

THE EFFECTIVENESS OF JIGSAW TECHNIQUE IN TEACHING WRITING DESCRIPTIVE TEXT

(¹) *Fauzi Bafadal*, (²) *Rafika*

(¹) *Lecturer of English Department University of Muhammadiyah Mataram*

(²) *Student's of English Department University of Muhammadiyah Mataram*

Abstract

This study was about experimenting the effectiveness of Jigsaw technique in teaching writing descriptive text at second grade students of SMPN 21 Mataram. The research method was quasi experimental research with nonequivalent control group design. The finding showed the mean score of the experimental group was 13.3 and the mean score of control group was 7.2. After analyzing the data, it was found that t-test was 3.657. The degree of freedom (df) was $N_x + N_y - 2 = 38$ from 40 students as sample. The researcher got score 2,042 for confident level 0.05 or 95% and score 2,750 for confident level 0.01 or 99%. It means that using Jigsaw technique in teaching writing descriptive text is effective.

Keywords: Jigsaw, Writing, Descriptive text.

INTRODUCTION

Writing is one of the four language skills that is very important to be learnt, since in writing we can express our feelings, experiences, ideas and thoughts to others. Harmer (1998:79) said that the reason for teaching writing to students of English as a foreign language include reinforcement, language development, learning style, and the most importantly writing as a skill in its own right. The most important reason for teaching writing, of course, is that it is a basic language skill, just as important as speaking, listening and reading. In the second year students of Junior High school, one of the basic competencies in English subject is “to express meaning and generic structures in simple short essay using written language that is accurate, fluent acceptable to interact with the circumstances in descriptive genre” (Depdiknas. 2006). Moreover, Harmer (2004:31) states that writing encourages students to focus on accurate language use, it may well provoke language development as they resolve problems which the writing put into their minds.

In fact, there are many problems in writing especially in writing descriptive text. First, the students' motivation is low. Second, the students were lack of vocabulary. Third, the students usually bored while they are writing. Fourth, the students were difficult to find new ideas. In order to be successful in improving the students' writing ability, the teachers must be have good techniques. Teaching writing should be systematically presented and taught continually for the students. Therefore, teachers should be able to select and apply a right technique for teaching writing by considering the students' ability. Teachers also need to provide opportunities for students to write a lot of paragraph. Thus, making writing as an enjoyable activity is an important part of language learning experience and it can build up the students' writing.

From the problems above, the writer tried to give a solution to the teacher by implementing the teaching technique. In teaching writing, there are many techniques that can be used. The teacher should be creative to find out the appropriate method in order to help the students master especially those problems. One of the techniques is jigsaw technique.

Frangenheim (2005:87) states that Jigsaw is a useful strategy enabling a group of learners to cover several topics simultaneously and in a shorter amount of time. Jigsaw is the appropriate method which demands the students on 4-6 groups, the name of home teams. Whereas Suprijono (2009: 89) explains that jigsaw is one of technique that is very simple to be applied and increase enjoyment of the learning. Jigsaw is the appropriate method which demands the students on 4-6 groups, the name of home teams. Next, jigsaw as a method of cooperative learning can be effectively used across most subjects and grade levels. It not only enhances the motivation and performance of students, but also develops their social skills for group work (Kam-Wing, 2004:96).

In other hand, jigsaw is a cooperative learning strategy that enables each student "home" group to specialize in one aspect of a topic. It means that in this strategy, the students from "Original Group" able to explain one aspect of a topic. What the points of the topic and can shared what they get to others students. And every group have different topic to be analyzed (Gregory, 2003:21 in Julita). Jigsaw technique has a number of positive outcomes because its student has a unique contribution to make, the technique boost status and self-esteem-each student is an expert in turn. Teammates encourage each other to their best because they need information that each student can provide. Teammates gain and enhance sensed of interdependence-none can succeed without the help of each of their teammates (Kagan, 2009:17)

Previously, there are some studies about jigsaw technique. The first, the study was undertaken by Ardila (2012) entitled *Improving the Students' Ability in Writing Recount Text By Applying Jigsaw Technique at the Eighth Grade Students of SMP Negeri 1H.Perak*. This study concerns on improving the students' ability in writing recount text by applying jigsaw technique. The underlying objective of this study is to investigate whether teaching recount by applying Jigsaw Technique potentially improves students' skill. The research was conducted by using Classroom Action Research (CAR). Each meeting included four steps namely: planning, action, observation, and reflection. The conclusion is that the application of Jigsaw Technique in writing recount text improves the students' ability in writing recounts.

