

THE EFFECTIVENESS OF USING MIND MAPPING STRATEGY TOWARD WRITING ABILITY FOR THE TENTH-GRADE STUDENTS AT SMA NEGERI 3 MOJOKERTO

Fahrur Rijal Ardiyanto

Mayjen Sungkono University, English Department, Faculty of Teacher Training and Education, Mojokerto, East Java, Indonesia

fahrur.ardiant@gmail.com

Abstrak : Khusus bagi siswa, menulis menjadi lebih penting untuk dikuasai dalam menyampaikan ide-ide mereka selama kegiatan menulis. Untuk mengembangkan ide-ide mereka, siswa membutuhkan strategi. Hal tersebut harus mendapat perhatian yang tinggi oleh guru selama mengajar. Salah satu strategi untuk mengembangkan ide secara tertulis adalah strategi Mind Mapping. Mind mapping memiliki peran penting bagi siswa dalam menulis teks recount. Siswa akan lebih mudah menghubungkan satu peristiwa dengan peristiwa lainnya. Sama seperti strategi lainnya dalam proses pembelajaran, mind mapping memiliki beberapa langkah untuk melakukannya. Dalam penelitian ini, peneliti ingin mengukur Efektivitas Penggunaan Strategi Mind Mapping Terhadap Kemampuan Menulis Siswa Kelas X SMA Negeri 3 Mojokerto Tahun Pelajaran 2016/2017. Hasil uji-t adalah 7.153. Setelah didapatkan nilai uji-t, peneliti membandingkannya dengan t-tabel ($df = n_1 + n_2 - 2 = 72$; signifikansi 5% = 0,05). Nilai t-tabel adalah 1,666. Artinya juga paling tinggi dari tabel ($7,153 > 1,666$).

Kata Kunci: Teks Recount, Strategi, Pemetaan Pikiran

Abstract : Especially for students, writing become more important to be mastered in delivering their ideas during writing activity. To developing their ideas, students need strategy. It must be given high attention by teachers during teaching. One of the strategies to develop the ideas in writing is Mind Mapping strategy. Mind mapping have important role for students in writing recount text. Students will be easier to connect one event to other events. Same as the other strategy in learning process, mind mapping have some steps to do that. In this research, the researcher wants to measure The Effectiveness of Using Mind Mapping Strategy toward Writing Ability for The Tenth-Grade Students at SMA Negeri 3 Mojokerto in academic year 2016/2017. The result of t-test was 7,153. After got the t- test score, the reseracher compared it with t-table ($df = n_1 + n_2 - 2 = 72$; significance 5% = 0.05). The value of t-table was 1.666. It means that too is highest than table ($7.153 > 1.666$).

Keywords: Recount Text, Strategy, Mind Mapping

INTRODUCTION

In this chapter, the researcher would like to explain about the background of the research, the research problem, the objective of the research, the sign ificance of the research, assumption, scope, delimitation and definition of key terms. Writing is one of the language skill to make a communication. Especially for students, writing become more important to be mastered in delivering their ideas during writing activity.

As the process, writing is the combination of activities which happened and involve some phases, such as; pre-writing phases, writing phase and post-writing phase (Slamet&Kundharu, 2012). Pre-writing is the time to get the brain focus. The next phase is writing phase, writing phase is a phase where the writer or students start to write after thinking about topic in pre-writing phase. The last phase in writing process is post- writing, in this phase writers or students did the

revisement toward their writing. After doing three phases above, writers and students can produce their writing product. In conclusion, writing was one of skill in making communication which have process and result.

Talking about writing result, writing process have significance role in creating the writing product. The problem in the school is the students cannot write a text structurally. It makes their writing product is less correct. If they can develop their ideas during writing, they can produce a product in writing activity. Because of having process and result, writing is also considered as the skill in English which has two characteristics, active and productive (Dadang & Iskandar, 2009) Recount text is one of the writing product. In recount text, the process to think about past experience become basic element in this text. So, the strategy in teaching writing is absolutely needed,

especially in recount text. Strategy is needed to help students in developing their ideas. He is also the creator of mind mapping strategy. Based on his opinion about mind mapping, he states that mind mapping is the easier strategy to develop the topic. It means that mind mapping strategy is an effective strategy to make the brain became more focus on a main idea. After focusing on a main idea, mind mapping will help a brain to develop it into supporting idea.

