The Implementation of Jigsaw Technique and Student Team Achievement Division (STAD) in Teaching Reading

Caesar Astri Perwitasari, Ag. Bambang Setiyadi, Gede Eka Putrawan

English Education Study Program of Language Arts Education

mpark76@yahoo.com

Abstract

Tujuan penelitian ini adalah untuk (i) menemukan apakah ada perubahan yang signifikan didalam pencapaian siswa didalam kemampuan membaca teks recount setelah penerapan teknik *Jigsaw* dan *STAD*; (ii) menemukan aspek membaca yang mempunyai perubahan paling signifikan setelah penerapan teknik *Jigsaw* dan *STAD*. Penelitian ini dilakukan melalui desain kuantitatif. Populasi dari penelitian ini adalah siswa kelas dua di SMPN 1 Abung Surakarta. Hasil penelitian menunjukkan bahwa teknik Jigsaw lebih efektif meningkatkan kemampuan siswa di dalam kemampuan membaca siswa, terdapat perbedaan yang signifikan terhadap kemampuan membaca siswa dengan taraf signifikansi sebesar 0,001<0,05, dan spesifik informasi adalah aspek yang mempunyai peningkatan paling signifikan didalam pembelajaran reading. Hal ini dapat disimpulkan bahwa teknik *Jigsaw* membantu siswa untuk meningkatkan kemampuan mereka didalam aspek membaca daripada teknik *STAD*.

The objectives of the research were aimed at finding out (i) whether there was a statistically significant difference of the student's recount text reading achievement after the implementation of Jigsaw technique and Student Team Achievement Division (STAD); (ii) statistically significant improvement of aspects of reading through both methods. This research was done through a quantitative study. The subject was the second grade students at SMPN 1 Abung Surakarta. The results showed that there was a statistically significant difference of students' reading achievement between the two techniques with the significant level 0.001<0.05. That is, Jigsaw Technique was more effective than Student Team Achievement Division (STAD). Specific information was the aspect of reading that significantly improved through both methods. This suggests that Jigsaw technique facilitates students to improve their ability in reading comprehension compared to student team achievement division (STAD).

Keywords: Jigsaw Technique, reading comprehension, STAD Technique, Recount Text

INTRODUCTION

English is one of international languages. This language is used all over the world. As a result, Indonesian government decided that English is a foreign language in Indonesia. In addition, it is the first foreign language that is taught as a compulsory subject in junior and senior high schools and university in Indonesia.

There are four skills that should be mastered by the students in learning a language, such as listening, reading, speaking and listening. A teacher should be involved with these skills in the teaching and learning process in the classroom. However, in this research the researcher focused on reading comprehension for the students in the second grade of Junior High School. Based on the pre-observation in the second grade of SMPN 1 Abung Surakarta, it was found that there were some problems that students faced when they studied English, especially in reading activity such as they had low motivation in learning English, mastering English vocabularies, and identifying the aspects of reading.

Low motivation might be caused by the teacher who less stimulated them to learn English especially in reading aspects. The teacher tended to make the students become passive audience because he/she just invited them to read their own text and answer the questions. Mostly, the teacher did not lead the students to comprehend some aspects of reading such as identifying main idea, specific information, reference, inference and vocabulary. Besides, the inappropriate selection of text which would be going to be discussed in the class might not attract the students' attention. Therefore, the students had low motivation in learning English, especially in reading activity. They could not achieve the achievement standard on English subject.

On the other hand, the studies (e.g. Ayu, 2013; Andam, 2013; and Kurnia, 2013) stated that SMA students had difficulties in their ability in reading aspects, they had a problem in vocabulary mastery, so they had a difficulty to comprehend the material given by the teacher in the class because without understanding the words in the context they might not comprehend the purpose of the whole text. In addition, the students also had a difficulty in identifying characteristics of a text, in differentiating references and inferences, in identifying the main idea, etc.

In reading comprehension, the ability of the students to comprehend a main idea of a text is important because they might not comprehend the whole content. Unfortunately, not all students can identify the main idea of the text. Most of them must read the whole text in order to know the aim of the text. So that, based on these problems, a teacher has an important role in English reading class. The teacher as the manager of the learning process in the class should find a technique which can guide the students in order to have high ability and motivation in learning English especially in reading aspects.