The second study was conducted by Zahra (2014) entitled *The Use of Jigsaw Technique in Improving Students' Ability in Writing a Descriptive Text at the One Senior High School in West Bandung*. This study aimed at investigating whether there is any improvement of students' writing ability in writing a descriptive text by the implementation of Jigsaw technique and discovers students' response to the use of Jigsaw technique in teaching writing descriptive text. The results showed the significance value was lower than the significance level which was $0.043 < 0.05$. It meant that the Jigsaw technique improved students' ability in writing a descriptive text.

The third was conducted by Raudhatuz (2009) entitled *Using Jigsaw Technique to Improve the Writing Ability at the Second Year Students' of MTs Negeri 2 Medan*. This study was designed to improve the students' writing ability by using Jigsaw technique. The objective of the study was to find out how Jigsaw technique can be used to improve the writing ability of the second year students' of MTs Negeri 2 Medan. The finding of the study indicated that Jigsaw technique was successful in improving students' writing narrative text. Based on the findings, it is suggested that English teachers apply the Jigsaw technique since it is beneficial not only in improving the writing narrative text but also in motivating students to write and work together to describe the event in the picture.

Based on the explanation above, the writer was interested in finding out "Is the use jigsaw technique effective in writing descriptive text at the second year students of SMP N 21 Mataram in academic year 2015/2016?"

REVIEW OF RELATED LITERATURE

Concept of Jigsaw Technique

This part explains about definition of jigsaw technique, the history of jigsaw technique, the steps of jigsaw technique, the advantage and disadvantage of jigsaw technique and the challenges of jigsaw technique.

The Definition of Jigsaw Technique

According to Isjoni (2014:54), jigsaw is one type of cooperative learning which encourages the students to be active and help each others in understanding materials for getting maximal achievement. Cox and Johanson (2008:7) points out that jigsaw is an effective collaborative learning activity designed to increase personal responsibility for learning. It is also an efficient strategy for extending the breadth and depth of learning as students can “teach one another” multiple concepts simultaneously during the same class session. Whereas, jigsaw is a strategy of the learning method which demands the students to learn in group with 4-6 members’ students who have heterogeneous ability. Each group members meet in expert groups to study the material assigned to each group member. After discussion, they go back into their group members and explain their discussion to his/her group members (Prihastiwi, 2013:3).

Jigsaw technique is a special form of information gap in which each member of a group is given some specific information and the goal is to pool all information to achieve some objective (Brown, 1994: 179 in Anonymous, 2010:17). The jigsaw method provides students with the opportunity to be actively involved with the learning process. With multiple exposures to this method, students should feel more comfortable with their roles. Some type of evaluation of the cooperative group could increase its effectiveness by adding accountability to each individual for the group’s performance (Maden, 2011:912).

Jigsaw technique is a cooperative learning technique appropriate for students from 3rd to 12th grade. This technique is an efficient way of teaching material that also encourages listening, engagement, interaction, teaching, and cooperation by giving each member of the group an essential part to play in the academic activity (Adams, 2013:65-66).

According to Huda (2015:118), in this technique, each groups “make competition” to get group reward. Reward is gotten based on individual performance of each groups. Each groups will get adding points if their groups are be able to show the improvement of performance (than before) while answering the quiz.

Jigsaw can be used whenever the material, for example, in the written descriptive form. It is most appropriate in such subjects as social studies, literature, some part of science and related areas in which concepts rather than skills are the learning goals (Slavin, 2009 in Mauludi, 2011:6).

As conclusion, Jigsaw is a remarkably efficient way to learn the material. However, even more important, the Jigsaw process encourages listening, engagement,

and empathy by giving each member of the group an essential part to play in the academic activity.

The History of Jigsaw Technique

The Jigsaw is a teaching technique that is applied in the classroom. It was first applied in 1971 in Austin City, Texas. According to Aronson (2008) the Jigsaw was implemented by him in the school to help teaching material. It was used by collaborating students' Austin, African and American.

