. The lowest score was 80 and the highest score was 91 implementing the mind mapping technique as a treatment in teaching and learning writing recount text of a personal experience watching a sports match.

Result of the Pre-Test and Post-Test Data Description of Experimental Class

The treatment class was a clustering class, and the students were from the tenth grade of SMK Negeri 1 Dharma Caraka Gunungsitoli Selatan class X-DPB 1. In this study, a pre-test and post-test would be administered to determine the student's ability in a writing recount text. There were 31 students in the clustering technique class. The table below shows the data description for pre-test and post-test scores:

Table 3.5
The Result of Pre-Test and Post-Test in Clustering Technique

No	Students Initial's Names	Pre-Test score	Post-Test Score
1	AYG	48	87
2	AIL	67	83
3	**AHG**	44	**95**

4	BDH	56	87
5	BAG	64	89
6	CAL	45	94
7	DNM	54	89
8	DPZ	42	92
9	EGZ	37	92
10	EKL	67	80
11	**EMH**	**72**	95
12	FT	61	86
13	HKL	67	95
14	JLL	72	94
15	JG	40	90
16	JLH	38	90
17	**KW**	**31**	82
18	LW	71	94
19	**LAH**	**75**	**81**
20	MPB	39	93
21	MAH	71	94
22	MFL	53	93
23	MDH	45	84
24	NFL	44	94
25	PDW	64	82
26	RRH	37	95
27	RPZ	61	88
28	SKG	69	92
29	TJH	54	90
30	TH	68	88
31	PCZ	44	85
	TOTAL	**1700**	**2774**
	MEAN	**54.83**	**89.483**

From the table above, it has shown that the total score for the experimental group in the pre-test is 1700 and the mean score is 54.83. The lowest score for the pre-test is 31 and the highest is 75. While in the post-test, the total score is 2774 and the mean score is 89.583. The lowest score is 81 and the highest score is 95 implement clustering technique as a treatment in teaching and learning writing recount text of a personal experience watching a sport match.

Pre-Test and Post-Test Data Description of Controlled Class

Treatment class was a conventional technique, and the students were from the tenth grade of SMK Negeri 1 Gunungsitoli Selatan class X-AKC 2. In this study, a pre-test and post-test would be administered to determine the student's ability in a writing recount text. There are 31 students in the conventional technique class. The table below shows the data description for pre-test and post-test scores:

Table 3.6
The result of Pre-Test and Post-Test in Conventional Technique

No	Students	Pre-Test	Post-Test

	Initial's Name	Score	Score
1	**ADL**	**74**	71
2	AOB	34	72
3	ALB	61	79
4	AEB	50	79
5	AWL	41	83
6	EJZ	43	74
7	FKL	44	80
8	FCL	37	73
9	HB	57	84
10	HRL	70	81
11	IZ	58	78
12	IH	50	72
13	IZ	69	76
14	**JHG**	60	**71**
15	JDH	44	83
16	JZ	63	84
17	LFH	65	77
18	LCL	39	80
19	LB	68	75
20	MK	53	81
21	MS	55	75
22	M	37	77
23	MYD	56	84
24	NKH	53	77
25	NHL	40	82
26	NCM	70	73
27	**PG**	69	**85**
28	SLB	65	74
29	**SLH**	**30**	79
30	SPG	30	79
31	SE	48	83
	TOTAL	**1674**	**2421**
	MEAN	**54**	**78.096**

From the table above, it has shown that the total score of conventional technique in the pre-test is 1674 and the mean score is 54. The lowest score for the pre-test was 30 and the highest was 74. While in the post-test, the total score was 2421 and the mean score was 78.096. The lowest score was 71 and the highest score was 85 implementing conventional techniques as treatment in teaching and learning writing recount text of a personal experience watching a sport match.