As we know that there are many kinds of teaching methods in the class. Some of them are Jigsaw and Student Team Achievement Division (STAD). Jigsaw is an appropriate method for Junior High School because this method is an efficient teaching method that encourages listening, engagement, interaction, peer teaching, etc. Jigsaw is a cooperative learning which is designed to improve the responsibility of themselves and the other learners. The students not only learn the material given by the teacher in the class, but they also have to teach those materials to their own group.

Johnson and Johnson (2006) did a research about the cooperative learning of Jigsaw model and the result shows that the cooperative interaction has a wide range of influencesof child development. The influences include: (1) increasing the learning outcome; (2) increasing the student's memory; (3) increasing the positive attitude to the teacher; (4) increasing intrinsic motivation; (5) increasing the ability of mutual cooperation; (6) increasing the student's pride; (7) increasing the heterogeneous relationship.

Moreover, Student Team Achievement Division (STAD) is a type of the simplest cooperative learning. It is an approach that emphasizes on the activity and interaction among students to motivate and help each other to master the subject matter in order to achieve the maximum score. When a teacher tries to implement the STAD technique in the teaching process, there are some advantages that would be obtained as follows: (a) it helps the students learn the subject matter being discussed; (b) the cooperative learning makes the students masterto debate; (c) students learn about how to respect others' opinions, and notes the benefits thing on behalf of together; (d) the rewards given will boost the student's motivation. The students who have low ability in learning English may help to increase the materials.

Santosh (2012) states that both Jigsaw and STAD proved to be significantly effective in raising the academic achievement of the students than the traditional method because the cooperative learning will divide the students into small groups, in order to help each other to comprehend the materials. From the previous elaboration, the researcher was interested in conducting research onJigsaw Technique and Student Teams Achievement Division (STAD) in teaching reading of recount text of the second grade students of SMPN 1 Abung Surakarta, North Lampung in the academic year 2016/2017. Based on the result of pre-observation in SMPN 1 Abung Surakarta, problems related to the learning of reading skill are apparent. For example, more than 80% of the students scores are below 70 as the standard minimum for reading tasks and they seem bored with learning of reading. Then, the researcher concluded that there were two problems that needed to be answered which included: (1) low achievement in reading skill; (2) the aspects of reading that improved the most in reading class.

METHOD

This research was done through a quantitative design. It focused on the product (results of the test). The quantitative design of this research was done through a one group pre-test and post-test design. The subjects of this research were students of Class VIII B and that of VIII C of SMPN 1 Abung Surakarta in the second semester of 2016/2017 academic year. The researcher chose the materials for the students based on the English curriculum that was School Based Curriculum for Junior High School. This research used the result of the try-out test to measure the validity, reliability, level of difficulties, and discrimination power of the tests. The total item of the try-out test was 40 items. The researcher checked the ability of the students by giving some short recount texts. The reading tests were in the forms of pre-test and post-test. There were 30 items included in each topic: main idea, specific information, reference, inference, and vocabulary. The data were analyzed by using Independent Group T-Test of SPSS (Statistical Package for Social Science) version 21.

RESULTS AND DISCUSSIONS

Jigsaw Class

The researcher gave a pre-test and a post-test to both experimental classes in 90 minutes in order to investigate the students' basic reading comprehension before and after they were given treatments. The number of items in pre-test and post-test were 30 of essay test. The result of student's mean score in STAD Class is presented in the table below:

Table 1. Descriptive Statistics of Pre-test and Post-Test in Jigsaw Class

<div align="center">Descriptive Statistics</div>

	Min	Max	Mean	Sum
PRE_TEST	40	83	64, 69	1682
POST_TEST	56	100	81,89	2129

Based on the table above, it could be seen that the students' mean score of pre-test and post-test improved about 17 points after the treatment of teaching reading comprehension through Jigsaw Technique. Besides that, the highest score of pre-test was 83 and the highest score of post-test improved to 100, the lowest score of pre-test was 40, and the lowest score of post-test was 56. It indicated that there is a difference in students' reading comprehension achievement after being taught by using Jigsaw Technique.

STAD Class

The researcher gave a pre-test and a post-test to both experimental classes in 90 minutes in order to investigate the students' basic reading comprehension before and after they were given treatments. The number of items in pre-test, and post-test were 30 of essay test. The result of student's mean score in STAD Class is presented in the table below:

Table 2. Descriptive Statistics of Pre-test and Post-test of STAD Class

Descriptive Statistics

	Min	Max	Mean	Sum
PRE_TEST	40	75	58,96	1415
POST_TEST	40	94	68,13	1635

Based on the table above, it could be seen that the students' mean score of pre-test and post-test improved about 9.17 points after the treatment of teaching reading comprehension through STAD Technique. Besides that, the highest score of pre-test was 75 and the highest score of post-test improved to 94, the lowest score of pre-test was 40, and the lowest score of post-test was 40. It indicated that there is a difference in students' reading comprehension achievement after being taught by using STAD Technique.