In other hand, this strategy, mind mapping, involves both of the brain's sides. All of the ideas in mind mapping are related each other, helping the brain to do the big imagination by association (Buzan, 2011:60). Mind mapping have important role for students in writing recount text. Same as the other strategy in learning process, mind mapping have some steps to do that. Students would be easier to draft some events before writing it into recount text. He also explains about the advantages of mind mapping technique, they are: (1) stimulating the student active participant in learning process; (2) removing the thinking of the students from subjective impression; (3) stimulating the student to be more focus and more concern in subject thinking; (4) activating the function of students' brain to think maximally; (5) steering the students to develop the reconstruction of thinking subjective association; (6) showing the correlation among the part of information

which isolated; (7) helping the students to be more focus, helping the students to get understanding and meaning till the information that have been gotten can make a ability and long lasting memories. After using mind mapping and drafting the idea, students can be easier to develop the draft to be sentences.

In other hand, students can practice how to write recount text in sequence and practice to develop ideas in each paragraph on recount text. In this research, the researcher wants to measure The Effectiveness of Using Mind Mapping Strategy toward Writing Ability for The Tenth-Grade Students at SMA Negeri 3 Mojokerto in academic year 2016/2017. The research problem in this study was ; Do the tenth grade students at SMA Negeri 3 Mojokerto city thought by using mind mapping strategy achieve better score in writing recount text than those thought using non-mind mapping strategy in writing recount text ? and The objectives of this research is to measure the effectiveness of using mind mapping strategy toward writing ability especially in writing recount text for the tenth grade students at SMA Negeri 3 Mojokerto Significance of the Research Theoretically, this research motivate students to be more active in English learning, especially at writing activity. Mind mapping which the independent variable in this research stimulate students for activating their brains.

RESEARCH METHOD

In this research, the researcher used quasi-experimental research for the design. Therefore, the researcher chose the two classes that had been formed to be the sample of this research. The researcher can only choose two classes that have been formed to be the research's sample in a school (Latief, Adnan. 2014). After the researcher was given a permission, the researcher directly counted the mean score of both class. After getting two classes with equivalent mean scores, the researcher did the treatments in these classes.

The researcher gave different treatment in each class. The researcher gave experimental treatment in treatment class and the researcher gave control treatment in control class. The researcher gave four times treatment in experimental class and control class. The researcher gave mind mapping strategy as the treatment in experimental class and drafting technique as the treatment in

control class. In this research, the researcher just given post-test after doing treatments. It was because the English ability in experimental class and control class were similar. The post-test score of this research was analyzed manually to examine the research hypothesis. The deep explanations about how the researcher determined the experimental class and control class was explained in the next subtitle below.

A. Procedure of the Research

Before did this research, the researcher choose the research design. It was consisted of population, sample and sampling way. After getting the sample, the researcher gave treatments toward the samples. The treatments of both sample was different. In experimental class, the researcher used mind mapping as the treatments. In control class, the researcher used non-mind mapping strategy as the treatments. Class X-MIA 3 as

the experimental class was given treatment every Monday and class X-MIA 4 as the control class was given treatment every Wednesday. Then, the researcher gave a post-test in the end. Because the kind of the test was essay, the researcher used scoring rubric to collect the data. In the end, the researcher continued to analyze the data score and made a conclusion.

B. Research Variables

Variables are the key words in every research activity (Latief, 2014). Every research must involve variable which defined clearly in order the research can be done. There are two variables in this research, independent variable and dependent variable. The independent variable in this research is mind mapping strategy and the dependent variable is writing ability. The independent variable was symbolized by (X) and dependent variable was symbolized by (Y).

C. Population and Sample

Population was the individuals whose became the target on research (Sukardi, 2003). The population of this research was the tenth-grade students at SMA Negeri 3 Mojokerto. There were eight classes of tenth-grade at SMA Negeri 3 Mojokerto. They are divided into four classes for MIA (science) and four classes for IIS (social). The number of all the tenth-grade students are 320 students. In this research, the researcher just used the tenth-grade of science class for the subject because the researcher just taught these classes during PPL.

Because the researcher used quasi-experimental design in this research, so the researcher just chosen two classes as the research sample. After getting the score, the researcher found out the mean score of each class. The next step, the researcher did a sampling technique to choose the sample. Sampling is a technique to take the sample for the research (Sugiyono, 2013). There are two kinds of sampling technique, probability sampling and non-probability sampling. Probability sampling is a technique to take the sample which give a same chance toward all groups of the population to be chosen as the sample (Sugiyono, 2013). Probability sampling are divided into three kinds, Simple Random Sampling, Proportionate Stratified Random Sampling, Disproportionate Random Sampling and Cluster Sampling. Non-Probability Sampling is a sampling technique which don't given a same chance toward the

group of population to be sample (Sugiyono, 2013). This sampling is divided into six kinds, Systematical Sampling, Quota Sampling, Incidental Sampling, Purposive Sampling, Jenuh Sampling.

