

THE EFFECT OF JIGSAW II TECHNIQUE ON READING COMPREHENSION OF GRADE XI STUDENTS OF MAN 2 MODEL PALU

Nur Atika¹, Hasan Basri and Sriati Usman²

cika889@gmail.com

¹The student of Postgraduate Program Tadulako University

²The Lecturers of Postgraduate Program Tadulako University

Abstrak

Tujuan penelitian ini adalah untuk mengetahui apakah teknik Jigsaw II secara signifikan meningkatkan pemahaman membaca siswa. Populasi penelitian ini adalah kelas XI jurusan IPA MAN 2 Model Palu yang terdiri dari enam kelompok paralel. Penelitian ini menggunakan desain quasi-eksperimen dan memiliki 50 siswa sebagai sampel yang dipilih melalui purposive sampling. XI IPA2 sebagai kelompok eksperimen sebanyak 28 siswa dan XI IPA3 sebagai kelompok kontrol sebanyak 22 siswa. Data diperoleh melalui observasi dan tes yang terdiri dari tes awal dan tes akhir. Data tersebut kemudian dianalisis menggunakan statistik deskriptif dan statistik uji-t. Ditemukan bahwa nilai rata-rata dari pemahaman membaca kelompok eksperimen adalah 75.1 lebih besar dari kelompok kontrol, 67.6. Hasil analisis uji-t menggambarkan bahwa dengan derajat kebebasan (dk) 48 ($28+22-2$) dan level signifikan 0.05, nilai t-hitung, 3.134 lebih tinggi daripada nilai t-table, 2.012. Sehingga, H_a diterima dan H_0 ditolak. Oleh karena itu dapat disimpulkan bahwa teknik Jigsaw II dapat meningkatkan pemahaman membaca pada kelas XI siswa MAN 2 Model Palu secara signifikan.

Kata Kunci: Pengaruh, Pemahaman Membaca, Teknik Jigsaw II.

Reading skill is very important in the education field. Students need to be exercised and trained in order to have a good reading skill. By mastering reading skill, it is easy for students to understand the material that they learn in printed form. Students can get much information either dealing with the message of passage or even internal elements about the language. Specified in English, reading passage provides a chance for students to develop their idea, allow their critical thinking to look forward how some words are combined together with the true grammatical structure and acceptable vocabulary use. Thus, for those reasons reading becomes the essential point that has to be emphasized in teaching of language in Indonesia.

However, the students' ability in reading comprehension is far from the goal being expected especially at grade XI students of MAN 2 Model Palu. Based on the observation in the class, it was found some problems. First, students often get bored in

reading class because the teacher always provide the lesson by using the translational method (read, translate and answer the question) in the classroom. Second, students did not participate actively when teaching learning process going on because they only wish one student in the group to do the task. Finally, students also had difficulty in understanding the text, such as they get difficulties in deciding the main idea and get the whole information from the reading text, because they only pay more attention to the meaning of every single word than to its overall meaning. As a result, students could not comprehend the reading text well.

Dealing with the problems mentioned above, the teachers need to apply a strategy or technique that can help students to solve such problems. Jigsaw II technique is an effective way in teaching reading comprehension because they are set in group and have a different task of the text given which they have to solve together. This

technique also having students to get the entire part of the text, so they will have schemata to help them to understand their own part of the text.

This technique has been effective both for improving the students' achievement and behavior and for increasing their acceptance by their classmates (Slavin, 1990). Therefore, by using Jigsaw II technique the students are expected to be able to work in group and improve their reading skill by working cooperatively with their teammates.

Due to the fact, the researcher would like to conduct a research in investigating the effect of Jigsaw II technique on reading comprehension of grade XI students of MAN 2 Model Palu. Therefore, the question that emerges for the research is as follows:

Does Jigsaw II technique improve the reading comprehension of grade XI students of MAN 2 Model Palu?

In line with the research question above, the objective of the research is to find out whether Jigsaw II technique improves the reading comprehension of grade XI students of MAN 2 Model Palu.