Then, the scores from pre-test and post-test were analyzed by using paired sample t-test. The result of paired sample t-test showed that t-value was 15.363 and t-table was 2.037 because the value of t-value was higher than t-table (15.363>2.011) and the significant level is lower than 0.05 (0.000<0.05), it means that H_1 is accepted. It means that there was a significant difference of students' reading comprehension achievement before and after being taught by using Jigsaw, and STAD Technique.

Besides that, there were five aspects of reading comprehension measured by using the tests. The table below provides the students' mean in the pre-test and post-test which covered five aspect of reading comprehension.

Table 3. Comparison of Aspects of Reading Comprehension Means

No.	Reading Comprehension Aspects	Significant Level	Improvement
1.	Main Idea	0.014	Significant
2.	Spesific Information	0.011	Significant
3.	Reference	0.374	Not Significant
4.	Inference	0.016	Significant
5.	Vocabulary	0.175	Not Significant

Based on table above, the Jigsaw and STAD as a strategy improved the students' reading comprehensions in all aspects of reading comprehension. Moreover, the students' reading comprehension aspect in finding spesific information improved the most after being taught by using the Jigsaw and STAD.

This discussion deals with the discussions and finding the research which compare the two technique; Jigsaw and Student Team Achievement Division (STAD). Before discussing it, further the researcher would like to investigate the previous research related to this research, that was conducted by Meng (2010). He conducted an experimental study in Qingdao University of Science and Technology, China. This study is intended to introduce Jigsaw cooperative learning into the reading class. He taught the experimental group by using Jigsaw Technique and control class by using traditional pedagogy. He states that Jigsaw cooperative learning approach is one of the most effective ways of teaching English reading in college.

From the explanation above, it can be summarized that the result of this study was similar to the result of the previous research. The implementation of Jigsaw and STAD technique made the students able to increase their ability in teaching and learning process especially in reading aspect. However, several differences were recognized: firstly, the technique of the research. In this research, the researcher implemented Jigsaw and STAD technique but in the previous research used Jigsaw and Traditional pedagogy to increase the students' ability .Secondly, the subject of the research. In this research, the subject was second grade of junior high school although the subject of previous research was Qingdao University of Science and Technolgy students. Thirdly, the research question of the research. The previous research investigated whether there was a significant difference of students' reading comprehension achievement before and after being taught by using Jigsaw and Traditional pedagogy but in this research the researcher investigated whether there was a significant difference in the student's recount text reading achievement between those who are taught through Jigsaw and STAD Technique, the obstacles in conducting teaching reading using Jigsaw and STAD technique. Moreover in this research, the researcher investigated which aspects of reading improves the mostafter the implementation of Jigsaw Technique and Student Teams Achievement Division (STAD). So, it can be said that the design is totally different with the previous research.

This research deals with six meetings for each class (Jigsaw and STAD), the time allocation for each meeting was 2x45 minutes and the treatments had done in three meetings after the researcher administered the pre-test. Then after having the three times of treatments, the researcher analyzed the data by giving a post-test. So, the total allocation that researcher used was 12x45 minutes. The researcher gave three meetings because the researcher discussed five aspects of reading, the concepts of Jigsaw and STAD and the concepts of recount text. In the first meeting the researcher focused on explaining the concept of Jigsaw and STAD to

each class. In the second meeting the researcher focused on explaining the concept of recount text, and in the third meeting the researcher focused on explaining the concept of aspects of reading (e.g. the concept of main idea, reference, inference, vocabulary and specific information). Referring to the syllabus of the second grade of Junior High School for time allocation, there are 28x45 minutes for all meetings and the researcher distributed different texts in order to stimulate them in comprehending the content of the text. It is because recount text is appropriate to the guideline of curriculum for the students in the second grade of Junior High School. In this case, it is necessary for the students of Junior High School to have a good reading comprehension. It proved by Prabowo (2015) that Jigsaw Technique made the student eager to understand the text. The students were not bored and they showed enthusiasm in joining the class. Their attention in reading activity increased. They were challenged in doing tasks.