In this research, the researcher chose purposive sampling. The researcher used this sampling technique because it was so difficult to take sample randomly for the experimental research in school. The researcher just choose two classes which had been formed for being the research sample. Therefore, the main focus of the researcher in this research just take two groups which had similar ability in English as the sample. In taking the sample, firstly, the researcher check the mean score of English final test in each class. With the English teacher, the researcher counted the average score in each science class. Finally, the researcher took these classes to be the sample. In determining the experimental class and control class, the researcher chose randomly by using lottery method. In the end, the researcher decided that class X-MIA 3 as the experimental class and class X-MIA 4 as the control class.

D. Research Treatments

The treatments of this research were divided into two kinds, treatment for experimental class and treatment for control class. In experimental class, the researcher used mind mapping strategy as the treatments during teaching, especially writing activity. In the other class, control class, the researcher used drafting technique as the treatments during teaching, especially writing activity. The explanation of these treatments was explained detail in the table below.

Table 1. Experimental Treatment

No.	Activity	Note
1	The teacher explained about the function recount text	First Treatment
2	The researcher gave explanation about the generic structure and language feature of recount text	Second treatment
3	The researcher gave some exercises to the students for measuring their understanding about its language feature, especially in making simple past sentence	

No.	Activity	Note
4	The researcher gave the students a short recount about experience and asked them to read it	
5	The researcher introduced mind mapping strategy to the students	
6	With the students, the researcher tried to find out the main idea of each paragraph by using mind mapping	
7	The researcher asked them to answer the question of the text about main idea in each paragraph by looking the idea which had been written in mind map on the black board.	Third treatment
8	The researcher asked the students to determine their bad experience in the past	
9	The researcher asked the students to write the ideas of their experience in mind map	
10	The researcher guided them to develop their ideas in mind map	
11	The researcher guided the students to develop the ideas into the sentences	
12	The researcher helped the students to check their sentences.	Fourth treatment
13	The researcher gave a chance for the students to edit their sentence if there was a mistake	
14	The researcher asked them to combine these sentences into paragraphs	
15	The researcher give a chance to the students for consulting what they write especially in punctuation and capital letter	

Table 2. Control Treatment

No.	Activity	Note
1	The teacher explained about the function recount text	First Treatment
2	The researcher gave explanation about the generic structure and language feature of recount text	Second treatment
3	The researcher gave some exercises to the students for measuring their understanding about its language feature, especially in making simple past sentence	
4	The researcher gave the students a short recount about experience and asked them to read it	
5	The researcher introduced mind mapping strategy to the students	
6	With the students, the researcher tried to find out the main idea of each paragraph by using mind mapping	Third treatment
7	The researcher asked them to answer the question of the text about main idea in each paragraph by looking the idea which had been written in mind map on the blackboard.	
8	The researcher asked the students to determine their bad experience in the past	
9	The researcher asked the students to write the ideas of their experience in mind map	
10	The researcher guided them to develop their ideas in mind map	
11	The researcher guided the students to develop the ideas into the sentences	
12	The researcher helped the students to check their sentences.	Fourth treatment
13	The researcher gave a chance for the students to edit their sentence if there was a mistake	

No.	Activity	Note
14	The researcher asked them to combine these sentences into paragraphs	
15	The researcher give a chance to the students for 15 consulting what they write especially in punctuation and capital letter	

After doing the treatments, the researcher gave them a post-test to write down their good experience. The post-test of treatment class was held on 27th February 2017 and the post-test of control class was held on 7th March 2017. For getting the post-test score, the researcher used an instrument. The instrument of this research was explained in the next subtitle.

E. Research Instrument

For collecting the data, the researcher used an instrument. The instrument in this research was an essay test. Before the researcher used this instrument, the instrument had been validated by the expert. Validity is an ability of the measurement tool to measure correctly (Purwanto, 2008). The test can be called valid if the test can measure what are going to be measured. In contrast, an invalid instrument has low validity (Arikunto, 2010:168). The validity which used in this research were content validity and construct validity. For the test instrument, the examination of content validity can be done by comparing the content of instrument with subject materials which thought (Sugiyono, 2010). Therefore, the researcher adjusted the content validity of the instrument with indicator material in curriculum 2013. For examining the construct validity, the researcher asked some opinion from the judgment expert. The construct validity included the instrument's lay out based the measured aspect. After getting the validity, the instrument was ready to get the data.

F. Data Collection

Data is a material of the information which must be found with suitable technique. It's supported by Misbahuddin and Iqbal in their book (2013), they state that if the data is gotten by wrong way, automatically, the information we get is wrong too. The way to collect data is done by certain ways. Based on the way to collect data, there are for ways to

collect data. They are observation, literature investigation, questionnaire and interview (Misbahuddin&Iqbal, 2013). In this research, the researcher collected the data by getting the post-test score. In getting score, the researcher used scoring rubric for writing. This scoring rubric is adapted from (Brown, 2007).