Table 3.7
The Enhancement of the Score

Group	Pre-Test	Post-Test	Enhancement
Mind Mapping	51.451	84.51	33.06

Clustering	54.838	89.483	34.65
Control	54	78.096	24.10

Based on the table, the average pre-test score in mind mind-mapping technique class was 51.451, while the average post-test score in mind mind-mapping technique class was 84.51. There was an increase in the score of 33. Meanwhile, the average pre-test score in the clustering technique class was 54.838, while the average post-test score in the clustering technique class was 89.483. There was an increase in score of 34.65. Then, the average pre-test score in the conventional technique class was 54, while the average post-test score in the conventional technique class was 78.096. There was an increase in score of 24.

Based on the table, it was known that the highest average score increase occurred in class by using the clustering technique with an average increase of 34.65. The average score of the lowest increase occurred in the control class, with an average of 24.

The Result of Inferential Analysis

Then the normality and homogeneity test was carried out, normally testing was done by using the Kolmogorov-Smirnov test. The following were the criteria for making decisions:

1. If the value of Asymp. Sig. (2-tailed) & gt; a significance level of 0.05 or 5%, then the data is normally distributed.
2. If the value of Asymp. Sig. (2-tailed) & It; a significance level of 0.05 or 5%, then the data are not normally distributed.

Table 3.8
(Normality Test One- Sample Kolmogorov- Smirnov Test)

Tests of Normality							
		Kolmogorov-Smirnov			Shapiro-Wilk		
	Class	Statistic	df	Sig.	Statistic	df	Sig
Learning Outcome	Pretest Experiment 1	.109	31	.200*	.952	31	.178
	Posttest Experiment 1	.115	31	.200*	.945	31	.114
	Pretest Experiment 2	.157	31	.200*	.922	31	.127
	Posttest Experiment 2	.157	31	.200*	.915	31	.117
	Pretest Controlled	.108	31	.200*	.953	31	.118
	Posttest Controlled	.099	31	.200*	.948	31	.134

*This is a lower bound of the true significance
a. Lilliefors Significance Correction

Based on the table explanation above, the score of Smirnov Sig, for data of pre-test was 0,109, 0,157, and 0,108> 0,05 it meant data had normal distribution and the score of Smirnov Sig for data of post-test was 0,115, 0,157 and 0, 099 > 0,05, it means the data had normal distribution.

Then the homogeneity test was carried out, normally testing was done by using the Kolmogorov-Smirnov test. To achieve this data, levene statistic test on IBM SPSS 29.0 was applied in this research with the similar rule of the normality that is α = 0,05.

1. If the homogeneity test resulted < α = 0,05 the data were homogenous.
2. If the homogeneity test resulted > α = 0,05 the data were not homogenous or have equal variances.

Table 3.9
(The Test of Homogeneity of Variance)

Learning Outcome		Levene Statistic	df1	df2	Sig.
	Based on Mean	13.063	5	180	0.75
	Based on Median	11.201	5	180	0.125
	Based on Media and adjusted df	11.201	5	102.956	0.069
	Based on trimmed mean	12.935	5	180	.137

Based on the result analysis homogenous data because of significance > 0.05. Then, the researcher continued to analyze the ANOVA Test.

After doing some procedures in Preliminary Data Analysis which was doing a normality test and homogeneity test and the data were proved distributed normally and homogenous (The sample from the experimental and control class have similar characteristics), the next step of calculation was to test the hypothesis. To test the hypothesis, the researcher calculated the data by using a t-test. The purpose of using the t-test was to check whether there was effectiveness between the mind mapping technique and clustering technique in recount text in the experimental class and control class. So, to test the hypothesis of this research, the researcher used IBM SPPS 29.0 and conducted by using the formulation of both experimental classes and control class mean scores. Then, in this study, the researcher also determined the significance value or alpha (α) to use it in the formulation. The researcher determined to use a significance value which is 5% or 0.05.

Table 3.10
(Independent Samples Test)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Learning Outcome	Equal variances assumed	32.932	.000	−13.700	60	.000	−33.06452	2.41354	−37.89232	−28.23671
	Equal variances not assumed			−13.700	33.331	.000	−33.06452	2.41354	−37.97305	−28.15598

Based on the Independent Samples Test results table in the equality of means section with the Sig. (0.000) < (0.05) then H_0 was rejected so it can be stated that there were significant differences in learning outcomes between the three learning models used.