Jigsaw is an efficient way to facilitate learning. In this technique, students learn a lot of material quickly, share information with other groups, minimize listening time, and are individually accountable for their learning. Since each group needs its members to do well in order for the whole group to do well, Jigsaw maximizes interaction and establishes an atmosphere of cooperation and respect for other students.

In the classroom, students worked individually and competed against each other for grades. It was on the context that they invented the Jigsaw strategy. First, they helped several teachers devise a cooperative Jigsaw structure for the students to learn about the life of Eleanor Roosevelt. They divided the students into small groups, diversified in terms of race, ethnicity and gender, making each student responsible for a specific part of Roosevelt's biography. Needless to say, at least one or two of the students in each group were already viewed as "losers" by their classmates (Aronson, 2008)

The Jigsaw technique is developed by Elliot Aronson and his friends' in 1978 as cooperative learning method (Slavin, 2009 in Mauludi). This technique can be used to learn reading, writing, listening, or speaking. The students cooperate with their friends and have many opportunities to improve their communication ability. In Jigsaw technique, the students have the opportunity to improve their responsibility to their learning and they can cooperate with the other students to learn the material.

Jigsaw technique is used to improve students' responsibility to their learning. The students not only study the given material, but also they must give and teach the material to the other members. So the students will depend on the other students. They must cooperate to learn the given material. Jigsaw technique is a specific cooperative learning. Each student is essential for the completion and full understanding of the final product.

Jigsaw is a teaching technique used in small group instruction. Students of a normal sized (26-33 students) class will be divided into competency groups. Each group will be given a list of subtopics to research, with individual members of the group breaking off to work with the "experts" of other groups, then returning to their starting body in the role of instructor for their subcategory.

The Jigsaw technique is a cooperative learning technique appropriate for students between 3rd and 12th grade. The technique involves breaking the classroom into small groups; each group consists of five to six students. Each group is responsible for a specific piece of knowledge that they will discuss with other classmates.

The Steps of Jigsaw Technique

The Jigsaw technique is very simple to use. The students are divided into five or six members in a group. Each member is responsible to learn the given material.

According to Aronson (2008), the teaching procedures in English classroom by Jigsaw might be sequenced as follows:

1. Students are divided into 5 or 6 persons of a Jigsaw group. The group should be diverse in terms of ethnicity, gender, ability, and race.
2. One student should be appointed as the group leader. This person should initially be the most mature student in the group.
3. The day's lesson is divided into 5-6 segments (one for each member). For example, if you want history students to learn about Eleanor Roosevelt, you might divide a short biography of her into stand-alone segments on: (a) Her childhood, (b) Her family life with Franklin and their children, (c) Her life after Franklin contracted polio, (d) Her work in the White House as First Lady, and (e) Her life and work after Franklin's death.
4. Each student is assigned one segment to learn. Students should only have direct access to only their own segment.
5. Students should be given time to read over their segment at least twice to become familiar with it. Students do not need to memorize it.
6. Temporary experts groups should be formed in which one student from each Jigsaw group joins other students assigned to the same segment. Students in this expert group should be given time to discuss the main points of their segment and rehearse the presentation which they are going to make to their Jigsaw group.
7. Students come back to their Jigsaw group.
8. Students present his or her segment to the group. Other members are encouraged to ask question for clarification.
9. The teacher needs to observe the process from group to group. Intervene if any group is having trouble such as a member being dominating or disruptive. There will come a point that the group leader should handle this task. Teacher can whisper to the group leader as to how to intervene until the group leader can effectively do it themselves.
10. A quiz on the material should be given at the end so students realize that the sessions are not just for fun and games, but that they really count.

The Advantage and Disadvantage of Jigsaw Technique

Adams (2013:65) points out that there are several benefits of jigsaw technique in teaching. Teacher is not the sole provider of knowledge because most of the work is done by the students themselves which makes it an efficient way to learn. Students take ownership in the work and achievement and therefore students are held accountable among their peers. Jigsaw technique is beneficial in teaching because learning revolves around interaction with peers, students are active participants in the learning process and thereby help to build interpersonal and interactive skills among students. The use of this technique also makes teachers find it easy to learn, enjoy

working with it, it can be used in conjunction with other teaching strategies and it can be effective even if it is used for just an hour per day.