Table 3. Scoring Rubric based on Brown 2007

Aspect	Score	Recount Performance	Weight
Content (C) 30% - Topic - Details	4	The topic is complete and clear, the details are relating to the topic	3X
	3	The topic is complete and clear, the details are almost relating to the topic	
	2	The topic is complete and clear, the details are not relating to the topic	
	1	The topic is not complete and clear, the details are not relating to the topic	
Organization (O) 20% - Orientation - Event - Re-orientation	4	Orientation is complete, events are arranged with proper connectives and re-orientation is complete	2X
	3	Orientation is almost complete, events are almost arranged with proper connectives and re-orientation is almost complete	
	2	Orientation is not complete, events are arranged with few misuse of connectives and re-orientation is complete	
	1	Orientation is not complete, events are arranged with misuse of connectives and re-orientation is not complete	

Aspect	Score	Recount Performance	Weight
Grammar (G) 20% - Use Past Tense - Agreement	4	Very few grammatical or agreement errors	2X
	3	Few grammatical or agreement errors but not affect on meaning	
	2	Numerous grammatical or agreement errors	
	1	Frequent grammatical or agreement errors	
Vocabulary (V) 15%	4	Effective choice of words and word forms	1.5X
	3	Few misuse of vocabularies, word forms but not change the meaning	
	2	Limited range confusing word and word forms	
	1	Very poor knowledge of words, word forms and not understandable	
Mechanic (M) 15% - Spelling - Punctuation - Capitalization	4	It use correct spelling, punctuation and capitalization	1.5X
	3	It has occasional errors spelling, punctuation and capitalization	
	2	It has frequent errors of spelling, punctuation and capitalization	
	1	It has dominated errors of spelling, punctuation and capitalization	

The post-test scores were became the data in this research. After got the data, the researcher started to analyze the data by using statistic method. The explanation about data analysis was explained in the next subtitle.

G. Data Analysis

The data which gotten from this research was analyzed by using statistic.

Analyzing the data needs a certain step and formula. Because the design of this research was quasi-experimental, so the researcher used independent sample t-test to examine the hypothesis. Independent sample t-test is used for examining the hypothesis which involved two samples are not correlated (Sugiyono, 2013:137). In this research, the researcher did some analysis of the data before examined the hypothesis. These analysis were explained below:

- Accounting the mean score
 Mean is gotten by summing all of the data from a sample and divided with all of the individuals on that sample (Sugiyono, 2013:49). In this research, the researcher found out the mean of post-test score in each group.
- Accounting the deviation and standard deviation (variants)
 Deviation (variants) is a statistical technique to explain the homogeneity of a sample (Sugiyono, 2013). In this research, the researcher also counted out the deviation and standard deviation from the data.
- Examining the homogeneity of the samples
 Before determining the t-test formula to examine the hypothesis, the researcher examined the variants of both sample. It had a purpose to examine the homogeneity of both variants. The researcher used Fischer (F) formula to examine it. After got the F value, the researcher compared it with F table (significance = 0,05). If the value of $F < \text{or } =$ than F table, so H_0 accepted and H_a rejected. It means that the variance is homogeny (Sugiyono, 2013)
- Statistical Hypothesis
 Statistical hypothesis is well-known as Null Hypothesis (H_0). This hypothesis explains the influence of independence variable toward dependence variable in different samples (Sugiyono, 2013).
 In this research, the researcher used the two-tail hypothesis formula:
 - $H_0 : \mu_1 = \mu_2$ there is no differences in writing ability of the tenth-grade students at SMA Negeri 3 Mojokerto those taught using mind mapping strategy

- and using non-mind mapping strategy.
- b) $H_a : \mu_1 \neq \mu_2$ there is differences in writing ability of the tenth-grade students at SMA Negeri 3 Mojokerto those taught using mind mapping strategy and using non-mind mapping strategy.
5. Determining T-test formula
- There are two t-test formula which used to examine the hypothesis between two independence samples, *Separated Variance* and *Polled Variance* (Sugiyono, 2013:138).
- There are some considerations to determine both these formulas.
- a) If the number of sample $n_1 = n_2$ and variants are homogeny, so it can use both t-test formulas, Separated Variants and Polled Variants.
For checking t- table ($df = n_1 + n_2 - 2$)
- b) If the number of sample $n_1 \neq n_2$ and variants are homogeny, so it uses polled variants.
For checking t-table ($df = n_1 + n_2 - 2$)
- c) If the number of sample $n_1 = n_2$ and variants are not homogeny, so it can

- uses both formulas.
- For checking t-table ($df = n_1 - 1$ or $df = n_2 - 1$)
- d) If the number of sample $n_1 \neq n_2$ and variants are not homogeny, so it uses separated variants.
For checking t-table ($df = n_1 - 1$ or $df = n_2 - 1$)

6. Hypothesis Testing

After determining the t-test, the researcher compared it with the t-table by these considerations.

