

## THE USE OF JIGSAW TECHNIQUE IN IMPROVING STUDENTS' ABILITY IN WRITING A DESCRIPTIVE TEXT (A Quasi-Experimental Research at One Senior High School in West Bandung)

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**Abstract:** This research was aimed at investigating whether there is any improvement of students' writing ability in writing a descriptive text by the implementation of Jigsaw technique and discover students' response to the use of Jigsaw technique in teaching writing descriptive text. This research employed quantitative method in the forms of quasi-experimental design. This quantitative research involved two classes of tenth grade at one senior high school in West Bandung in which one class was assigned as the experimental group and the other one was assigned as the control group. The instruments used were pre-test, post-test, and questionnaire of attitudes towards the Jigsaw technique. The post-test scores of the two groups were compared by using Independent t-test. 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. Based on students' attitudes toward the use of Jigsaw technique, the findings indicated that most of students rated the used technique moderately positive. Nearly all of students agreed that Jigsaw technique is able to improve their writing skill, advance their grammatical mastery, increase their vocabulary mastery, expand their creative thinking, and improve their presentation skill as well as their confidence.

**Keywords:** *Jigsaw technique, cooperative learning, writing skill*

### Introduction

Writing plays the important role in English language education. Foong (1999) claimed that learning to write is important and useful for language and rhetorical practice for communication, and as a discovery

as well as cognitive process. As stated in school based curriculum (KTSP), teaching English in High School is aimed at developing students' communication skill both in oral or written skill in order to

achieve the level of informational. In other word, the high school students are expected to comprehend and create the various functional text, monologue, and essay in form of procedure, descriptive, recount, narrative, report, news item, analytical exposition, hortatory exposition, spoof, explanation, discussion, review, and public speaking. In fact, based on the observation that the writer has done at one Senior High School in Bandung, the teacher tended to focus on teaching grammar which was not covered in KTSP. The teacher only explained the materials in the exercise book and asked the students to do the exercises. The technique that the teacher implemented in the

class somehow contributed to the students' less motivation in learning English especially in writing skill. This kind of phenomenon also turns to be one of those obstacles that make the students are difficult in mastering writing skill. It is difficult because learners are expected to express their ideas clearly and efficiently in writing form. The argument was also supported by Tangpermpoon (2008) which stated that writing is considered as the most difficult skill for language learners because they need to have a certain amount of L2 background knowledge about the rhetorical organizations, appropriate language use or specific lexicon which they want to communicate with their readers.

### **Literature Review**

According to Brown (2001, p. 335)., writing is the product of thinking, drafting, and revising procedures that requires specialized skills Writing is the process of putting ideas down on paper to transform thoughts into words, to sharpen the main ideas, to give them structure and coherent organization

(Brown, 2001, p. 336). Considering the purpose of writing is part of an overall structure that need carefully chosen to avoid inappropriate readers' response. As Harmer (2007) stated that the first thing the authors should do before writing is considering the purpose of their writing since it will influence not only the type of text they wish to

create, but also the language they use, and the information they choose to include. The purpose of writing itself depends on who the target readers are. According to Lombardo (2010), there are five purposes of writing. First is to inform, which is giving the fact as objective as possible. Second is to explain, which is explaining how something works and why something happened. Third is to persuade, which is convincing the readers to be in the same perspective with the writer. Fourth is to entertain, which is entertaining the readers with the enjoyable writing. Fifth is to describe, which is revealing something about a subject as detail as possible.

Teaching writing skill to non-native students is a very challenging task for the teachers, because developing this skill takes a long time to see the improvement. Hence, the cooperative learning method was considered to be used in teaching writing to non-native speaker. As stated by Slavin (1995), cooperative learning is a teaching method in which students work in small groups to help one another to learn academic

content, then they are expected to discuss and argue with each other to assess each other's current knowledge. In addition, this method offers the opportunity for students to work in a group cooperatively, and then allow groups to work interdependently and finally get feedback from others.

