COMPARATIVE STUDY BETWEEN CLUSTERING TECHNIQUE AND MIND MAPPING TECHNIQUE TO IMPROVE STUDENTS' WRITING ABILITY AT THE EIGHT GRADE OF SMPN 2 TOLITOLI

Diyenti Rusdin, Medelin Tabise

English Education Study Program, Madako University
Email: Imeitabise@gmail.com

ABSTRACT

The objective of this research is to find out the significant difference between Clustering technique and Mind Mapping technique in improving students' writing ability at the eight grade of SMPN 2 Tolitoli. It is a true-experimental research. It was conducted at eight grade of SMP Negeri 2 Tolitoli. The researcher gave a pre-test to measure the students' previous ability in writing. Then, a post-test was to find out the students' writing ability after given treatment which is the application of clustering and mind mapping technique. The researcher used SPSS 21 program to analyze the data collection. The result of data analysis showed that clustering technique and mind mapping technique gave a significance effect to the students in writing ability. The mean score of post test in mind mapping technique (71,00) was higher than the mean score of pre-test (32,33). And the mean score of post-test in clustering technique (68,10) was higher than the mean score of pre-test (34,76). Although, the improvement in mind mapping technique was more effective than clustering technique but the testing of hypothesis showed that the value of t_{count} was lower than t_{table} (0,717≤2,021). Hence, there was no a significance difference in writing achievement score between students were taught to using clustering technique and mind mapping technique at the eight grade of SMPN 2 Tolitoli.
Key words: Comparative, mind mapping technique, clustering technique, writing ability.

ABSTRAK

Tujuan dari penelitian ini adalah mencari signifikan dari tehnik clustering dan tehnik mind mapping terhadap kemampuan menulis siswa kelas delapan SMPN 2 Tolitoli. Desain penelitian ini adalah True-experimental. Dilaksanakan pada kelas sepuluh SMPN 2 Tolitoli. Peneliti memberikan pretest untuk memastikan kemampuan menulis siswa sebelumya. Setelah itu post test di berikan untuk mencari tahu kemampuan siswa setelah di berikan penerapan dari tehnik clustering dan tehnik mind mapping. Peneliti menggunakan program SPSS 21 untuk menganalisis data yang terkumpul. Hasil dari data yang telah di analisa menunjukan bahwa tehnik clustering dan tehnik mind mapping memberikan efek yang signifikan terhadap kemampuan menulis siswa. Nilai rata-rata post test pada tehnik mind mapping (71,00) lebih tinggi dari pada nilai rata-rata pre test (32,33). Dan nilai rata-rata post test pada tehnik clustering (68,10) lebih tinggi dari pada nilai rata-rata pre test (34,76). Walaupun, peningkatan dalam tehnik mind mapping lebih efektif dari pada tehnik clustering tetapi tes dari hipotesis menunjukkan nilai dari t-hitung lebih rendah dari pada nilai t-tabel (0,717<2,021). Karenanya, disana tidak ada perbedaan signifikan dalam pencapaian nilai menulis diantara siswa yang diajar menngunakan tehnik clustering dan tehnik mind mapping pada tingkat 8 dari SMPN 2 Tolitoli.
Kata kunci: Perbandingan, tehnik mind mapping, tehnik clustering, kemampuan menulis.

1.Introduction

In English writing is the one of important skills and productive skill that form of words, symbols, or letters. The principal purpose of writing is communication. There are many tools that have used by people for writing including paint, pencil, pens, typewrites, and computers. Then, on the wall of a cave, a computer screen, or a piece of paper are a form of writing. Harmer (2006) add that in writing there are three basic language skill, such as reading, speaking, and listening.

Writing is a way to express ideas from the writer's knowledge in written form without forgetting the linguistic rules, so that the writing will be full of meaning (Abd. Salam, 2011). Utami Dewi (2010) said that the expression of language in the form of letters, symbols, or words is writing. Transcribing language in written symbols, it is not only in writing but also thinking process, because writing is not an easy subject. Writing has the linguistic rules that becomes a hint for the writer. There are some processes in writing such as thinking, drafting and reviewing, a process of discovery and focusing in writing is not only final product (Özdemir & Aydın, 2015).