- a) If $t\text{-test} \geq t\text{-table}$, it meant that H_a was accepted and H_o was rejected. It was concluded that the tenth grade students at SMA Negeri 3 Mojokerto taught by using mind mapping achieve better score in writing recount text than those taught by using non mind mapping strategy.

If $t\text{-test} < t\text{-table}$, it meant that H_a was rejected and H_o was accepted. It was concluded that the mean of writing recount text gain score of the tenth grade students at SMA Negeri 3 Mojokerto using mind mapping tend to be similar with those taught by using non-mind mapping strategy.

RESULTS AND DISCUSSION

In this chapter, the researcher would like to explain about the result of the research. It was done by the researcher to find out the different students' ability in writing recount text who were taught by using mind mapping and non-mind mapping strategy.

1. The writing students' ability taught by using Mind Mapping Strategy

The students' ability in writing after taught by using mind mapping was very good. Not only that, mind mapping strategy also made the students became easier to develop their feeling and expressed them into written. The students also had more motivation when this strategy was implemented in the class. In short, mind mapping was an appropriate strategy to write a text, especially recount text. In this research, the researcher implemented this strategy in experimental class. After the researcher implemented this strategy for four times, the researcher give a post-test. This post-test required the students to write down

their experiences in a recount text by using mind mapping.

Table 1. Post-test score in experimental class

No.	Initial Name	Minimum Standard Score	Post-test Score
1	AAZ	70	70
2	ARS	70	83
3	AKG	70	78
4	AB	70	87
5	AEP	70	77
6	ACG	70	76
7	DE	70	89
8	DAF	70	86
9	DAW	70	82
10	DAP	70	82
11	EDS	70	90
12	FIB	70	77
13	FER	70	94
14	FDS	70	90
15	FA	70	82
16	FO	70	90
17	IL	70	87

18	MMA	70	75
19	MFD	70	78
20	MC	70	90
21	MR	70	90
22	MB	70	87
23	NF	70	86
24	NA	70	85
25	OAP	70	91
26	PA	70	76
27	RB	70	80
28	RDS	70	76
29	RN	70	86
30	RA	70	90
31	SS	70	88
32	SB	70	83
33	SAF	70	87
34	SM	70	90
35	TWC	70	88
36	YDA	70	77
37	ZSA	70	82
38	ZR	70	80
Total Scores			3186
Average Score			83.84

From the result score above, the researcher concluded that the highest score in experimental class was 94 and the lowest score was 70. The average score in this class was 83.84. It means that mind mapping strategy was effective when it was implemented in writing activity.

2. The writing students' ability taught by using non-mind Mapping Strategy

The writing students' ability taught by using non-mind mapping was lower than the students were taught by using mind mapping strategy. In this research, the researcher also gave four treatments in this class (control class). It same with the experimental class. But there was a difference step in the treatment where the students in control class were not given mind mapping strategy. The students just drafted their ideas and developed it into sentences. In the control class, there were some students whose got the score below the minimum standard score (KKM) The result of post-test score was explained in the following table :

Table 2 : Post-test score in control class

No.	Initial Name	Minimum Standard Score	Post-test Score
1	ADA	70	80
2	AM	70	70

3	AN	70	82,5
4	AHG	70	77
5	AEF	70	77
6	AD	70	80
7	AA	70	78
8	BT	70	86
9	BBT	70	77
10	ASC	70	66
11	DPH	70	77
12	ED	70	82,5
13	FH	70	82,5
14	FP	70	70
15	IMC	70	71
16	AJK	70	80
17	KYY	70	80
18	MM	70	77
19	MN	70	66
20	MY	70	75
21	MF	70	65
22	ML	70	80
23	MR	70	71
24	NAR	70	82,5
25	NM	70	77
26	RA	70	65
27	RTC	70	77
28	SNH	70	69
29	SA	70	69
30	SNS	70	75
31	SE	70	81
32	SMY	70	72
33	TA	70	69
34	VS	70	77
35	VA	70	82,5
36	WSP	70	66
Total Scores			2717
Average Score			75,47

From the result score above, the researcher concluded that the highest score in control class was 86 and the lowest score was 66. The average score in this class was 75.47. It means that mind mapping strategy was less effective when it was implemented in writing activity.

In this research, the researcher also analyzed the post-test score in each class to test the hypothesis in this research. The data analysis in this research included accounting the mean score, accounting the standard deviation, accounting variants, testing homogeneity variants and testing the hypothesis.

In this research, the researcher did analysis manually toward the data. The data analysis in this research included accounting the mean score, accounting the standard deviation, accounting variants, testing homogeneity variants and testing the hypothesis. The deep explanation about the analysis was explained below.