In the first treatment, the researcher explained the concept of Jigsaw and STAD for each class in order to make them easier to follow the materials in the class. The researcher firstly brainstormed the students by asking some questions related to the Jigsaw and STAD method, and asked about the teaching method that used in teaching reading in the class. Then the researcher explained about the concept of Jigsaw and STAD Techniques to the students in the class. The researcher also gave the schema of Jigsaw and STAD Techniques in front of the class. Most of them seemed enthusiasted with those kind of techniques. After that, in order to make them comprehend about the method given by the researcher, the researcher gave an example of Jigsaw and STAD for each class. The researcher invited some students in front of the class, then the researcher gave short texts related to the reading text to each group in the class, and the researcher explained the procedure of the Jigsaw and STAD Techniques step by step. The researcher asked the students to listen to her carefully during the explaination of the procedure of Jigsaw and STAD. If there was misunderstood with the concept, the researcher asked the students related to the Jigsaw and STAD Techniques, and some of them asked spontaneous questions. The last, the researcher answered the student's questions related to the Jigsaw and STAD Techniques in order to make them comprehend about the concept.

The second treatment deals with explaining the concept of recount text to the students in the class. In this meeting, the researcher brainstormed the students by telling about the recount text, illustrating the character, and asking some question related to the story given by the researcher. Then the researcher administered the recount text to the students and asked them to find out difficult words in the text. Next, the researcher asked the students to open their dictionary to find out the meaning of difficult words in the text. The students who could not find it, they have to help the others. The researcher asked the students to read the text carefully and find out the background of the text. After that, the researcher gave some questions related to the aspects of reading, such as main idea, specific information, reference, inference, and vocabulary. The students tried to share their ideas to the other, so the students tend to be easy to comprehend the story of

recount text. However, some of them got difficulties while understanding the vocabularies. It can be seen that lots of students opened the dictionary during the teaching and learning process in the class. Unfortunately, most of them got difficulties in differenciating the inference and reference of the text. The last, the researcher asked them to make a short recount text based on their last own experience.

The third treatment deals with explaining the aspects of reading. At the first, the researcher tried to brainstorm them by asking some questions related to the previous materials given by the researcher to check whether they still remember or not. Then the researcher gave some questions about the aspects of reading, such as the definition of them (main idea, spesific information, reference, inference, and vocabulary), the differences of inference and reference, the example of them, etc. Some of them answered the questions correctly and the other answered the questions incorrectly. Then the researcher helped them by giving explanations and examples related to the aspects of reading. After that, the researcher distributed a text. The researcher asked them about the kind of this text, most of them answered correctly. The researcher taught them through the same steps as the previous treatment. The students were asked to read the text carefully and find the main idea, specific information, reference, inference, and vocabulary based on the explanation of the researcher. Some students read the text and wrote difficult words and tried to open a dictionary while reading a text. They were asked to find out the background of the problem in the text. In this meeting, the students tend to be easy to comprehend the materials given by the researcher. It can be seen that lots of students could answer the questions correctly given by the researcher. At the end, the students asked some questions related to the aspects of reading.

Based on the explanation above, it can be said that Jigsaw Technique gave positive effects for the students in teaching and learning English especially to learn and share the information. The Jigsaw Technique increased the students' motivation because the teacher can guide each group more intensively in the students' activity. So that, it makes the students can improve students' reading comprehension achievement.

The implementation of Jigsaw Technique made the students became active because the students not only learned the materials but also shared with the others. It happened when the students discussed in home and expert group. The students are able to share and ask for help when they cannot handle the difficulties that they had with the other members of the group. It means that the step of Jigsaw Technique provided a lot of chances for students to work together in home and expert group, and also interact directly among the member. Unconsciously, they enjoyed the process and positive atmosphere was created. This is in line with the statement of Lewaherilla (2011) that students are motivated to study because they are able to share their ideas among their teammates or other groups and they are able to improve their understanding of the text because they give help and receive

help from teammates and other groups. It indicated that by using Jigsaw Technique the students can help each other among the members to solve the problem and also this strategy can attract the students more in learning.

The implementation of Jigsaw Technique enhance students' motivation. The students' motivation was developed when the students asked and shared the information to the other. All of students were free to give their opinion or ask the difficulties that they had. It makes low level students were not ashamed to share or to give some opinions in the discussion and high level students help them when they found the problems in teaching reading. Motivation is a factor that greatly influences the success or failure in achieving the goal of learning. This is in line with the statement of Suciati (2007) that students who have high motivation to learn will be actively involved in learning to achieve optimum learning. So that, students who succeed in learning will be motivated during teaching learning process.