Literature Review

The Definitions of Reading

Reading is categorized as receptive skill which has taken an important role in human's life since by having proficient reading skill they can be easier to get more information and also give a large extent improvement to their knowledge. Blachowicz and Ogle (2008) state that reading is a process of making sense of what is being read. Thus, reading is the interaction process between the reader and the text or printed word in obtaining or constructing meaning.

Reading is a cognitive process that composed of two main skills; language decoding and language comprehension. A reader must be able to decode or sound out the printed word and also comprehend what he/she read (Nunan, 2005). These two skills are independent of one another, but both are

necessary for literacy. Language decoding involves a step in which a reader pronounces the written words correctly and quickly. This step is an important cognitive element that leads the readers to recognize and process the written text. When readers encounter words that are frequently used, they become familiar with them, and word decoding is developed in this process. Language comprehension, on the other hand, involves cognitive abilities to comprehend the meaning of a text and the intent of its author in many kinds of information. In this step, readers must possess their background knowledge to understand clearly the meaning of a text (Dararat, 2012).

Reading Comprehension

Reading comprehension is a dynamic construction of meaning. This meaning is the result of the combination of the text's input, the reader's prior knowledge, manipulation of lexis, making inferences and relating thoughts. Willis (2008) defines reading comprehension as the ability of a reader to connect each new word, sentence, or page with those that came before to construct meaning. In other words, reading comprehension is the ability of the readers to create meaning from the combination of reader's previous ideas or schemata with the idea encountered in the text.

Reading comprehension is the ability to understand of what is being read. Smith (1969) states that comprehension skill also known as thinking skill occurs at four different level comprehension of complexity and each level is dependent upon competence at the previous level. First, First, literal comprehension is the ability to understand the basic facts or information that is contained explicitly within the text being read. In this matter, a reader needs to understand the surface meaning; word meanings, recognize the main idea, understand about sequence and be able to

recognize cause and effect that are mentioned in the text being read.

Second, inferential comprehension is often described simply as the ability to read between the lines. The reader needs to go beyond what has been written in the passage and needs to add meaning or draw conclusions. Third, critical comprehension involves in assessing and working out the good sense of what is being read in the passage. In this level, the readers make judgment about the quality, value and validity of the content of the text depending on the ability to read well in the literal and interpretive level. The last is creative comprehension. In creative level the reader reads to find new ways of viewing ideas, incidents or character that may stimulate the new production of ideas.

Moreover, for having meaning in a text, reading can be done into three main categories. First, bottom-up model is a reading model that emphasizes the written or printed text. Al-Salmi (2001) states that bottom-up model reflect traditional attitudes toward reading. In that way, reading is a process of building symbols into words, words into sentences and sentences into the overall meaning. The readers begin with the lowest level, from which the symbols are identified. In this model, accuracy in understanding linguistic units is very significant and the lower level processing skills in reading are important.

Second, top down model refers to the reader's ability to look at a text as a whole and to connect and relate it to his existing knowledge base. Readers do not read every word, but see through the text in order to be able to guess the meaning of the words or phrases. This model pushed the readers to use their background knowledge in order to make predictions about the texts they read.

Third, interactive model is an interaction between bottom-up and top-down models. This interactive model claims that prior knowledge and prediction of the reader

facilitate the input processing from the text. In interactive reading model, both bottom-up and top-down should be occurring at all levels simultaneously. Readers may employ bottom-up process as a base for comprehending a text and then turn to top-down process to execute high-level interpretation of the content of the text.

Concept of Jigsaw II Technique

This research used form of Jigsaw II, which was developed from Jigsaw I by Slavin in 1990. Jigsaw I breaks the text and only works if each piece of the text is understandable on its own, whereas in jigsaw II everyone in the home team has all the text pieces. So, it helps the students to understand their own segment with previous knowledge that they get in the previous segment. Slavin also has constructed this technique into four elements which contribute to its success; they are mixed ability grouping, individual accountability, group reward, and equal opportunity to success.

Teaching Reading through Jigsaw II Technique

The Jigsaw I and Jigsaw II are different in that in Jigsaw II the students get the entire of reading material. With getting the entire segment, the student will be helped to build their comprehension in their own segment. Moreover, Jacob (1997) states the implementation of Jigsaw II technique in the last step can raise high comprehension about the material and reduce the missed information to the all members. In this matter each member returns to their home team to share information to each other and members might address a question or asks clarification to the sharer.