Based on the above, it was presented that the result of the post-test from both experimental class and control class. When looking at the Table 3.9 each class had similar number of students which 31 students and symbolized with N. In addition, the column of Mean showed that the average score of post-test scores from both experimental classes was 1.82 while the mean score of control was 0.78. So, it can be said that experimental class has higher average score rather than control class. After getting F observe, where 0.983 was higher than F table 0.187. It shows that Ha was accepted Ho was rejected. It can be concluded that mind mapping technique and clustering technique were accepted and this technique can effectiveness in a recount text on the 10th grade students of SMK Negeri 1 Dharma Caraka Gunungsitoli Selatan.

The Assumptions that must be filled in Variety Analysis (ANOVA)

a. The data used was data that was normally distributed because it will F-test statistics are used.
b. The variants or varieties are homogeneous. This term was better known as homoscedasticity, where there was only one estimator for variation in samples.
c. Each sample was independent.
d. The model components were additive.

One Way of Anova Hypothesis

a. H_0: $\mu 1 = \mu 2 = \mu 3 = \ldots = \mu n$, there was no significant difference between the calculated means of the n groups

b. H_1: $\mu 1 \neq \mu 2 \neq \mu 3 \neq \ldots \neq \mu n$, There was a significant difference between the calculated means of n groups.

In the ANOVA analysis of variance, the hypothesis used only a hypothesis for the two-way case. This meant that the hypotheses used for one-way ANOVA. Our Anova cannot determine which groups are truly different. Anova's variance analysis capability was only able to detect whether there were present differences in the means of several groups. The table below shows the analysis of Anova's Variance, that is:

Table 3.11
(The Analysis of Anova's Variance)

	1	2	…	K	
Sample	X_{11}	X_{21}	…	X_{k1}	
	X_{12}	X_{22}	…	X_{k2}	
	…	…	…	…	
	X_{1n}	X_{2n}	…	X_{kn}	
Total	T_1	T_2	…	T_k	T
Measurement	N_1	N_2	…	Nk	N
Average	X_1	X_2	…	X_k	

Explanation:
X_{ij} : Individual (elemen) ke-i from sampel j
K : Number of population/treatment
Nj : The number of individuals in sample j
N : SNJ (j = 1, 2, 3, …, k) = total observation
T : T1 + T2 + … + Tk = the total number of individual

Table 3.12
(The Result of Analysis of Anova's Variance)

	1	**2**	**3**	**K**	
Sample	31	31	31	91	
Total	62	62	62		186
Measurement	2620	2774	2421	7815	7.815
Average	84.51	89.48	78.09	252.08	

One Way Anova Test Hypothesis

Table 3.13
(The Result of One Way Anova)

ANOVA					
Learning Outcome	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	**45760.495**	5	9152.099	98.386	.000
Within Groups	**16744.065**	180	93.023		
Total	**62504.559**	185			

H_o : There is no significant among three groups in the average test scores.
H_a : There is a significant difference among three groups in the average test score.

The Effectiveness of Clustering Technique

Based on the ANOVA table was obtained Sig (0.000) < (0.05) maka H_o rejected and H_a is received. So, the researcher concluded that there was a significant difference among the three groups or techniques in this research. Moreover, the result of the post-test between the mind mapping technique (1st treatment class) and clustering technique (2nd treatment class), the clustering technique was able to increase the writing recount text score' of students than students who did the treatment using the mind mapping technique. So, the researcher made the conclusion based on the ANOVA test, that the clustering technique was effectiveness to increase the students' scores and ability in writing students general.

In this research, the researcher used content validity to see the students' scores in writing recount text. The researcher used content validity to determine the writing assessment's score. The researcher used several types to find out the score of the student's writing achievement there are content, organization, vocabulary, language used, and mechanics.