One of the techniques of cooperative learning method is Jigsaw technique. According to Aronson (2000), technique or cooperative structure commonly used in high school is Jigsaw technique, because it is considered as the efficient way to learn the material in peers. Jigsaw technique was chosen thoughtfully to be used in improving students' writing ability especially in writing a descriptive text. Jigsaw technique is an efficient way to learn the course material in a cooperative learning style which encourages listening, writing, engagement, and empathy by giving each member of the group an essential part to play in the academic activity (Aronson, 2000). The technique involves three aspects. First, groups that are comprised of five or six students are

formed. Each student is then assigned a part of the material in which they are expected to become an “expert”. Until this stage, students will have the opportunity to discuss their areas of expertise with other students who are not in their original groups, yet who have worked on the same part of the material. These discussion groups are known as “expert groups.” Finally, each student presents a report of what he or she has learned about his or her topic to the rest of the student’s original group.

According to Kessler (1992) there are four benefits of Jigsaw technique especially for second language classroom. First, Jigsaw technique allows students to work in groups which have different races and cultures. It is believed not only can facilitate students to gain trust and acceptance across races and cultures, but also can support minority students in achieving their academic success. Second, Jigsaw technique supports the communicative approach in language teaching, since it offers a highly interactive learning experience.

Third, Jigsaw technique demands students to develop their cognitive skills of analysis, comparison, evaluation, and synthesis of information. Fourth, Jigsaw technique provides opportunities for students to develop their presentation and questioning technique as a result of a strong motivation to ensure that everyone in the group gets all the information in order to complete the task or quiz.

The Jigsaw technique in particular has been proved not only to improve intergroup relations, but also to increase students’ achievement as well, as supported by some studies. In the Austin schools, empirical results showed that Jigsaw children liked their peers and liked school more than children in traditional classrooms did. The Jigsaw children in the Austin schools had fewer absences, higher self-esteem and empathy, and better academic performance (Aronson & Patnoe, 1997 cited in Perkins & Tagler, n.d). The technique also can be a useful addition to individualized learning programs. When individualized instruction utilizes

independent study, it works in reducing the child's opportunity to communicate with their friends during teaching and learning process (Aronson, n.d). In addition, the research was done by Agustina (2001) with the title "The Role of Jigsaw Technique in Improving Students' Reading Comprehension Skill at SMPN 3 Pasuruan" showed a good result. There was not a significant difference between the pre-test and post-test in the control group. According to the result, the Jigsaw technique was able to improve students' reading comprehension skill. Agustina also suggested the other researchers to do the similar research using Jigsaw technique, but with different skill like writing and speaking. Therefore, this research will experiment Jigsaw technique in improving students' writing skill at one High School in West Bandung.

### **Methodology**

This study used quasi experimental design, a typical true experimental which uses non-random study of participants, pre-post-test

design, and the experimental and the control group (National Center for Technology Innovation, 2003). In this research, the experimental group was taught using the Jigsaw technique while the control group was taught using conventional technique. The independent variable of the research is Jigsaw technique, while the dependent variable is students' writing scores. The independent variable of the research is Jigsaw technique, while the dependent variable is students' writing scores. The population of the research was the first grader of one senior high school in West Bandung, whereas the samples were only two classes, those were X IPA 1 as the experimental group and X IPS 3 as the control group. This quasi-experimental research employed two instruments to collect the data. The first instrument was the test which was divided into pre-test and post-test. Both pre-test and post-test were analyzed to discover whether or not the Jigsaw technique is effective in teaching writing a descriptive text. After conducting the pre-test, the experimental group was given the

treatment which consisted of four meetings. In every meeting, students had to write a descriptive text based on the discussed topic. The second instrument was questionnaire. The data were collected through conducting the questionnaire only in the experimental group in order to discover the students' attitude, opinion, and about the use of Jigsaw technique in teaching writing descriptive text.