3. Data analysis

a) The Mean Score

After the researcher got the post-test score in each class (experimental class and control class), the researcher did first step in analyzing the data by accounting the mean score. Mean score in experimental class

$$\bar{X} = \frac{3186}{38}$$

$$\bar{X} = 83.84$$

- Mean score in control class

$$\bar{X} = \frac{2717}{36}$$

$$\bar{X} = 75.47$$

From the calculation of the mean score above, it had been known that the mean post- test score in experimental class was 83.84 and the mean post-test score in control class was 75.47. It shown that the mean score in experimental class which taught by mind mapping was higher than the mean score in control class which taught by non-mind mapping strategy.

The next step, the researcher used the mean score of each class to count the standard deviation and variance.

a) The Standard Deviation and Variance

After getting the mean score, the researcher continued to find out the standard deviation and variance of this sample. It was also used to test the homogeneity of the sample. Before counting the standard deviation and variance, the researcher counted out the difference value between each student score and the mean score in experimental class and control class. The deep calculation about it was explained in the following table.

Table 3. The table of difference value in experimental class

N o	Initial Name	Score (X _i)	Mean (x̄)	(x _i - x̄)	(x _i - x̄) ²
1	AAA	70	83.84	-13.84	191.54
2	ARS	83	83.84	-0.84	0.70
3	AKG	78	83.84	-5.84	34.10
4	AB	87	83.84	3.16	9.98
5	AEP	77	83.84	-6.84	46.78
6	ACG	76	83.84	-7.84	61.46
7	DE	89	83.84	5.16	26.62
8	DAF	86	83.84	2.16	4.66
9	DAW	82	83.84	-1.84	3.38
10	DAP	82	83.84	-1.84	3.38
11	EDS	90	83.84	6.16	37.94
12	FIF	77	83.84	-6.84	46.78
13	FER	94	83.84	10.16	103.22
14	FDS	90	83.84	6.16	37.94
15	FA	82	83.84	-1.84	3.38
16	FO	90	83.84	6.16	37.94
17	IV	87	83.84	3.16	9.98
18	MA	75	83.84	-8.84	78.14
19	MFD	78	83.84	-5.84	34.10
20	MC W	90	83.84	6.16	37.94
21	MR	90	83.84	6.16	37.94
22	MB	87	83.84	3.16	9.98
23	NF	86	83.84	2.16	29.89
24	NA	85	83.84	1.16	1.34
25	OAP	91	83.84	7.16	51.26
26	PA	76	83.84	-7.84	61.46
27	RB	80	83.84	-3.84	14.74
28	RDS	76	83.84	-7.84	61.46
29	RN	86	83.84	2.16	29.89
30	RA	90	83.84	6.16	37.94
31	SS	88	83.84	4.16	17.30
32	SB	83	83.84	-0.84	0.70
33	SAF	87	83.84	3.16	9.98
34	SM	90	83.84	6.16	37.94
35	TWC	88	83.84	4.16	17.30
36	YDA	77	83.84	-6.84	46.78
37	ZSA	82	83.84	-1.84	3.38
38	ZR	80	83.84	-3.84	14.74
Σ N1 = 38		Σ Xi = 3186	Σ (xi - x̄)² = 1293.98		

Table 4. The table of difference value in control class

After getting the number of difference scores in each class, the researcher continued to find out the standard deviation and variance in each sample.

No.	Initial Name	Score (x _i)	Mean (x̄)	(x _i - x̄)	(x _i - x̄) ²
1	ADA	80	75.47	4.53	20.52
2	AM	70	75.47	-5.47	29.92
3	AN	82	75.47	6.53	42.64
4	AHA	77	75.47	1.53	2.34
5	AEP	77	75.47	1.53	2.34
6	AD	80	75.47	4.53	20.52
7	AA	78	75.47	2.53	6.40
8	BT	86	75.47	10.53	110.88
9	BBT	77	75.47	1.53	2.34
10	DSC	66	75.47	-9.47	89.68
11	DPH	77	75.47	1.53	2.34
12	ED	82	75.47	4.53	20.52
13	FW	82	75.47	6.53	42.64
14	FP	70	75.47	-5.47	29.92
15	IMC	71	75.47	-4.47	19.98
16	IJS	80	75.47	4.53	20.52
17	KYY	80	75.47	4.53	20.52
18	MM	77	75.47	1.53	2.34
19	MN	66	75.47	-9.47	89.68
20	MY	75	75.47	-0.47	0.22
21	MF	65	75.47	-10.47	109.62
22	ML	80	75.47	4.53	20.52
23	MR	71	75.47	-4.47	19.98
24	NAR	82	75.47	6.53	42.64
25	NM	77	75.47	1.53	2.34
26	RA	65	75.47	-10.47	109.62
27	RTC	77	75.47	1.53	2.34
28	SNH	69	75.47	-6.47	41.86
29	SA	69	75.47	-6.47	41.86
30	SN	75	75.47	-0.47	0.22
31	SE	81	75.47	5.53	30.68
32	SMY	72	75.47	-3.47	12.04
33	TA	69	75.47	-6.47	41.86
34	VS	77	75.47	1.53	2.34
35	VA	82	75.47	6.53	42.64
36	WSP	66	75.47	-9.47	89.68
Σ N₂ = 36		Σ X_i = 3186	Σ (x_i - x̄)² = 1186.4		