Table 3.14
The Content Validity

Score	Percentage
Content	20%
Organization	20%
Vocabulary	20%
Language used	20%
Mechanics	20%

Research Findings

The result of this research to indicate that teacher of English might be familiar with mind mapping technique and clustering technique. Besides, the English teachers who are teaching English may use this information to develop a good skill in listening, speaking, reading, and writing. After the writer analyzed the students' ability, the finding of this study was presented:

The Use of Mind Mapping Techniques

The mind-mapping technique affected a student's mastery in writing recount text to 10th-grade student. This technique can be created the ability of students be increased. As long as the processing of teaching used the mind mapping technique, the students were interested in understanding and following all of the teacher's explanations. Moreover, when the teacher gave the post-test to students, they were able to understand the teacher's instructions. It was affected to their score increased significantly before the pre-test and post-test, in which the lowest score of students was 80 and the highest score, was 91. It was proved that the students could understand the technique well.

The Use of Clustering Techniques

The clustering technique affected to a student's mastery in writing recount text to 10th-grade students. Similar to the clustering technique, this technique could be understood by all of the students in the class. The researcher gave stimulus to them by asking some questions related to students' experience watching a sport match. Almost all the students answered the teacher's question. Then, the researcher columned some topics and linked these topics to sub-topics to three sub-topics. As long as the processing of teaching the clustering technique, the students can follow and understand all of the instructions. After the researcher taught the clustering technique, the researcher gave the post-test. The result of the post-test was 81 and the highest was 95. It stated that the clustering technique was affected by a student's mastery in writing recount text to 10th-grade students.

The Use of Clustering Techniques

Based on the result of mind mapping and clustering' post-test score, the researcher can be took the conclusion that the clustering technique was mastery in writing recount text to 10th-grade students. The reason of researcher decided it based on the students' scores.

DISCUSSION

The researcher found out that the mind mapping technique and clustering technique are two good writing teaching techniques. Both techniques were tested on 93 students in 10th grade of SMK Negeri 1 Dharma Caraka Gunungsitoli Selatan, which the researcher decided the students in 3 classes. Group A (X-DPB 1) was treated by mind mapping technique. Group B (X-DPB 2) was treated by clustering technique. The group C (X-AKC 2) was treated by a conventional technique. As long as the researcher did the research in 3 groups for 8 times, the researcher found some results that were: The first condition in group A when the researcher ordered them to do a pre-test in X-DPB 2. Some of them wrote a recount text still confused about organizing the idea systematically and some students were mixing some words using gerund in their text. In addition, the condition of the class before started was noisy, so the researcher organized and gave some advice to the students.

In addition, the condition of the class before started was noisy, so the researcher organized and gave some advice to the students. Although, the researcher had faced some problems in the X-DPB 2 class, the condition of the class for testing was conducive generally. The students were able to follow all the research processing that was given by research. As long as the teacher did teach processing activities, the students were able to develop their ideas or imagination, when the researcher ordered a task for students to write some new topics on the whiteboard. They were brave to write their ideas and the answers correlated to the big topic. However, some of them were not interested in writing and drew some lines on each new idea on the whiteboard. Some students were confused about developing their ideas in a new line and they were not interested in drawing some pictures online of a new topic. The researcher tried to explain to them about this technique. Finally, it was affected by the result of the post-test of students. Therefore, it proved the mind mapping technique affected teaching in writing text to 10th-grade students and impacted the score of post-test students in the mind mapping technique which the post-test scores were increased before the pre-test scores significantly.

The second condition in group B was the class condition was a little different from the condition in group A. The students in group B were disciplined and regular. They did all the researcher's instructions and listened to all the material given by the researcher for research processing in the class. The teacher explained about recount text, the kinds, schematic structure, and linguistic features of recount text to students.

Moreover, the researcher ordered students to create some ideas on the topic related to personal experience when watching a match sports competition. The students were able to develop their ideas or imaginations. The researcher also directed the students to write ideas or imaginations in five columns on the whiteboard. The student circled one big column and wrote an idea in the column and the other students continued to link the other idea with drawing the line starting the big column and drags it in the small column and wrote the new idea in the column, etc.

The researcher's technique was good, and students were interested to draw and wrote their ideas on the whiteboard. It was affected the post-test's score of students in X-DPB 1 class, which the scores were increased significantly than pre-test scores. Therefore, the clustering technique was good teaching writing technique.