There can be some obstacles when using the jigsaw technique. One common problem is a dominant student. In order to reduce this problem, each jigsaw group has an appointed leader. Students realize that the group is more effective if each student is allowed to present his or her own material before questions and comments are made. Dominance is eventually reduced because students realize it is not in the best interest of the group (Adams 2013:65).

Another problem is a slow student in the group. It is important that each member presents the best possible report to the group, as it is important that individual with poor study skills do not present inferior reports to their jigsaw group. In order to reduce this problem, the jigsaw technique relies on “expert” groups. Students work with other individuals from other groups working on the same segment of the report. In this “expert” group they are given a chance to discuss their reports and gather suggestions from other students to modify their reports as needed (Adams 2013:65).

The Challenges of Jigsaw Technique

According to Adams (2013:72) Challenges Involved in Using Jigsaw Respondents gave various challenges involved in using jigsaw technique in teaching. A summary of their challenges are provided below:

- 1) It is time consuming.
- 2) Some students tend to dominate during the activities.
- 3) Time and limited source of information for pupils.
- 4) The jigsaw helped most of the pupils to understand what the research her was teaching but few of them did not get the concept.
- 5) Because pupils have their groups, they will not have a cordial relationship with other student in that class.
- 6) Number of students in that class. High number of students in the group can affect participation.
- 7) Not all students will have the courage to be involved. The nature of the time table does not allow enough time for pupils to do their presentation. That is time constraint.
- 8) Students who are academically good will give problems for the weaker students.

With these challenges it implies that the use of jigsaw technique has not only benefits to the student but it has some problems as well. This view given by the respondents on the challenges in using jigsaw technique agrees with that of (Aronson, 2008). According to him, the dominant student is an obstacle to a successful Jigsaw activity. To reduce this each jigsaw group is given an appointed leader. Another obstacle in using the jigsaw technique in teaching is that of the slow student in the group as it is important that individuals. With poor study skills do not present inferior reports to their group. In order to reduce this problem the technique relies on “experts” groups. Students work with other individuals from other groups working on the same segment of the report which affect the time making the time given limited.

METHOD

This study was a quasi-experimental research, nonequivalent control groups design. It was conducted at the second grade students of SMPN 21 Mataram in Academic Year 2015/2016. The second years of SMPN 21 Mataram consist of three classes. They were VIII A consist of 20 students, VIII B consist of 20 students and VIII C consist of 21 students. The total population of the students are 61 students. The researcher took two classes namely VIII A as experimental group which consist of 20 students and VIII B as control group which consist of 20 students as the samples. The total numbers of the samples were 40 students.

To obtain research data, pretest and posttest were utilized. The tests required the students writing descriptive. Between the pretest and posttest, some treatments were implemented differently into the two classes, experimental group and control group.

To evaluate the students' writing score, the researcher adopted scoring rubric from Hughes (2003:133). Then, the mean scores of both experimental and control group were calculated by the following formula.

$$M_x = \sum \frac{x}{N} \text{ and } M_y = \sum \frac{y}{N}$$

Where:

M = the mean score of two group

X = the students final score for experimental group

Y = the students final score for Control group

N = the number of sample

Σ = the sum of.....

After the mean score obtained, evaluating the data by finding the standard deviation both experimental group and control group through the following formula.

- a. Find out the standard deviation of experimental group. The formula is:

$$\sum X = \sum X^2 - \frac{(x)^2}{N_x}$$

Where:

X = the students standard deviation for experimental group

N = the number of sample

Σ = the sum of.....

- b. Find out the standard deviation of control group. The formula is:

$$\sum Y = \sum Y^2 - \frac{(y)^2}{N_y}$$

Where:

Y = the students standard deviation for control group

N = the number of sample

Σ = the sum of.....

- 1) Finally, the last step is to know the significance of two variables standard deviation by using the following formula :

$$t = \frac{Mx - My}{\sqrt{\frac{\sum X^2 + \sum y^2}{Nx + Ny - 2} \left[\frac{1}{Nx} + \frac{1}{Ny} \right]}}$$

Where:

M = the mean score of each group

N = the number of sample

X = the students standard deviation for experimental group

Y = the students standard deviation for control group

Σ = the sum of.....

$\sqrt{\quad}$ = the root of.....