Writing can express the ideas and to deliver the message to the reader, because this is one of important skills for students in teaching. Also, writing can be a key to get success at school, in personal life and at work. Hence, students should be master in writing skill. Further, Jeremy Harmer (2007) students not only learn about how to make a good writing in learning writing, but also they should know the way to make their writing better than before based on the rule of putting positions of their words. Arin Rama Saputri (2017) stated that in order to build language skill, guiding and facilitating learning is very important in teaching writing.

Teachers should prepare methods that support students' skills with an approach that suits their needs (Malik, A.R 2020; Malik, 2019; Asnur dkk, 2019; Wael, dkk 2018; Jacub 2020; Darwis, 2020; Burhan & Saugadi, 2017). Process is a part of writing it is not only product. The students meet some stages in writing. The one of the stage is planning in which students generate their ideas. Therefore, the basic skill needed in writing is generating ideas. First, the students had to be able to generate their ideas to produce meaningful text. There are two techniques that use in this research. The students can easy to generate their ideas by both of the techniques. There are clustering and mind mapping techniques. Teacher

According to Langan (2006) there is other technique can be used to generate material for a paper is known clustering and also can make diagramming or mapping. Additionally, clustering is a technique that agglomerate the ideas from general to more specific and more guided. The students can used this technique to produce, to develop, and to agglomerate their ideas in a good way. In clustering, to show relationship among the ideas and details that occur to them, the students can use line, boxes, arrows and circle.

Gorski (2010) said that, some advantages of clustering technique for writing ability.

    a.   This technique is simple to be applied.

    b.   Clustering technique can make the students easy to find the word that related with the material.

    c. By this technique the students can explore their idea on their writing activity.

    d. This technique can make the students easy to construct their ideas on the sentences into paragraph.

    e. The students can produce the words within limited time but is still related to the topic.

Buzan (2007) argues that mind mapping technique is the best way to make creative notes, get new ideas, and plan a project. Mind map use all pictures and make possible the ideas to association in radial design. Information can be illustrated with symbols, image, words, links, color, and attachments to add context, helping to reveal new directions, greater clarity, and big ideas.

According to Busan and Abbot (2010), there are some advantages of mind mapping.

    a. Mind mapping will: made us focus on the main subject, active brain, helped mind form mental problem gave the clear picture in whole, helped us to show the connection between information that separated, possible to make us classified the concept, and help to compare it.

    b. Mind mapping give many advantages. Anything can be mind-mapped, such us: a birthday party, notes taken in a class or lecture, a book one is reading, flower arranging, one's plans for the day, the meaning of life, the economy, or one's experience of a place or music.

Some problem that the researcher finds are faced by the students in writing. They do not know about grammar in writing text and difficult to organize their ideas, soo the students make mistakes in their written. Hence, the students were difficult to express their ideas and they could not arrange the sentences well. In order to enhance their writing ability and solve the students' problem, in teaching and learning process in this case the researcher used clustering and mind mapping as technique. Both of the techniques can improve students' writing ability especially in organize their ideas. Observe the explanation above, the researcher would like to compare the effectiveness of clustering and mind mapping technique.

2. Research Method

The researcher used true experimental design in conducting this research. This research involved of pre test, treatment and post test. To know their previous ability, the researcher gave pre test for the first meeting. The researcher gave post test after conducted the treatment to find out the significance of students after conducting the treatment by both of technique. The researcher focused on two classes as the sample they are VIII A and VIII B. The treatment gave to experiment classes in four meeting. Total number of sample 42 students.