Regarding the result of the data analysis, it was found that the clustering technique was effective in teaching writing recount text. Previous research has proved that writing skills can be effective. Based on the first previous research the mind mapping technique was used in teaching writing. The research was conducted by experimental research and the second previous research was the clustering technique.

Based on the mind mapping technique and clustering technique the students understood both techniques. However, the students were more understanding   of the clustering technique.

Based on the statement of the researcher in chapter 1 about the hypothesis, namely:

H_a :   There is a significant effective of the mind mapping technique in writing on students' ability in writing recount text for Tenth Grade at SMK Negeri 1 Dharma Caraka, Gunungsitoli Selatan.

Ha   :   There is a significant effective of the clustering technique in writing on students' ability in writing recount text for Tenth Grade at SMK Negeri 1 Dharma Caraka, Gunungsitoli Selatan.

Ha   :There is significant effectiveness of the mind mapping or clustering technique on students' ability in writing recount text for Tenth Grade at SMK Negeri 1 Dharma Caraka, Gunungsitoli Selatan.

H₀   **:**   There is no a significant effective of the mind mapping technique in writing on students' ability in writing recount text for Tenth Grade at SMK Negeri 1 Dharma Caraka, Gunungsitoli Selatan.

 Ho :   There is no a significant effective of the clustering technique in writing on students' ability in writing recount text for Tenth Grade at SMK Negeri 1 Dharma Caraka, Gunungsitoli Selatan.

Ho   :There is no significant effectiveness of the mind mapping or clustering technique on students' ability in writing recount text for Tenth Grade at SMK Negeri 1 Dharma Caraka Gunungsitoli Selatan.

The result of this research showed that there was a significant effect on students' scores on both pre-test and post-test. Based on the data collected from the students so, the hypothesis (Ho) was rejected, and the alternative hypothesis was accepted. It meant that the technique was significantly effective because students showed improvement in test results.

This study has similarities with previous research by Kamelia et al. (2019: 112-120), investigated that the use of mind mapping on improving students' writing ability for tenth grade at SMAN 7 Kota Tangerang in the Academic Year of 2018/2019. The objective of this study was to find the use of mind mapping to improve students' writing ability, especially for biographical recount text for the tenth-grade students of SMAN 7 Kota Tangerang in the academic year of 2018/2019. The sample of this study was 35 students. This study used a quantitative method with a pre-experimental design by using one group pre–test and post–test. The result of the research showed that there was a significant difference in students' writing ability between tenth-grade students of SMAN 7 Kota Tangerang before and after being taught using the mind mapping technique. It can be seen in the result of the study, the average pre–test score of experiment class students is 68.26 and the average post–test score of experiment class students is 85.40. It means that there is a significant difference in students' writing ability between tenth-grade students of SMAN 7 Kota Tangerang before and after taught using the mind mapping technique. The research hypothesis was proven that using mind-mapping techniques in teaching writing, especially in writing recount text made the students' writing scores higher. The similarity with this study is this study used the technique of min mapping and the result of it is effective in improving students' writing skills on recount text and the contrast is this study does not only mind mapping as the technique, but also uses the clustering technique.

The second Rahmawati, (2018:195-205), wrote about the Implementation of mind mapping in teaching writing of recount text to eighth graders of Junior High School. This study was descriptive qualitative research. The data was collected by doing classroom observation and collecting the students' work. The research found of this study found that the teacher has already applied the steps of teaching mind mapping strategy and gave the example of a good mind map appropriately with some modification according to the class need. It was also shown that the students' mind maps helped assist the students create their recount text. Based on the rubric, the students' writing levels were in good to very good levels.