The Clear criteria in assessing students' works are needed in order to generate valid scores. Qualifying this need, the scoring rubric that was proposed by Brown (1994) was adapted in this study. The rubric that was used to evaluate students' written works in this study covers some aspects that absolutely must be contained in every written works, such as content, vocabulary, generic structures and language features. The point of each aspect ranges from 1 to

5, in which the maximum score of four aspects is 20. However, the score range was changed for the sake of the easiness in calculating the obtained score. The point of each aspect is multiplied by 5, so that the point ranges from 5 to 25, in which the maximum score of four aspects is 100.

### Data Presentation and Discussion

In order to prove that the two means of both groups were not significantly different, independent t-test was implemented. Before t-test was implemented, the pretest scores of both experimental and control group must be approximately normal and homogeneous. Therefore, the calculation of the normal distribution and homogeneity of variance test was implemented to the two groups' scores. Table 1 demonstrates the pretest mean scores of both groups.

**Table 1 The pre-test scores**

Group	N	Mean	Standard Deviation
Experimental	20	58.25	10.91534
Control	20	58.05	9.21369

The Kolmogorov-Smirnov test was employed to check whether or not the pre-test scores of both groups were normally distributed. The results show that Z score at the experimental pre-test is 0.914 and Z score at the control pre-test is 0.806. The significance value of experimental (0.373) is higher than the level significance (0.05). Equally, the significance value of control group (0.535) is higher than level of significance (0.05). In other words, both groups' score are normally distributed.

Levene's statistics in SPSS 20 for windows was used to analyze the homogeneity of variance of control and experimental group's pre-test score. From the SPSS output results, it represents that the Levene's test is 0.351. The significance value is 0.578. It is higher than the level of significance, 0.05 ( $0.578 > 0.05$ ). It can be said that the variances of the

control and experimental groups are homogeneous or equal.

The independent t-test was implemented to see whether there is a significant difference between the scores of experimental and control group pre-test. The significance value of means in both groups for equal variances assumed is 0.950. It is more than level of significance 0.05 ( $0.950 > 0.05$ ). Therefore, the ( $H_0$ ) null hypothesis was accepted. In other words, the means of the two groups are not significantly different.

The post-test scores were analyzed to see whether or not there is any improvement in students' final scores after the treatment. The following table shows the result of the post-test from the statistical computation:

**Table 2 The Post-test Score**

Group	N	Mean	Standard Deviation
Experimental	20	64.1	9.03487
Control	20	58.35	7.52172

The Table 1.2 shows that the mean for the experimental group is 64.1, while the mean for control group is 58.35. It is directly stated that the means of the experimental and the control group are different. It can be seen that the means from both experimental and control groups from post-test score are different.

The result of calculating the Kolmogorov-Smirnov test shows that Z score at the experimental post-test is 0.913 and Z score at the control pre-test is 0.752. The significance value of experimental (0.375) is higher than the level of significance (0.05). Similarly, the significance value of control group (0.623) is higher than the level of significance (0.05).

The data calculation of Levene's test was 1.024. The significance value is 0.318. It is bigger than the level of significance, 0.05 ( $0.318 > 0.05$ ). It can be concluded that the variances of the control and experimental groups are homogeneous or equal.

Based on the statistical analysis from the calculation of the independent t-test, it can be

explained that the significance value of means in both groups for equal variances assumed is 0.043. It is lower than level of significance 0.05 ( $0.043 < 0.05$ ). It also shows that  $t_{obt}$  (2.090) is higher than  $t_{crit}$  (2.021) (see the appendix II). Therefore, the ( $H_0$ ) null hypothesis was rejected. In other words, the means of the two groups are significantly different. It meant that the treatment which was implemented in the experimental group, significantly improved students' ability in writing descriptive text.