3. Findings and Discussion
3.1 The Result of Pretest in Mind Mapping

Pre-test was given before treatment. In recount text, this step to know students' writing ability, there were 21 students as the sample who was given time to write down their personal experience. The pre test score of experiment class in mind mapping as follow:

No	Initial	Organization	Language Use	Aqquired	Total Score	Criteria
1	ARD	1	1	2	25	Failed
2	DMS	1	1	2	25	Failed
3	MJ	2	1	3	38	Failed
4	MR	2	2	4	50	Failed
5	IS	1	1	2	25	Failed
6	AP	2	1	3	38	Failed
7	PTS	1	1	2	25	Failed
8	MMR	1	1	2	25	Failed
9	MF	1	2	3	38	Failed
10	DVD	1	1	2	25	Failed
11	MA	2	1	3	38	Failed
12	MAB	1	2	3	38	Failed
13	FKN	1	1	2	25	Failed
14	AN	2	1	3	38	Failed
15	NW	1	1	2	25	Failed
16	EZ	1	2	3	38	Failed
17	CRI	1	1	2	25	Failed
18	SM	1	1	2	25	Failed
19	NAW	1	1	2	25	Failed
20	SF	2	2	4	50	Failed
21	NA	1	2	3	38	Failed
	Total	27	27	54	679	

3.2 The Result of Pretest in Clustering

No	Initial	Organization	Language Use	Aqquired	Total Score	Criteria
1	MZ	1	2	3	38	Failed
2	PP	1	1	2	25	Failed
3	MF	1	2	3	38	Failed
4	SID	1	1	2	25	Failed
5	SFN	1	2	3	38	Failed
6	MA	1	1	2	25	Failed
7	ARH	1	1	2	25	Failed
8	JTK	1	2	3	38	Failed
9	FBA	1	2	3	38	Failed
10	FKI	2	2	4	50	Failed

11	AK	1	1	2	25	Failed
12	ZFA	1	2	3	38	Failed
13	AR	2	1	3	38	Failed
14	PR	1	1	2	25	Failed
15	RDI	1	1	2	25	Failed
16	SB	2	1	3	38	Failed
17	NZA	2	2	4	50	Failed
18	WA	1	1	2	25	Failed
19	RSI	2	2	4	50	Failed
20	NP	1	2	3	38	Failed
21	STK	2	1	3	38	Failed
	Total	27	31	58	730	

3.3 The Result of Posttest in Mind Mapping

No	Initial	Organization	Language Use	Aqquired	Total Score	Criteria
1	ARD	4	2	6	75	Successful
2	DMS	3	2	5	63	Failed
3	MJ	3	2	5	63	Failed
4	MR	3	3	6	75	Successful
5	IS	4	2	6	75	Successful
6	AP	3	2	5	63	Failed
7	PTS	2	2	4	50	Failed
8	MMR	3	3	6	75	Successful
9	MF	3	4	7	88	Successful
10	DVD	3	3	6	75	Successful
11	MA	4	2	6	75	Successful
12	MAB	4	3	7	88	Successful
13	FKN	3	1	4	50	Failed
14	AN	2	2	4	50	Failed
15	NW	4	3	7	88	Successful
16	EZ	3	3	6	75	Successful
17	CRI	4	3	7	88	Successful
18	SM	4	2	6	75	Successful
19	NAW	4	2	6	75	Successful
20	SF	3	3	6	75	Successful
21	NA	3	1	4	50	Failed
	Total	69	50	119	1491	

3.4 The Result of Posttest in Clustering

No	Initial	Organization	Language Use	Aqquired	Total Score	Criteria
1	MZ	4	2	6	75	Successful
2	PP	2	2	4	50	Failed
3	MF	4	1	5	63	Failed
4	SID	3	2	5	63	Failed
5	SFN	4	2	6	75	Successful
6	MA	2	2	4	50	Failed
7	ARH	3	3	6	75	Successful
8	JTK	4	3	7	88	Successful
9	FBA	3	2	5	63	Failed
10	FKI	3	3	6	75	Successful
11	AK	3	2	5	63	Failed
12	ZFA	4	2	6	75	Successful
13	AR	3	3	6	75	Successful
14	PR	2	3	5	63	Successful
15	RDI	2	3	5	63	Failed
16	SB	4	2	6	75	Successful
17	NZA	3	4	7	88	Successful
18	WA	1	2	3	38	Failed
19	RSI	4	2	6	75	Successful
20	NP	4	3	7	88	Successful
21	STK	2	2	4	50	Failed
	Total	64	50	114	1430	