Other research is Sinambela et al. (2023:26-34) stated the effect of using controlled writing technique and clustering technique on students' writing skills at junior high school. This research dealt with the effect of using controlled writing techniques and clustering techniques on students' writing skills. This study used experimental quantitative research

that incriminating three classes experimental 1 class, experimental 2 class, and control class, in the experimental class the writer applied a controlled writing technique and clustering technique while in the controlled class applied a conventional technique. The population of this study was the students' class of VII of SMP St. Ignasius Medan. The researcher used 75 students as the sample. The sample of this research was taken by using a random sampling technique, 25 from VII-1 and 25 from VII-2 as the experimental class and 25 from VII-3 as the controlled class. To obtain the data the researcher used a writing test, as the instrument for collecting the data. These tests consisted of two types, namely pre-test and post-test. As the result of the ANOVA test, P= 0.000 < 0.05 or F count = 23.40 > F table = 2.28 significant effect. It means that the hypothesis alternative (Ha) was accepted while the null hypothesis (H0) was rejected. The experimental class 1 and 2 scored higher than the control class, according to the results of the study. According to the result, the statistics also indicated that the clustering technique outperforms the controlled writing technique.

Meanwhile, Pangaribuan et al. (2017:164-178) investigated the effect of the buzz group technique and clustering technique in teaching writing at the first class of SMA HKBP 1 Tarutung. This research was held at SMA HKBP 1 Tarutung, North Sumatra on the research result of test X1-1 and XI-2 students after they got treatment in teaching in recount text by using buzz group and clustering technique.

The average score (X) was 67.7 and for the total score buzz group the average score (X) was 77.2 and in the clustering technique, the average score (X) was 74.5 which means that is an improvement of students' scores after they got treatment.

From the score of the test, a calculation was made to find out whether the buzz group and clustering technique significantly affect students' writing ability. A Buzz group allows everyone's ideas to be expressed. Students learn to work in real-life situations where other opinions are considered, BG sets the groundwork for discussion, and expressing opinions, it is good for dealing with controversial subjects Buzz group significantly affects the skill of the students.

Based on the result of the process of learning English using the mind mapping technique and clustering technique in teaching recount text, these two techniques helped students to be more active and participative easily in the learning process. The first stage focused on the teacher transfer material for learners in this stage the students' focused on the material, the second stage focused on the teacher and students working and interacting together to put new material into practice, and the last stage focused on students demonstrating their ability to researcher to teach about this technique.
The researcher hoped that this technique would help the teachers process in teaching writing because this technique was more effective in transferring new material to the students, by applying this technique in the learning process makes teacher and students have a good interaction because there were stages for them to interact and work together in the learning process, and the advantages of using this technique make the teachers understand more about the student's condition in learning process.

CONCLUSION

Based on the background of the study, theoretical review, method of research, taking the data, and analyzing the data about the effectiveness between mind mapping and clustering techniques on recount text learning for 10th grade students at SMK Negeri 1 Dharma

Caraka, the researcher takes the conclusion that the data proved the score of post-tests in **the mind mapping technique (Experiment 1) was 84.52** and **the clustering technique (Experiment 2) was 89.48**. Before, the researcher did not treat the score of the pre-test of mind mapping and clustering as were lowest. However, after the treatments were given by the researcher, the scores of students increased significantly. The range between the scores of post-test experiment 1 and experiment 2 were close to each other. It signed both techniques were suitable to teach a writing recount text for 10th graders at SMK Negeri 1 Dharma Caraka, Gunungsitoli Selatan. The technique of mind mapping and clustering technique was good.

Based on the result of the process of learning English using the mind mapping technique and clustering technique in teaching recount text, these two techniques helped students to be more active and participative easily in the learning process. The first stage focused on the teacher transfer material for learners in this stage the students' focused on the material, the second stage focused on the teacher and students working and interacting together to put new material into practice, and the last stage focused on students demonstrating their ability to researcher to teach about this technique.

However, the students in the 10th grade at SMK Negeri 1 Dharma Caraka, Gunungsitoli Selatan were more understanding of the technique of clustering technique. The technique was more understanding because they connected the big topic and sub-topic using the column, not using some colors. They were easy to connect the sub-topic to the other sub-topic using a circle. It signed to the result of the students' post-test. They were able to classify each topic or sub-topic in each paragraph.

The last conclusion both techniques were good for teaching writing a recount text. However, the researcher applied both of them for 10th grade students at SMK Negeri 1 Dharma Caraka, Gunungsitoli Selatan. The researcher suggests that the English teacher use the clustering technique because it was effective and good in teaching recount text and the advantages of using this technique make the teachers understand more about the student's condition in learning process.

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