The calculation of effect size was conducted to prove the influence of independent variable on the dependent variable and to discover how efficient the treatment worked. The data were taken from the calculation of Independent t-test on post-test in which the  $t_{obt}$  is 2.090 and the  $df$  is 38. After the data was calculated, the result shows that  $r$  value is 0.321. The converting  $r$  value into the effect size table (see table 3.2), the obtained value shows medium effect size.

The paired t-test was used to analyse the difference between the



means of pre-test and post-test in experimental group. From the obtained data, it is found that the significance of correlation value from the pre-test and the post-test is 0.001. It is lower than 0.05. Thus, ( $H_0$ ) null hypothesis was rejected because there is a significance difference between pre-test scores and post-test scores. It means that the data of the pre-test and the post-test are dependent.

The result of the Dependent t-test and the effect size test strengthened the conclusion that the new technique worked for improving students' achievement in writing.

The questionnaire was conducted in the experimental class after the post-test was given in the same day. The Jigsaw technique as the treatment was proved as an effective technique in making students easier to learn and to master the material. Nearly all of students agreed that Jigsaw technique is able to improve their writing skill, advance their grammatical mastery, increase their vocabulary mastery, expand their creative thinking, and

improve their presentation skill as well as their confidence.

The obtained data from the findings proved that students were able to write a descriptive text. The students were found out of being able to express their ideas and write more than they had done before the study was carried out. Their works also showed more clear description of the topic. The implementation of Jigsaw technique gave certain advantages, by examining and discussing the given pictures with their group mates in their expert groups. They obtained more detail and descriptive information such as the colours, the position, the shape, and any other things of the object.

In the language aspect, the improvement can be clearly seen in the tenses and vocabulary use. As cited in Knapp and Watkins (2005), there are many language features that are covered in descriptive text namely simple present tense, relational verbs, action verbs, adjectives, adverbs, and adverbial phrase. From the students' writing in the post-test, all of students used simple present tense in their writing.

Despite many grammatical errors were found in students' post-test writing, the students finally understood that a descriptive text is written in simple present tense. In terms of vocabulary use, the students used more words compared to their work on the pre-test. Amongst those language features that are covered in descriptive text, they used more adjectives to make their description more alive than before.

The Jigsaw technique is not only stimulated the students' interest, but also attracting and increasing their attention. This was reflected on their enthusiasm toward the instruction and the whole learning process. Their enthusiasm led them to be serious in discussing the subject matter and doing their writing activities. Their attention also reflected the students' degree of seriousness. Almost all the students paid attention to the teacher's explanation and instruction. They were actively involved in the learning process, making comments or asking questions about the instruction and the given tasks.

The use of Jigsaw technique increased the interaction among the students. The technique also enabled them to correct each other. It was indicated from the students' participation during the whole process which instructed them to work in two kinds of groups which were home group and expert group. Basically, all the given tasks would never be done and their writing skill would never be improved if the students did not participate during the whole process. This finding is in line with Aronson (2000) who stated that the Jigsaw technique facilitates students' interaction in the class enabling the students to value each other as contributors. Thus, this technique is also less threatening for many students, and it can increase the amount of students' participation in the classroom.

## Conclusions

This research suggested that the Jigsaw technique was effective in improving students' writing scores. The result from independent t-test on post-test showed that there was a significant different between the

post-test means of the experimental group and those who were in the control group. The result found out that the significant value is bigger than  $t$  critical. Therefore, the null hypothesis was rejected. Moreover, based on the obtained data from questionnaire, the Jigsaw technique was found to be potential to provide better learning when compared with the conventional method. Nearly all of students agreed that Jigsaw technique is able to improve their writing skill, advance their grammatical mastery, increase their vocabulary mastery, expand their creative thinking, and improve their presentation skill as well as their confidence.

Therefore, it is recommended that the technique would be suitable to be implemented in the medium and small class in which the students come from different racial and ethnic. In addition, it would be better if each expert group consists of only four or five students with combination of high-motivated and low-motivated students, so that the divided responsibility for each student within group would be fair

and there are no students who can neglect their responsibility.

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