4. Discussion
4.1 The Result of Observation

In classroom the researcher discussed the procedure of applied and the result of the data analysis. In this research, the first step was pre-test. At the first meeting pre-test was conducted to both of experimental class. Pre-test is aimed to measured the students' writing ability at the first time. In conducting pre-test on the experimental class VIII A there were 21 students as a sample who were must be writing. After getting students' result of the pre-test, the reseacher analyzed students' score statistically used formula where the obtained score times 100 and divided by total sample in experiment class, then the pre-test score of experimental class were 21 students (100%) got poor score.

The researcher concluded that the first VIII A of SMPN 2 Tolitoli still poor in writing. In the same step also conducted at VIII B class. After pre-test was given, the researcher computed the students' individual. From 21 students of VIII B all of the students got poor score (100%) same as like at VIII A.

Test of homogeneity was the second steps in this research. The test was done to looking for whether sample came from population that had some variance or not. The result of pre-test or obtained score (f_{score}) with (f_{table}) was

compared to measured by homogeneity test. Thus, if the obtained score (f_{score}) was lower than the f_{table} (0,05) or equal, it could be said that the variance was homogeneous. After homogeneity test was done, the researcher continued to the step was treatment. Treatment was given to both of the experimental class with clustering technique and mind mapping. In the treatment steps, the researcher used four meetings.

In clustering the treatments as followed:

a. The first meeting on may 4th 2019. The researcher explained about recount text, linguistic features and schematic structures. The researcher asked the students to your main topic in the middle of a sheet of paper and circle on paper. Then, the students though about the topic and wrote opinions, and make relation each other. Write them quickly in the blank space. Write down ideas to the appropriate circles. Repeat the process until we can think nothing else. Then, if cluster that have done, the students can make a draft. They can start to make a cluster again to expand the branches and begin to a first draft in writing.

b. The second meeting, the researcher was conducted on may 13th 2019, it was giving them same as like in the first meeting.

c. The third meeting, the researcher was conducted on may 15th 2019, the researcher gave treatment same as like the first meeting also.

d. The last meeting, the researcher was conducted on may 20th 2019, the treatment same as like the first meeting.

In mind mapping treatment as followed:

a. The first meeting, the researcher was conducted on may 4th 2019. the researcher explained to the students about recount text. After that, the researcher asked the students Preparing a blank paper (it is better if the paper is plain) and using some color pens or markers to write the mind map. Drawing an image or writing a word in the centre middle of the paper that describes the keyword. Making lines that radiate from the central image and name it based on the Basic Ordering Ideas. These branches are the main ideas of the keyword. Making other lines that spread from the main idea and adding explanations or supporting ideas about it. The supporting ideas should be written in points, phrases, or (if it is for writing) very brief sentences. Using same color to present things that has same level. For example, all of the main ideas are written in blue color. It is useful to present the relationship of each idea. Adding images that can be helpful to recall memories. Next, the researcher asked the students to begin the first draft in writing.

b. The second meeting, the researcher was conducted on 14th 2019, the treatment same as like the first meeting.

c. The third meeting, the researcher was conducted on 17th 2019, the treatment same as like the first meeting.

d. The last meeting, the researcher was conducted on 21th 2019, the treatment same as like the first meeting.

Class VIII A was given post-test it is aimed to measuring the students' improvement on the score of experimental class or not. In the post-test, the researcher gave a paper and asked the students to wrote

recount text about their own experience. After getting students result of post-test the researcher analyzed students' score statistically used formula where the obtained score times 100 and divided by total sample in experiment class. Then it was found the post-test of VIII A class were 4 students (19,04%) got very good score, 10 students (47,62%) got fair score and 7 students (33,34%) got poor score. The researcher concluded that the students of VIII A (mind mapping class) was improved students writing ability.