• Experimental Class

$$S_1 = \sqrt{\frac{\sum (x_i - \bar{x})^2}{(n-1)}}$$

$$S_1 = \sqrt{\frac{129398}{(36-1)}}$$

$$S_1 = \sqrt{\frac{129398}{(37)}}$$

$$S_1 = \sqrt{349724}$$

$$S_1 = 5.91374 \text{ (S.Deviation)}$$

$$S_1^2 = 34.972 \text{ (Variance)}$$

• Control Class

$$S_2 = \sqrt{\frac{\sum (x_i - \bar{x})^2}{(n-1)}}$$

$$S_2 = \sqrt{\frac{11864}{(36-1)}}$$

$$S_2 = \sqrt{\frac{11864}{(35)}}$$

$$S_2 = \sqrt{338971}$$

$$S_2 = 5.8221 \text{ (S.Deviation)}$$

$$S_2^2 = 33.897 \text{ (Variance)}$$

From the calculation above, the researcher concludes that the standard

deviation of sample 1 (X₁) was 5.91374 and variance was 34.972. The standard deviation of sample 2 (X₂) was 5.8221 and variance was 33.897

b) Homogeneity of The Variance

Before testing the hypothesis, the researcher examined the homogeneity of each sample variant. In testing the variant homogeneity, the researcher uses Fischer (F) formula. The variance are homogeny if the value of F is lowest or equal (F_h < F_t) than the value of F_{table} in significant (α = 0.05). The explanation of the variant homogeneity was explained below:

• Homogeneity Testing (F-test Formula)

$$F = \frac{\text{Biggest Variance}}{\text{Smallest Variance}}$$

$$F = \frac{34972}{33897}$$

$$F = 1.031$$

After getting the value of F, the researcher compared it with F_{table} (f₁ = N₁ - 1 = 38 - 1; df₂ = N₂ - 1 = 36 - 1). Based on df₁ = 37 and df₂ = 35 with significant = 5% (α = 0.05) the researcher found that the value of F_{table} was 1,78. After the researcher compared value of F_h with value of F_t, the researcher concluded that F_h was lowest than F_{table} (1.031 < 1.78). It means that H₀ is accepted and H_a is rejected. It signed that the variance was homogen. The result of this test was used to test the hypothesis. Hypothesis testing was explained in the next point.

c) Testing The Hypothesis

In this research, the researcher used t-test formula to test the research hypothesis. Like the researcher had explained in the chapter three, there were two t-test formulas in testing the hypothesis with two independence sample. They were *Separated Variance* and *Polled Variance*

After the researcher knew that the variance were homogeny (σ₁ = σ₂) and the number of samples in experimental class was different with the samples in control class (n₁ ≠ n₂), the researcher used polled variance t-test formula for testing the hypothesis. From the result of calculation, the t-total obtained value of the research was 7,153 with degree of freedom (df) was (38 + 36 - 2) = 72 and level significant 5% (α = 0.05), so the value of t-table was 1.666. It meant that t-obtained value was higher than t- table (t_o > t_t).

The result of the t-test was used to refuse the H_0 (*there is no difference significant in writing achievement between the tenth-grade students at SMA Negeri 3 Mojokero taught by using mind mapping strategy nor without using mind mapping strategy*) and to accepted H_a (*the tenth grade students at SMA Negeri 3 Mojokerto taught by using mind mapping strategy achieve better score in writing recount text than those taught using non- mind mapping strategy*). Because the t-obtained

was higher than t-table, it meant that H_a was accepted and H_0 was rejected.

From the calculation above, it shows that the students' ability in writing recount text were taught by using mind mapping strategy was better than the students' ability who were taught without using mind mapping strategy.

CONCLUSION

According to the research finding, the researcher found that teaching writing recount text by using mind mapping strategy was better than without using mind mapping strategy. It was prove from the average score in each group (experimental group and control group). The average score of experimental class was 83.84 and the average score for control class was 75.47.

After getting the average score, the researcher continued to find out the standard deviation and variances. After calculating the data, researcher got the standard deviation of experimental class was 5.9137 and the variance was 34.972. In the other hand, the standard deviation of control class was 5.8221 and the variance was 33.897.