It can be inferred that Jigsaw Technique is an effective strategy in reading comprehension. It is because Jigsaw Technique gave positive contribution for the students' reading comprehension than STAD Technique. The positives contribution of Jigsaw Technique makes the students' reading comprehension achievement was improved.

Furthermore, in order to answer the second research question the researcher also analyzed the improve of reading aspect in the pre-test and post-test. Based on the analysis, the use of Jigsaw and STAD Technique improved most the students' reading comprehension achievement mostly in specific information aspect. According to Suparman (2012),Supporting sentence or specific information develops the topic sentence by giving definitions, examples, facts, comparison, analogy, cause and effect statistics and quotation. For example: in this research, the researcher gave the question *"Where did the writer spend his afternoon?"*, to find out certain information quickly, it can be done by taking one of important word, then search the word by reading the text. Based on those questions, it can be seen that those question contains a word *"where"* which indicates that it is asking for certain information that is the location of writer in the afternoon, and most of the students answered this question correctly.

The second grade students of junior high school learn about aspect of reading so it gives benefit for the students to remember about it. It indicates that the students are familiar with specific information but the students struggle to understand what the question means. In the pre-test the students get lower score in the specific information because they does not know what the question means. In Jigsaw Technique, the students were successful in finding specific information because when the students did not know how to answer about specific information, they can ask to the smart members to solve the problem and when the smart members

gave the answer of it, the low level students were easy to understand it because the smart students not only learned about the material but also they shared the information with the others.

From the explanation above, it can be interpreted Jigsaw Technique was effective to improve students' reading comprehension achievement in recount text than STAD Technique. Jigsaw Technique can be used to improve the students' reading comprehension, such as identifying main idea, specific information, inference, reference, and vocabulary.

CONCLUSION

After conducting the research at the second grade of SMPN 1 Abung Surakarta, there were some conclusions as follows: (1) there was a significant difference of student's reading achievement between those who were taught using Jigsaw and Student Team Achievement Division (STAD) technique. The mean difference was 13.76. It meant that the gain of the Jigsaw class was higher than the STAD class; (2) the aspect that improved the most in Jigsaw was specific information 50. 50%, furthermore in the STAD class, the aspect that improved the most was specific information 47.70.

SUGGESTIONS

Based on the results of the research and conclusion, the suggestions were made as follows: (1) English teacher who wants to use Jigsaw and STAD methods should develop an interesting situation in order to trigger the students to participate and practice in the classroom; (2) For other researchers who want to conduct the research with the similar method should prepare the materials of Jigsaw and STAD well, should ask many sources related to the learning effectiveness, and should prepare the data collecting technique to get complete result; (3) schools have to facilitate the teaching and learning process in order to increase the student's achievement.

REFERENCES

Andam, D.R. 2013. *The effect of using pre-questioning on student's reading comprehensionat second grade of SMPN 1 Seputih Banyak.* Bandar Lampung: Lampung University

Ayu, D.M. 2013. *The implementation of jigsaw technique in improving the student's oral production of recount text.* Bandar Lampung: Lampung University

Johnson, D.W., & Johnson, F. 2006. *Joining together: group theory and group skills.* (7th ed.). Boston: Allyn & Bacon

Kurnia, N.D. 2013. *A comparative study of the student's reading achievementbetween those who are taught through predictive and through making inferences at the second gradeof SMAN 1 Kota Gajah,* Lampung: The Faculty of Teacher Training and Education University of Lampung.

Lewaherilla. 2011. *Improving students' reading competence through two stay two stray strategy.* Skripsi. Surakarta: Universitas Sebelas Maret.

Meng, J. 2010. *Jigsaw cooperative learning in english reading. Journal of Language Teaching and Research.* Vol.1, No.4, pp. 501-504

Prabowo, Y. 2015. *Using jigsaw technique to improve the reading comprehension of class VII C students of SMPN 2 Depok in academic year 2013/2014.* The Faculty of Teacher Training and Education.

Santosh. 2012. *A comparative study of the effectiveness of student teams achievement division (STAD) and jigsaw methods of cooperative learning.* Unpublish thesis for Doctor of Phylosophy in Education, Maharshi Dayanan University, Rohtak.

Suciati. 2007. *Motivasi belajar dan pembelajaran.* Jakarta: Universitas Terbuka

Suparman, U. 2012. *Developing reading comprehension skills and strategies.* Bandung: Arfino Raya.