(Arikunto, 2010: 354)

FINDING AND DISCUSSION

Findings

a. Students' score in the pre-test

Before the writer giving treatment or teaching and learning activities, the writer gave a pre-test for two groups. It was followed by 40 students, 20 students as experimental group and 20 students as control group. The writer provided 45 minutes for pre-test. The result of pre-test for experimental group and control group as followed:

Table 01. The Result of Pre-test for Experimental group

No	Name	Component's score					Score
		C	O	V	L	M	
1.	Ali Imron	16	9	10	8	3	46
2	Alfi Ra hma Nisa	15	8	9	9	2	43
3	Leony Dwi Putri Handayani	17	9	10	10	3	49

4	Syaiful Bahri	17	10	10	10	3	50
5	Yuli Andriyani	18	10	11	11	3	53
6	Ridwan Hudaibi	19	9	11	11	3	53
7	Hafizin	17	9	12	10	3	51
8	Zaedul Fahmi	17	10	10	10	3	50
9	Tarmida Febriani	18	9	10	11	3	51
10	Istiana	19	10	11	12	3	55
11	Ainaya wahdani	16	8	9	9	2	44
12	Sunatun	16	8	9	9	2	44
13	Maharani	19	10	10	10	3	52
14	Mirza habibah	18	9	10	11	3	51
15	Yeni Zaen	19	10	11	12	3	55
16	M. Jaelani	17	9	10	10	2	48
17	Ramdan	18	9	10	11	2	50
18	Muzitahid	17	9	10	10	2	48
19	Solihin	18	9	10	10	2	49
20	Peros Zebedi	16	7	8	9	2	42
	TOTAL						984

Table 02. The Result of Pre-test for Control group

No	Name	Component's score					Score
		C	O	V	L	M	
1.	Aswadi	16	9	8	8	3	44
2	Didi Rahmadi	15	8	8	7	2	40
3	Fakhri Rahman	15	8	9	7	2	41
4	Fathurrahman	17	9	8	9	2	45
5	Fikramsyah	17	8	8	7	2	42
6	Haeatul Islamiah	20	11	12	11	3	57
7	Hartawan	18	9	10	10	3	50
8	Ismail	19	10	9	9	2	49
9	Istikana	15	7	7	6	2	37
10	Mariani	15	8	7	6	2	38
11	Muliana	17	9	8	8	2	44

12	Padila Wahdani	17	9	8	9	2	45
13	Pendi Rahman	16	9	9	9	2	45
14	Agus Gunawan	19	10	11	10	3	53
15	Reva Erza	15	7	7	6	2	37
16	Rizki	18	9	10	9	3	49
17	Tarmizan	19	10	11	10	3	53
18	Wariz bawazir	17	9	8	9	2	45
19	Zainal arifin	18	9	10	10	3	50
20	Firdatul Laeli	15	8	9	7	2	41
	TOTAL						905

b. Students' score in the post-test

The last activities from this research were post-test.. The writer provided 45 minutes for post-test. The writer explained the instruction of the test before giving post-test. The test items were same in the pre-test, it was one essay.

Table 03. The Result of Post-test for experimental group

No	Name	Component's score					Score
		C	O	V	L	M	
1.	Ali Imron	21	14	15	14	3	67
2	Alfi Rahma Nisa	20	14	15	12	3	64
3	Leony Dwi Putri Handayani	20	13	13	12	3	61
4	Syaiful Bahri	21	13	13	12	3	62
5	Yuli Andriyani	21	13	14	12	3	63
6	Ridwan Hudaibi	20	14	15	12	3	64
7	Hafizin	21	13	13	12	3	62
8	Zaedul Fahmi	21	13	14	12	3	63
9	Tarmida Febriani	22	15	15	12	3	69
10	Istiana	21	13	13	12	3	62
11	Ainaya wahdani	19	11	13	12	2	57
12	Sunatun	22	15	15	12	3	69
13	Maharani	21	14	14	14	3	66

14	Mirza habibah	19	11	13	12	2	57
15	Yeni Zaen	22	15	15	12	3	69
16	M. Jaelani	22	15	15	12	3	69
17	Ramdan	19	16	12	11	2	60
18	Muzitahid	18	11	12	12	2	55
19	Solihin	18	11	12	12	2	55
20	Peros Zebedi	18	11	12	12	2	55
	TOTAL						1249