In this research, the researcher intends to teach hortatory text by using Jigsaw II technique at grade XI students of MAN 2 Model Palu. According to Slavin in Jacob (1997: 27-28), there are some steps of using Jigsaw II technique.

1. Grouping and reading steps. In this step the teacher forms heterogeneous group called as home team and distributes the text to the students. Each student is assigned a specific section to focus on when reading.
2. Students leave their home team and form expert group discussion. Expert team here consisted of students who have same section of the text. Each student should take notes on important and agreed upon points or information to share.
3. Students to return to their home teams. Each expert shares their information with the teammates by turns. They can address a question or ask a clarification.
4. Discussion. When the groups finished in discussing and sharing their information, the teacher asks one of the groups randomly as the representative to present their answer in front of the class.
5. Teacher gives assignment to students to work individually to get the team score.

RESEARCH METHOD

This research used quasi experimental nonrandomized control group pretest-posttest design. It consisted of two groups namely experimental and control group. Both groups were given pretest and posttest, but only experimental group was given the treatment through Jigsaw II technique. The control group was taught by using conventional technique. The population of this research was grade XI science major students of MAN 2 Model Palu which consisted of six parallel groups. The sample of this research was selected by using purposive sampling technique since the population is homogeneous or having the same ability. Grade IPA 2 was used as the experimental group and X IPA 3 as the control group.

Variable is the phenomenon that can be changed, observed or manipulated. There were two types of variable in this research, independent and dependent variables. The

independent variable of this research was Jigsaw II technique, while the dependent variable was reading comprehension. This research was carried out to examine the relationship of these two variables.

In collecting the data needed, it applied two instruments namely test and non-test. The test was to measure the students’ achievement before and after conducting the treatments. The non-test was observation. The observation was aimed at getting information about students’ activities in teaching learning reading skill through using of Jigsaw II technique. The test instruments was tested its validity and reliability to know whether it could be used or not. The validity of the test was analyzed statistically by using Microsoft Excel program which used “CORREL” function and reliability of the test was analyzed statistically by using Kuder Richardson formula or known as KR-21 formula.

The test was to evaluate the students’ reading comprehension after being taught through Jigsaw II technique. The total numbers of test were 40 questions in form of multiple-choice test. Every test item was scored one point so the total score of the reading tests was 40. The following were the scoring system of the test.

Scoring system

Types of test	Number of test	Score of item	Total score
Multiple-choice test	40 items	1 was given if the answer was correct.	40

(Adapted from Al-Juboury, 2011)

For the test results, the obtained data of the test were analyzed quantitatively. It analyzed the individual score by the formula adopted from Arikunto (2010:240):

$$Individual\ Score = \frac{Obtained\ Score}{Maximum\ Score} \times 100$$

Before testing the hypothesis, first was tested for normality and homogeneity tests on the data. Normality test used to know the normality of data distribution in both of classes. A normal distribution of data is when the result of X^2 counted value is lower or same as X^2 table value. The data processed manually by using non parametric statistical tests of Chi-square test with a significant level $\alpha = 0.05$. Homogeneity test was used to determine whether the data homogeneous or not. The data is categorized whether homogeneous or inhomogeneous by applying manual program and using F-test.

To know whether the use of Jigsaw II technique accepted or rejected, the hypothesis was tested with the criteria If the $t_{counted}$ value is higher than t_{table} value, it means that the hypothesis of the research is accepted or the Jigsaw II technique gives a significant effect on students' reading comprehension, while if the $t_{counted}$ value is lower than t_{table} value, it means that the hypothesis of the research is rejected.

FINDINGS AND DISCUSSION

Findings

After analyzing the results of the test and non-test data, the problem statements of this hypothesis were answered. It showed that Jigsaw II technique gives a significant effect on students' reading comprehension Firstly, the test results in the pretest for both experimental group and control group were not significantly different. It is proved by the mean score of experimental group, 59.8 and the control group, 59.2. It indicated that before giving the treatment, the students' reading comprehension of both groups was quite low.