In the next step, the researcher continued to test the homogeneity of both samples. The researcher used Fischer (F) formula. By using this formula, the researcher just divided the biggest variance and the smallest variance from both samples. The biggest variance was 34.972 and the smallest variance was 33.897. The researcher entered them into F formula

and the result was 1,03. After that, the researcher compared the F value with F table with degree of freedom ($df_1 = 37$ and $df_2 = 35$) with significant 5% ($\alpha = 0.05$). The value of F table was 1.78. Because the F_{total} was smallest than F_{table} ($1.03 < 1.78$), the researcher conclude that the variance of both samples was homogeny.

In the last step, the researcher started to test the hypothesis by using t-test formula. Actually, there are two kinds of t-test formula, separated formula and pooled formula. Because the variance was homogeny and the number of both samples was different ($n_1 \neq n_2$), so the researcher used pooled formula. The result of t-test was 7,153. After got the t- test score, the reseracher compared it with t-table ($df = n_1 + n_2 - 2 = 72$; significance 5% = 0.05). The value of t-table was 1.666. It means that to is highest than table ($7.153 > 1.666$). It signed that H_a was accepted and H_0 was refused. It means that the tenth-grade students at SMA Negeri 3 were taught by using mind mapping strategy gain better score than the tenth-grade students at SMA Negeri 3 were taught without using mind mapping strategy.

REFERENCES

- Aryanti, Rini. 2015. *The Effectiveness of Using Clustering Technique in Teaching Writing Recount Text*. Jakarta: Universitas Islam Negeri Jakarta.
- Arikunto, Suharsimi. 2006. *Dasar-dasar Evaluasi Belajar*. Jakarta: Bumi Aksara.
- Arikunto, Suharsimi. 2010. *Prosedur Penelitian Suatu Pendekatan Praktik*. Jakarta: Rineke Cipta
- Brown, H. Douglas. 2007. *Teaching by principle: an interactive approach to language pedagogy*. San Fransisco: Longman
- Buzan, Tony. 2005. *The Ultimate of Mind Map*. Jakarta: PT Gramedia Pustaka
- Buzan, Tony. 2011. *Buku Pintar Mind Map*. Jakarta: : PT Gramedia Pustaka
- Hamzah, B.Uno. 2008. *Perencanaan Pembelajaran*. Jakarta: PT Bumi Aksara
- Harmer, Jeremy. 2004. *How to Teach Writing*. New York: Pearson Education Limited Longman
- Harmer, Jeremy. 2006. *The Practice of English Language Teaching*. Edindurg: Pearson Education Ltd.
- Hornby, A.S. 2007. *Oxford Advanced Learners' Dictionary*. Oxford: Oxford University press.
- Iskandarwassid dan Sunendar, Dadang. 2009. *Strategi Pembelajaran Bahasa*. Bandung: PT Remaja Rosdakarya.
- Knapp, P., and Watkins, M. 2005. *Genre Test Grammar Technologies for Teaching and Assessing Writing*. Sydney: University of New South Wales Press.
- Latief, Moh. Adnan. 2014. *Tanya Jawa Metode Penelitian Pembelajaran Bahasa*. Malang: Universtas Negere Malang Press.
- Mahsun. 2011. *Metode Penelitian Bahasa*. Yogyakarta: Duta Wacana University Press
- Misbahuddin, M & Iqbal. 2013. *Pengantar Statistik Pendidikan*. Jakarta: PT Grafindo Persada
- Olivia, Femi. 2008. *Gembira Belajar Dengan Mind Mapping*. Jakarta: Gramedia
- Purwanto. 2008. *Metodologi Penelitian Kuantitatif untuk Psikologi dan Pendidikan*. Yogyakarta: Pustaka Pelajar
- Saddhono, Kundharu and Slamet. 2012. *Pembelajaran Keterampilan Berbahasa*. Yogyakarta: Graha Ilmu
- Semi, Atar. 2007. *Menulis Efektif*. Padang: Angkasa Raya
- Sukardi. 2003. *Metodologi Penelitian Pendidikan (Kompetensi dan Praktiknya)* Jakarta: PT. Bumi Aksara.
- Sugiyono. 2008. *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung: Alfabeta
- Sugiyono. 2010. *Metode Penelitian Administrasi*. Bandung: Alfabeta.
- Sugiyono. 2013. *Statistika Untuk Penelitian*. Bandung: Alfabeta.
- Tarigan, Henry Guntur. 2009. *Menulis Sebagai Suatu Keterampilan Berbahasa*. Bandung: Angkasa Raya
- Tompkin, G.E. 2006. *Teaching Writing Balancing Process & Product*. New York: MacMillan.
- Warseno, Agus and Kumorojati, Ratih. 2011. *Super Learning*. Yogyakarta: Diva Press
- Wiyanto, Asul. 2006. *Terampil Menulis Paragraf*. Jakarta: Erlangga