**The Effectiveness of Cooperative Learning of Jigsaw Technique in Improving Students’ Reading Comprehension at SMPN 1 Makale**

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**ABSTRACT**

This research was aimed to find out (1) whether or not there is any significant difference in achievement of the students taught by using Jigsaw technique and those taught by using expository technique (Conventional way).(2) the students’ attitude towards the use of jigsaw technique in learning reading comprehension. The research applied *Quasi-Experimental* design. The population was the seventh grade students of SMPN 1 Makale which is consisted of nine classes in 2014/2015 academic year. The total number of population was 288 students. This research was designed into two groups; Experimental group and Control group. Each group consisted of 32 students. The sample was chosen by cluster random sampling technique. The experimental class was taught by Jigsaw Technique while control class was taught by Conventional way (Expository Technique). The data were collected by two instruments namely test and questionnaire which is analyze by using SPSS 20.0 version. The implementation of teaching reading comprehension, jigsaw technique was better or more effective than conventional way. It was also proved by the mean score of the students attitude toward jigsaw technique 82.62 and standard deviation 5.61 with 21 students or 65.7 % were in positive category.

Keywords: jigsaw technique, cooperative learning, reading

**INTRODUCTION:**

In the seventeenth century, English became one of the modern languages in Europe. It replaced Latin language, which had been popular before seventeenth century. Day after day English became an international language and it is used as a means of communication in the whole world. Not only communication, but also science, news, theory, philosophy, and other things are using English. Because of that, mastering and using English are important in this era for all people in the world. Because of this reason, people in the world need to master English, but to master English needs several basic English knowledge. There are four basic language skills; Listening, Speaking, Reading, and Writing.

Mastering reading in English is very important, because many books are written in English such as academic books, magazine, and newspaper. Reading became essential because it can increase our knowledge, through reading we can get a lot of information, enjoyments, and even problem solution. Therefore, the ability to read the text in any form will give a great deal of advantages in our life. But, mastering English reading is not easy because reading comprehension is remarkably complex. This activity involves many processing skill that are coordinated in very efficient combination. Reading is not only an activity to show the symbol but there are many skills, which needed by the readers to comprehend the material, which they read. The readers try to make the symbols they found meaningful for them. The reading is not a passive skill, the reader is not passive role, it is on the contrary, an active work, which requires a lot of skills and efforts to combine them, so we get the comprehension of the text.“Reading is an incredibly active occupation. To do it successfully, we have to understand what the words means see the pictures the words are painting, understand the arguments, and work out if we agree with them. If we do not do these things and if the students do not do these things then we only just scratch the surface of the text and we quickly forget it.” (Harmer, 2004:70)

Cooperative learning has many kinds of techniques. Those techniques have been developing over the years and put into practice in the classroom. They are; Student Team Achievement Division (STAD), Jigsaw, Make a Match, Teams Games Tournaments (TMT), and structural approach involve think Pair Share (TPS) and Number Head Together (NHT). In this thesis, the researcher will concern in Jigsaw technique. The Jigsaw technique is a cooperative learning method in which students work in small groups. Jigsaw could be used in a variety of ways for a variety of goals, but it is primarily used for the acquisition and presentation of a new materials, review, or informed debate. In this method, each group member is assigned to become an expert on some aspect of a unit of study. After reading about their area of expertise, the experts from different groups meet to discuss their topic and then return to their groups. (Isjoni,2009:73).

Given this background, the purpose of this research was to investigate whether or not there is any significant difference in achievement of the students taught by using Jigsaw technique and those taught by using expository technique (Conventional way). In addition it also tried to find out the students’ attitude towards the use of jigsaw technique in learning reading comprehension.

**METHOD**

This research applied *Quasi-Experimental* design. This research was designed into two groups; Experimental group and Control group. Each group consisted of 32 students. The sample was chosen by cluster random sampling technique. One class was chosen as the experimental group and one class for control group, in which intact group, not individuals, are randomly selected (Gay,et.al.2006:106). The populations were the seventh grade students of SMPN 1 Makale which consists of 9 classes.

The experimental class was taught by Jigsaw Technique while control class was taught by Conventional way (Expository Technique). The data were collected through multiple choice reading test both in experimental group and control group namely pretest and posttest, and questionnaire to know the students’ attitude toward jigsaw technique. The test was distributed twice for both groups before and after treatment. The treatment was conducted for four meetings in experimental group and control group. The data collected through reading test were analyzed by using SPSS 20.0 version.