The students then gave treatment to the experimental group by using Jigsaw II technique for six meetings. In early meeting, the problems appeared that some students did not really pay attention and not responsible on his/her duty, but with the help from the

other student from his/her group, it could be solved and the process of teaching-learning activity could work smoothly.

The students in control group also taught by using the conventional teaching and learning, that were mostly by the explanation of the teacher and almost of the classroom activity was teacher-centered. It also was done until six meetings as the experimental did.

Furthermore, the posttest was given after applying the treatment. The results showed that the mean scores of the posttest for both experimental group and control group are significantly different. It is proved by the mean score of the experimental group, 75.1 and 67.6 for the control group. It means that the mean score of experimental group was greater than the control one. Furthermore, the results of data analysis for testing hypothesis by using t-test were presented as follows.

Summary of Hypothesis Testing

Df	t- counted	Symbol	t- table	Results
48	3.134	>	2.012	H ₀ is Rejected, H _a is Accepted

Table above shows that the results of t-test specified that the $t_{counted}$ value (3.134) was higher than the t_{table} value (2.012) for the degree of freedom of 48 with the level of significance (0.05). Therefore, it is concluded that Ha (Alternative Hypothesis) is received while Ho (Null Hypothesis) was rejected. In other words, Jigsaw II technique improves the reading comprehension of grade XI students of MAN 2 Model Palu significantly.

Secondly, the results of non-test or observation checklist also supported the students' achievement. In each meeting of the treatment showed that the implementation of Jigsaw II technique significantly activated the students during the teaching-learning

process. It can be seen from the percentage of students who were actively involved in the step of Jigsaw II technique was increased in each meeting. Although few students initially in the first and the second meeting did not involved in the some activities, but all of them were actively involved in the rest of the meeting.

Discussion

The findings showed that the hypothesis is accepted. It is proved by the result of statistical analysis on the differences of students’ reading comprehension in the pretest and posttest both experimental and control groupses as follows:

Comparison of Achievement

Group	Mean Score	
	Pretest	Posttest
Experimental	59.8	75.1
Control	59.2	67.6

Table above shows that there is a significant difference mean score between the pretest and the posttest in both of the groups. In the control group, the mean score achieved by the students does not increase significantly which is 59.2 in the pretest and 67.6 in the posttest, or increases around 8.4. There are 17 students whose score improved and there are 5 students who get score lower than the score in pretest. On the contrary, in the experimental group the mean score significantly increased, they get 59.8 in the pretest and 75.1 in the posttest, or increases around 15.3. There are 26 students who get score higher than their score in the pre-test and there are only 2 students who are get score lower than the score in pre-test. This significant difference indicates that using Jigsaw II technique is more effective in teaching reading skill.

The implementation of Jigsaw II technique is able to improve the students’ reading comprehension effectively. They are able to find the main idea, detail information

as well as drawing inference from the text by mastering the content of the text. From the findings in the research during the implementation of Jigsaw II technique, it is found that the students can learn in a supportive environment, and all students are active because they play the role of teacher. They don’t just sit down silently on their chairs, they are involved in making responses to make sure that their team has learned new item successfully. On the contrary, in control group, students are passive learners, they just sitting in the classroom listening to the teacher’s lectures, and they learn the subjects solely from teachers’ demonstration in class.

Based on the theoretical principles underlying the technique used in this research and the findings, the students work in the expert groups to master different parts of each lesson, and then become teachers to teach their classmates in the home groups. As compare to the learning atmosphere in control group, the learning environment in the Jigsaw II is rather positive, supportive and active. To achieve the success, the students help each other in understand the learning materials, discuss with the team members, and try to find out the solutions to their questions. Besides, the results obtained in this research indicate that the students’ reading comprehension had significant improvement after the six-week instruction by using Jigsaw II technique. There are some reasons for their progression.