Table 04. The Result of Post-test for control group

No	Name	Component's score					Score
		C	O	V	L	M	
1.	Aswadi	14	10	10	8	3	45
2	Didi Rahmadi	19	11	12	11	3	56
3	Fakhri Rahman	18	10	12	10	3	53
4	Fathurrahman	14	10	10	8	3	45
5	Fikramsyah	18	10	11	10	3	52
6	Haeatul Islamiah	20	12	13	11	3	59
7	Hartawan	20	12	13	11	3	59
8	Ismail	19	11	12	11	3	56
9	Istikana	18	10	12	10	3	53
10	Mariani	17	10	11	9	3	50
11	Muliana	17	10	11	9	3	50
12	Padila Wahdani	18	10	12	9	2	51
13	Pendi Rahman	19	12	12	11	3	57
14	Agus Gunawan	20	12	12	11	3	58
15	Reva Erza	16	9	10	8	3	46
16	Rizki	17	10	11	9	3	50
17	Tarmizan	17	10	11	9	3	50
18	Wariz bawazir	18	10	12	9	2	51
19	Zainal arifin	20	12	12	11	3	58
20	Firdatul Laeli	17	10	11	9	3	50

TOTAL						1049
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Data Analysis

a. The Computation and Analysis of mean Score

The writer presented the statistical computation of obtained data. Later, the discussion covers the calculation of mean scores both finding the statistical computation and the calculation of mean score of both control and experimental group. How to collect the data has been mentioned in chapter III.

After tabulated the score above, then the writer calculated the mean score and the coefficients of the both test. It was important to find out the deviation of pre-test and post-test of the individual score. The deviation of two scores was tabulated as follows

Table 05. The Table of Computation the Mean score of Experimental group

No	Name	Pre-test	Post-test	(x)	(x ²)
1.	Ali Imron	46	67	21	441
2	Alfi Rahma Nisa	43	64	21	441
3	Leony Dwi Putri Handayani	49	61	12	144
4	Syaiful Bahri	50	62	12	144
5	Yuli Andriyani	53	69	17	289
6	Ridwan Hudaibi	53	64	11	121
7	Hafizin	51	62	11	121
8	Zaedul Fahmi	50	63	13	169
9	Tarmida Febriani	51	63	12	144
10	Istiana	55	57	2	4
11	Ainaya wahdani	44	57	13	169
12	Sunatun	44	69	25	625
13	Maharani	52	66	14	196
14	Mirza habibah	51	62	11	121
15	Yeni Zaen	55	69	14	361
16	M. Jaelani	48	69	21	529
17	Ramdan	50	55	5	25

18	Muzitahid	48	60	12	144
19	Solihin	49	55	6	36
20	Peros Zebedi	42	55	13	169
	Total	984	1249	266	4393

Table 06. The Table of Computation the Mean score of Control group

No	Name	Pre test	Post-test	(Y)	(Y ²)
1.	Aswadi	44	50	6	36
2	Didi Rahmadi	40	45	5	25
3	Fakhri Rahman	41	53	12	144
4	Fathurrahman	45	50	5	25
5	Fikramsyah	42	52	10	100
6	Haeatul Islamiah	57	59	2	4
7	Hartawan	50	59	9	81
8	Ismail	49	56	7	49
9	Istikana	37	50	13	169
10	Mariani	38	50	12	144
11	Muliana	44	53	9	81
12	Padila Wahdani	45	51	6	36
13	Pendi Rahman	45	52	7	49
14	Agus Gunawan	53	58	5	25
15	Reva Erza	37	46	9	81
16	Rizki	49	50	1	1
17	Tarmizan	53	56	3	9
18	Wariz bawazir	45	51	6	36
19	Zainal arifin	50	58	8	64
20	Firdatul Laeli	41	50	9	81
	Total	905	1049	144	1240

b. The Computation and Analysis of mean Score of Two Groups

After getting the score deviation of per-test and post-test, the mean score of two groups can be computed. It can be formulated as follows:

- a. The mean score of experimental group:

$$Mx = \sum \frac{x}{N}$$

Where: Mx = the mean score of two group

x = the students final score for experimental group

N= the number of sample

Σ = the sum of.....