**RESULTS**

**The students’ improvement in reading comprehension**

The following table was the data obtained from the student pretest in experimental and control group:

**Table 4.1. Frequency and percentage of students’ pretest of both groups.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Classifications | Range of Score | Experimental Group | | Control  Group | |
| F | % | F | % |
| Excellent | 96 -100 | 0 | 0% | 0 | 0% |
| Very Good | 86 – 95 | 0 | 0% | 0 | 0% |
| Good | 76 – 85 | 0 | 0% | 0 | 0% |
| Fairly Good | 66 – 75 | 4 | 12.5% | 2 | 6.3 |
| Fair | 56 – 65 | 12 | 37.5% | 12 | 37.5% |
| Poor | 36 – 55 | 16 | 50.0% | 18 | 56.4% |
| Very Poor | 0 – 35 | 0 | 0% | 0 | 0% |
| Total |  | 32 | 100% | 32 | 100% |

Table 4.1 shows that before giving treatment in experimental group, there are 16 students (50.0 %) in poor classification, 4 students (12.5%) in fairly good classification, 12 students (37.5%) in fair classification, and none students in excellent, very good, good and very poor classification. Most of students’ pretest results for control group are poor classification. There are 18 students (56.4 %) in poor classification, 12 students (37.5%) in fair classification, 2 students (6.3%) in fairly good classification, and none of the students in excellent, very good, good and very poor classification. It means that there was a difference score of the students before treatment between the both groups. The frequency of both experimental and control groups shows that “poor” classification was dominated by students. It signifies that both of the groups still need to be improved.

**Posttest of both groups**

The following table was the data obtained from the students’ posttest in experimental and control group after giving treatment to both groups. Table 4.2 describes that the frequency and percentage of the students’ posttest score in improvement of the students’ comprehension used jigsaw technique was different from those who taught by using conventional way (expository technique).

**Table 4.2. Frequency and percentage of students’ posttest of both groups**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Classifications | Range of Score | Experimental Group | | Control  Group | |
| F | % | F | % |
| Excellent | 96 -100 | 0 | 0% | 0 | 0% |
| Very Good | 86 – 95 | 5 | 15.6% | 0 | 0% |
| Good | 76 – 85 | 14 | 43.7% | 0 | 0% |
| Fairly Good | 66 – 75 | 7 | 21.9% | 11 | 34.4% |
| Fair | 56 – 65 | 6 | 18.8% | 18 | 56.2% |
| Poor | 36 – 55 | 0 | 0% | 3 | 9.4% |
| Very Poor | 0 – 35 | 0 | 0% | 0 | 0% |
| Total |  | 32 | 100% | 32 | 100% |

The table above indicates that after giving treatment in experimental group, there are 14 students (43.7%) in good classification, 5 students (15.6%) in very good classification, 7 students (21.9%) in fairly good classification, 6 students (18.8%) in fair classification and no one student is in excellent, poor and very poor classification.

In control group, there are 11 students (34.4%) in fairly good classification, 18 students (56.2%) in fair classification, 3 students (9.4%) in poor classification and no one student is in excellent, very good, good, and very poor classification. It means that there was a difference of the students in comprehending the reading text between the students who were taught by applying Jigsaw technique in experimental group than the students who were taught by applying conventional way (expository technique) in control group.

**The mean score and the standard deviation of students’ pretest and posttest of experimental group and control group.**

The result of students’ pretest and posttest of experimental group and control group are indicated by the mean score and standard deviation. The analysis of the mean score was meant to know if there was a difference between students’ score in pretest and posttest of experimental group and control group. The standard deviation was needed to know how closer the score to the mean score.

**Table 4.3 Mean score and Standard deviation of the students’ reading improvement in pretest and posttest.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Group | | Respondents | Mean | Standard Deviation | |
| Pretest | Experimental group | 32 | 57.34 | 7.61 | |
| Control group | 32 | 55.00 | 7.82 | |
| Posttest | Experimental group | 32 | 77.03 | 9.74 | |
| Control group | 32 | 63.43 | 6.40 | |
| Improvement | Experimental group | 32 | 19.69 |  |  |
| Control group | 32 | 8.43 |  |  |

Based on the table above, it shows that the total number of students in experimental group was 32 students and control group was 32 students. And the mean score and standard deviation shown were difference in pretest and posttest to both of the groups. The data was based on the computation using SPSS. Version 20.0.The data shows that the mean score of experimental group and control group are different before treatment, where pretest in experimental group is 57.34 and pretest in control group is 55.00. After treatment, the students’ posttest score of both groups shows a different score in the mean score. The mean score in experimental group is 77.03 and control group is 63.43. And the students’ improvement in posttest in control group is 8.43%, and the students’ improvement in experimental group after applying Jigsaw technique is 19.69%. It means that there is a difference of the students in comprehending the reading text between the students who taught by applying Jigsaw technique than the students who taught by using Conventional way (Expository technique).