The same step also conducted in VIII B class, after post-test was given the researcher computed the students' individual score and average the students from the highest to the lowest in order to know the position of the students. From 21 students in VIII B class were 3 students (14,28%) got very good score, 8 students (38,10%) got fair score and 10 students (47,62%) got poor score. The researcher concluded that the students of VIII B (clustering class) was improved students' writing ability.

After post-test was done, in this research was test of Normality. The result computation was used one-sample kolmogorov-smirnov formula, if the test was higher than 0,05 (sign>α) meant that the data spared of research result distribute normally. The researcher found the result of normality test that the significance was . It could be seen that there was sign>α or >0,05. It concluded that the result of post-test both of class VIII A and VIII B as distributed normally.

The last step of this research was t-test. So, to differentiate if the students result of both of experiment class after getting treatments were significant or not, the researcher used t-test to test the hypothesis where $H_a = t_c > t_t$, $H_o = t_c < t_t$. To saw the difference between both of experiment class the researcher used SPSS 21.0 program (independent-sample test) to analyze the data collection. To check whether the difference is significant or not, we can see based on the t-test result. It was found that $t_c = 0,717$. Furthermore, t_{count} score was compared with t_{table} score with df = 40 on the standard of significant 0,05 so it was found that $t_t = 2.021$. Because of $t_c = 0,717 < t_t = 2.021$ so it could be concluded that "H_o = There was no significant difference between the teaching writing ability through clustering technique and mind mapping technique" was **accepted** and "H_a = There was significant difference between the teaching writing ability through clustering technique and mind mapping technique" was **rejected**.

Based on the table, the difference was not statistically significance because the obtained t-score was lower than the critical score. Therefore, based on the computation there was no significant difference between the teaching writing ability score students clustering technique and mind mapping technique for the eight grade students of SMPN 2Tolitoli.

4.2 Homogeneity Test

The result of homogeneity test in pretest with df1 is 1 df2 is 40 then the significance of test is 0.843. Discern the result in homogeneity it could be

showed that the result of sig (0.843 was higher than standard of significance (0.05) or 0.843>0.05).

4.3 Result of Normality

To find out the data of experiment classes which had been collected come from normal distribution or not. To analyze the test the researcher use one-sample kolmogorov-smirnov-test. The result of the test there was sign>α or 0.677 is higher than 0.05. So it can be concluded that the data of both experimental class was distributed normally.

4.4 Result of T-test

To test the hypothesis the researcher used t-test where $h_a=t_c>t_t$ $h_0=t_c<t_t$. to see the difference between the experimental and control group, the researcher used SPSS 21.0 program (independent sample test) to analyze the data collection. It was found that that $t_c =2.028$Futhermore, t_{count} score was compared with t_{table} score with df = 38 on the standard of significant 0,05, so it was found that $t_t = 2,024$. Because of $t_c = 2.028>t_t = 2,024$ so it could be concluded that "$H_1 = $ There was positive significant difference between the reaching speaking using picture series and short story" was accepted.

5. Conclusion

Observe on the findings and discuccion in previous chapter, it could be concluded that through clustering technique and mind mapping could improve students' writing ability. The result of the data analysis showed that the average score of VIII A (the students who were taught through mind mapping) was for the 32,33 pre-test and 71,00 for the post-test. The average score of VIII B (the students who were tought through clustering) was 34,76 for the pre-test and 68,10 for the post-test.

Mind mapping technique and clustering technique was effective to improve students' writing ability at the eight grade of SMPN 2 Tolitoli in academic year of 2018/2019. The obtained score of t-test showed that t-score 0,717 was lower than t-table 2,021. Since, the *tcount* was lower than *ttable*, there was no significance difference in the achievement students in class VIII A who were tought mind mapping technique and students in class VIII B who were tought clustering technique. It meant that Ho was accepted and Ha was rejected.

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