$$\begin{aligned} \text{So, } Mx &= \sum \frac{x}{N} \\ &= \frac{266}{20} \\ &= 13.3 \end{aligned}$$

b. Standard deviation of experimental group

$$\sum x = \sum x^2 - \frac{(x)^2}{Nx}$$

Where :

X= the students standard deviation for experimental group

N= the number of sample

Σ = the sum of.....

$$\begin{aligned} \text{So, } \sum x &= \sum x^2 - \frac{(x)^2}{Nx} \\ &= 4393 - \frac{(266)^2}{20} \\ &= 4393 - \frac{70756}{20} \\ &= 4393 - 3537.8 \\ &= 855.2 \end{aligned}$$

c. The mean score of control group:

$$My = \sum \frac{y}{N}$$

Where: My = the mean score of two group

y = the students final score for Control group

N = the number of sample

Σ = the sum of.....

$$\text{So, } My = \sum \frac{y}{N}$$

$$= \frac{144}{20}$$

$$= 7.2$$

d. Standard deviation of control group:

$$\sum Y = \sum y^2 - \frac{(y)^2}{N_y}$$

Where:

Y=the students standard deviation for control group

N= the number of sample

\sum = the sum of

$$\text{So, } \sum Y = \sum y^2 - \frac{(y)^2}{N_y}$$

$$= 1240 - \frac{(144)^2}{20}$$

$$= 1240 - \frac{20736}{20}$$

$$= 1240 - 1036.8$$

$$= 203.2$$

$$\text{so, } t = \frac{M_x - M_y}{\sqrt{\frac{\sum x^2 + \sum y^2}{N_x + N_y} \left[\frac{1}{N_x} + \frac{1}{N_y} \right]}}$$

$$t = \frac{13.3 - 7.2}{\sqrt{\frac{855.2 + 203.2}{20 + 20} \left[\frac{1}{20} + \frac{1}{20} \right]}}$$

$$t = \frac{6.1}{\sqrt{\frac{1058.4}{40} [0.1]}}$$

$$t = \frac{6.1}{\sqrt{\frac{1058.4}{38} [0.1]}}$$

$$t = \frac{6.1}{\sqrt{2.785}}$$

$$t = \frac{6.1}{1.668}$$

$$t = 3.657$$

The result of the t-test formula above is 3.657. This figure is also considered as one finding of the study.

Based on the result of data analysis above, it showed that the second year students of SMPN 21 Mataram had different ability to comprehend the materials in teaching writing descriptive text. They were able to compose the paragraph in their own words which based on their perspective about something. Generally, they had good ability in writing the text especially describing something around them.

The result of this study was experimental group got higher score than control group. The mean score of experimental group was 13.3 than control group was 7.2. It showed that the spread of subject's score of experimental group was closed to each other.

After calculating data by using a t-test formula and the result was 3.657. The critical value of t-test is compared to the t-table with the degrees of freedom $df (N_x+N_y-2) = (20+20-2) = 38$. The degree of freedom of 38 was at the competence interval of 0.05 (95%) was 2.042 and 0.01 (99%) was 2.750 the comparison was done between t-test formula with t-table in which the result of t-test was 3.657. It was found that the t-table of "t" indicated $t\text{-test } 3.657 > t\text{-table } 2.042$ (95%) and 2.750 (99%). Finally, the analysis of the data eventually lead to the conclusion of this research that using Jigsaw technique had positive effect in teaching writing descriptive text at second year students of SMPN 21 Mataram.

CONCLUSION AND SUGGESTIONS

Based on the research finding and discussion in chapter IV, it could be concluded that use of Jigsaw technique in teaching writing descriptive text is effective. It was proved by the obtained score of t test. The t test showed that t score 3.657 was higher than t table 2.042, it means that H_a (Alternative hypotheses) was accepted and H_o (Null hypotheses) was rejected. There was a significant difference in the achievement between class VIII^A (experimental group) who were taught writing using Jigsaw technique and VIII^B (control group) who were taught writing without Jigsaw technique. The mean score of experimental group was 13.3 than the mean

score of control group was 7.2. It means that experimental group was better than control group.

Based on the result, the writer concludes that Jigsaw technique has positive effect in teaching writing descriptive text because it is enjoyable and suitable technique to teach writing. It was showed by students' activity and spirit during teaching and learning process was improved using Jigsaw technique.

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