**Figure 2. The comparison of mean score and standard deviation of the students’ pretest and posttest for both groups**

Figure 2 above shows the mean score of the students’ pretest and posttest. After treatment the students’ reading comprehension improves. The students’ score in experimental group increased from 57.34 in pretest to 77.03 in posttest. And the students’ score in control group increased from 55.00 in pretest to 63.43 in posttest. It means that the students’ mean score in posttest shows that the score in experimental group is higher than control group (77.03 > 63.43). So that, teaching reading comprehension using jigsaw technique was more effective and could improve the student’s comprehension in reading.

**Test of Significance (t-Test)**

**The calculation of t-test pretest for experimental and control group**

Data shown in table 4.4 below indicates the improvement of the students’ comprehension in experimental and control group before giving treatment.

**Table 4.4 the t-test of students’ pretest for experimental and control group**

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The hypotheses were tested by using inferential analysis, in this case the researcher used t-test ( testing of significance) of Independent sample t-test (t-test for equality for means) that is, a test to know the significant difference between the result of the students’ mean score in all mean score of pretest. Based on the result of statistic analysis in pretest above, the score of P-value (*Sig.2-tailed*) is greater than alpha (0.229 > 0.05). It means that there is no significant difference between the mean score of the students’ pretest in experimental and control group. In other words, the students’ reading comprehension of both groups is identical.

**The calculation of t-test posttest for experimental and control group**

Data shown in table 4.5 below indicates the improvement of the students’ comprehension in experimental and control group after giving treatment.

**Table 4.5 the t-test of students’ posttest for experimental and control group**

The hypotheses were tested by using inferential analysis, in this case the researcher used t-test ( testing of significance) of Independent sample t-test (t-test for equality for means), that was known that there was difference between the result of the students’ mean score in all mean score of posttest. Table 4.5 indicates that the statistical hypothesis is based on statistic test in probability value (sig. 2-tailed). The probability value is lower than alpha (0.000 < 0.05). It means that H1 was accepted and H0 was rejected. It means that there is a significant difference between the result of posttest of both groups.

**The calculation of t-test in pretest and posttest of both group.**

The data shown in table 4.6 and 4.7 below indicates the students’ improvement in reading comprehension in experimental group before and after treatment.

**Table 4.6 The t-test of students’ pretest and posttest of experimental group**



Table 4.6 above indicates that the statistical hypothesis is based on the statistical test of pretest and posttest in Probability value (Sig.2-tailed) is smaller than alpha (0.000 < 0.05). It means that there was a statistically difference between the students’ improvement in pretest and posttest in experimental group. Thus, the use of jigsaw technique could improve the students’ reading comprehension.

**Table 4.7 The t-test of students’ pretest and posttest in control group**



Table 4.7 above indicates that the statistical hypothesis is based on the statistical test of pretest and posttest in Probability value (Sig.2-tailed) is smaller than alpha (0.000 < 0.05). It means that there was also statistically improvement of students’ reading comprehension in control group after treatment by using conventional way (Expository technique).

**The Students’ Attitude**

The questionnaire was distributed to the students to know their attitude toward jigsaw technique. The students’ score interval of questionnaire is shown in table 4.8.

**Table 4.8. The percentage of the Students’ Attitude toward Jigsaw technique.**

|  |  |  |  |
| --- | --- | --- | --- |
| Interval score | Category | Jigsaw Technique | |
| F | % |
| 85-100 | Very positive | 11 | 34.4% |
| 69-84 | Positive | 21 | 65.7% |
| 53-68 | Fair | 0 | 0% |
| 37-52 | Negative | 0 | 0% |
| 20-36 | Very Negative | 0 | 0% |
| Total | | 32 | 100 |

The students’ interval score based on the questionnaire in table 4.8 indicates that the use of Jigsaw technique in teaching reading shows that there are 11 students or 34.4% felt very positive which is categorized as very positive, there are 21 students or 65.7% of the students felt positive which is categorized as positive, and none of the students felt fair, negative and very negative. Further analysis shows that the mean score of students’ attitude toward Jigsaw technique as follows:

**Table 4.9. The Mean Score and Standard Deviation of the Students’ Attitude**

|  |  |  |
| --- | --- | --- |
| Group | Mean | Standard deviation |
| Jigsaw Technique | 82.62 | 5.61 |

The mean score of Jigsaw technique is 82.62 which are categorized as positive. The students’ attitude toward Jigsaw technique also can be seen in the figure 3 as follows:

**Figure 3 Percentage of Students’ Attitude toward Jigsaw Technique**

**DISCUSSION**

**The students’ Reading Comprehension**

In this section, the researcher presented the discussion of the result of statistical analysis. Based on the data above, the comparison of the improvement of students’ achievement of experimental and control group can be proved by analyzing the posttest result. The result showed that the mean score of the students’ posttest for both the groups increased after giving the treatment. It was proved that the mean score of the students’ in experimental group increased from 57.34 in pretest to 77.03 in posttest, and the students’ mean score in control group increased from 55.00 in pretest to 63.43 in posttest, but in this case, the result of posttest in experimental group was higher than control group (77.03 > 63.43). The result of posttest indicated that the use of Jigsaw technique gave significant progress toward students’ reading comprehension. After calculating the t-test, the results of pretest for both groups are significantly the same. This is proven by the t-test value that is (0.229) which is higher than α (0.05) while in posttest, the result shows that the t-test value is (0.00) which is lower than α (0.05). It means that there is a significant difference. As the result of the treatment it showed that the mean score of students’ posttest in experimental group was improved significantly. It was also proved by the significance test that show the value of P-value or sig. (2-tailed) that p-value is smaller than α (0.00<0.05), where the p-value (0.00) at the level of significance (0.05) and the degree of freedom 62. It indicated that the alternative hypothesis (H1) was accepted and the null hypothesis (H0) was rejected.

Jing Meng (2010:503) stated that through jigsaw cooperative learning of this term the students in the experimental class benefited from the cooperative learning approach. It also fosters the interest of the students’ English study, arouses their motivation, and improves their reading ability. Not only that Reading is the motivated and fluent coordination of word recognition and comprehension. Reading is a multifaceted process involving word recognition, comprehension, fluency, and motivation (Leipzig, 2001). Another statement from Megasari (2011:36) stated that Jigsaw is a teaching technique that is effective English reading comprehension. It makes students have responsibility to teach each other. It means that the students become teachers for their teammates. And Jigsaw technique can effectively improve students’ reading comprehension and classroom situation. He also found that during the action the students have shown their improvement as they were able to comprehend the text well.(Etika, 2012) After seeing the result of data analysis, the researcher concluded that the use of Jigsaw technique could improve the students’ reading comprehension.

**The Students’ Attitude**

The questionnaire which was given to the experimental group, covered general statements about the students’ attitude toward reading comprehension by using jigsaw technique. All these statements were related to the jigsaw technique of this research. The analysis and explanation above show that the student’s attitude toward the use of Jigsaw technique in learning reading comprehension is positive. It means that Jigsaw is a good and useful technique. In this research, the attitude of the students was considered as output because the expected to have positive category toward the use of Jigsaw technique. If the students have good response in applying Jigsaw technique in learning and teaching reading, it can build up their motivation in their learning activity.

The result of the research showed that most of students are classified as positive category in learning English especially for reading skill by using jigsaw technique. The attitude of the students can be also shown from the mean score of the students’ attitude toward jigsaw technique. The mean score of the students’ attitude was 82.62 with the standard deviation 5.61 which was categorized as positive attitude.

During teaching and learning process, students gave serious attention, participated well in reading class activities, asked teacher if need help and cooperated with peer. After noticing the finding and discussion above, it is indicated that the use of jigsaw technique could develop and improve the students’ reading comprehension and make them motivated in learning English especially reading skill.

**CONCLUSION**

Using Jigsaw technique has different significant in increasing reading comprehension of the seventh grade students of SMP Negeri 1 Makale. It can be seen from the results of t-test analysis which shows that there is a significant difference between the mean score of experimental group and control group in posttest.

The students' attitude toward Jigsaw technique in learning reading is positive. It is proved that the mean score of students’ attitude is 82.62 which is categorized into positive.

**REFERENCES**

Coelho,E. 1992. *Jigsaw: Integrating Language Acontent*. New jersey: Prentice-Hal

Etika Sapto Palupi (2012). *Improving Students’ Reading Comprehension through Jigsaw Technique.*

Gay,R,L. 2006. *Educational Research 8th ed : Competencies for Analysis and Applications.Colombus* : Pearson Education, Inc.

Harmer, J. 1998. *How to Teach English.* Longman.

Harmer, J. 2004. *How to Teach English: An Introduction to The Practice of English Language Teaching*, Kuala Lumpur: Longmen.

Isjoni. 2009. *Pembelajaran Kooperatif.* Yogyakarta: Pustaka Belajar

Jack C. Richards and Theodore S. Rodgers. 2001. *Approaches and Methods in Language Teaching, 2ed*, Cambridge: Cambridge University Press.

Leipzig, Diane Henry. 2001. W*hat is reading?.* (Article). http://www.readingrockets.org/articles/352. retrieved on December, 1, 2014

Likert, R. 1932. *A Technique for the Measurement of Attitudes.* New Work University.

Jing Meng . 2012. *Jigsaw Cooperative Learning in English Reading. Journal of Language Teaching and Research, Vol.1, No.4, pp. 501-503, July 2010.*