1. Students have more opportunity to read and learn the assigned part on their own. Since each students get different reading task, they can focus on their own part. For instance, students who are assigned for the first paragraph of the reading text come and gather in an expert team. They have to focus only on that paragraph and its questions. In this group, students are free to express their idea in discussing the task before deciding the final agreement of the answer. In the control group, students tend to receive the lessons directly from the

teacher, but they do not have enough chances to think and discover the lessons on their own.

2. The responsibility of being teachers in the class encourages the students to learn more clearly. After having discussion in expert team, students become teacher in their home team. Here the students not only responsible for their own part but also for their teammates. Each student explains their part by turn until all the members understand the whole materials. Other students can ask question, information and clarification during the explanation. Thus, the cooperative atmosphere helps them in learning new items. The process of teaching each other and effective social interaction also indicate a healthy classroom.

Finally, based on the research findings, Jigsaw II technique is able to improve students' reading comprehension significantly. They are involved actively in the teaching-learning process and enthusiastic in discussing and sharing the information. Therefore, this technique can be adopted by English teacher at school.

CONCLUSION AND SUGGESTION

Conclusions

Based on the discussion and data analysis in chapter IV, it concludes that Jigsaw II technique is able to improve the reading comprehension of grade XI of MAN 2 Model Palu significantly. It can be proved from their achievement from pretest to posttest. During the treatment, students naturally develop the interest of working with the other students, they learn from each other and hence learn better. They also cultivate good attitudes from each other. The results of observation also confirm that most of the students are able to take active part in teaching-learning process. After applying Jigsaw II technique, the students have well comprehension as well as active participation

through some exercises in reading comprehension. However, if it is compared to the group that is taught by using conventional technique, the students are lack of reading comprehension and act as passive learners. It can be seen from their achievement from pretest to posttest, there is only a bit improvement from their score. Furthermore, the posttest mean score of students which is taught by using Jigsaw II technique is higher than students which is taught by using conventional technique (75.1 > 67.6). It indicates that students' achievement in experimental group is higher or better than in control group. In other word, Jigsaw II technique is more effective in improving students' reading comprehension than conventional technique. By applying Jigsaw II, students know the rule of how to comprehend a reading text and it activates the students in the teaching-learning process.

Suggestions

Regarding the findings and conclusion stated previously, the researcher proposes several suggestions.

1. For future research, it is really expected to apply Jigsaw technique in other language skills. Combination of students' culture, learning strategies or personality could be related to their reading achievement in order to enrich the research in reading.
2. Since this research only had eight meeting, it is suggested to further researcher who wants to apply the same research to add more meeting to optimize the research process as well as the research finding.

REFERENCES

- Al-Juboury, N. 2011. Rubric. *Journal of College of Education for Women. Vol 22 (2), 360-371.*
- Al-Salmi, M. 2011. Schemata (Background Knowledge) and Reading Comprehension for EFL Students.

Research Journal Specific Education.
Issue No. 22, 696-708.

- Arikunto, S. 2010. *Prosedure Penelitian: Suatu Pendekatan Praktik*. Jakarta: RinekaCipta.
- Blachowicz, C. and Ogle, D. 2008. *Reading Comprehension: Strategy for Independent Learners (2nd Edition)*. New York. Guilford Press.
- Dararat, P. 2011. *The Effect of Jigsaw Technique on Reading Comprehension of Mattayom Suksa 1 Students*. Copyright 2012 by Srinakharinwirot University(Unpublished Thesis).
- Jacob, M. Georgel., 1997. *Learning Cooperative Learning Via Cooperative Learning: A Sourcebook of Lesson Plans for Teacher Education on Coopertive Learning*. Singapore: SEAMEO Regional Language Center.
- Nunan, D. 2005. *Practical English Language Teaching: Young Learners*. New York. McGraw-Hills Companies.
- Slavin, E Rober. 1990. *Cooperative Learning: Theory, Research, and Practice*. Englewood Cliffs, New York: Prentice-Hall.
- Smith, N., Panton. 1969. *The Many Faces of Reading Comprehension*. Kansas: International Reading Association conference.
- Willis, J. 2008. *Teaching the Brain to Read; Strategies for Improving Fluency, Vocabulary, and Comprehension*. Alexandria: Association for Supervision and Curriculum Development (ASCD).