

**THE EFFECT OF JIGSAW IN TEACHING READING
ON THE ENGLISH FRESHMEN'S READING ACHIEVEMENT
AT ISLAMIC UNIVERSITY OF KADIRI – KEDIRI**

By: Purwantoro

ABSTRACT

As one of the language skills, reading has an important role in our life. By having a good reading skill, people are able to understand English written texts well. Therefore students are supposed to have reading skill, especially English freshmen who will be well educated people in English. However, in fact, most of English freshmen still lack reading ability. It happens because they get bored while learning reading in class. They always do the same activities in reading subject. Finally, it influences their reading achievement.

To overcome students' problem above, the writer conducted a study to find out what technique might assist students' reading mastery, then the writer chose Jigsaw to improve the students' reading achievement. The expert says that in Jigsaw the students can share knowledge and exchange information among students. By doing such activities, hopefully the students can understand the text and have more ideas about the topic.

In this study, therefore, the writer intended to answer the major question: "Is there any difference between the reading achievement of English freshmen taught by using Jigsaw and the reading achievement of those taught without Jigsaw?" Using quasi-experimental design, pretest and posttest design, the writer gave treatments to both experimental and control group. The students in the experimental group were given Jigsaw while the students in the control group were given common/ traditional/ conventional technique. The sample were taken from the English freshmen, second semester of the academic year 2009-2010 at Islamic University of Kadiri (Uniska)-Kediri. Both groups received three times of treatments. Before the treatments received, the students were given pretest, and then after the treatments were over they were given posttest. The result of the posttest became the data of this study to measure the students' reading achievement after they received several treatments.

To answer the questions and to test the hypothesis of the study, the writer analyzed the posttest score by using t-test calculation. Based on the t-test, the writer found that the *observed-t (to) was higher than t-table*. Therefore, it can be concluded that there is *significant difference* between the English freshmen's reading achievement taught by using Jigsaw and the reading achievement of those taught without Jigsaw. It means that *Jigsaw is better* to be used in teaching reading in class. Jigsaw actually can improve the English freshmen's reading achievement more than common technique.

Keywords: *the jigsaw, teaching reading, the English freshmen's reading achievement*

BACKGROUND OF THE STUDY

English is one of the international languages in the world. It is commonly used as a means of communication to interact with other people from different countries. Therefore, it is very important for the people to learn English well.

Moreover in this globalization era, there are a lot of foreign companies in Indonesia, and this motivates Indonesian students to learn English more so that they can compete with foreigners in getting the employment. They learn not only the oral language but also the written language.

Realizing the importance of English, the Ministry of Education in Indonesia includes it as one of the subjects in the educational curriculum that have to be learnt by students. It aims to help students so that they are able to use English well. Moreover, most books in the higher education in this era are written in English. It is supported by Nababan, as quoted by Ngadiman (1990:1) who states that most textbooks in higher education are in English. That's why the students should have a good reading skill if they want to comprehend the written text well. By reading, students can get new knowledge and a lot of information that are very useful for them. This situation in line with Doehring et. al. (1981: 1) who state that reading can add greatly to the quality of students' life.

In fact, although the English freshmen have been taught reading since they were in senior high school, at most they still lack the ability in reading. As the writer experienced while he got his magister teaching practice program in one university in Surabaya, he found out that most of English freshmen did not have high motivation to follow a reading subject. The reason was they thought that it was boring. They did the same activities in every reading subject. The activities were (a) the teacher asked the students to read the passage in the book silently or the teacher asked a few students to read the paragraphs loudly while the other students listen to them, (b) then the teacher asked the students which part or words they did not understand. If there were any problems the teacher would explain more about the reading passage. And (c) finally the teacher asked the students to do reading comprehension exercises in the book. Those activities were always done in teaching reading. As a result the students would get bored or even they got sleepy in class. Due to the fact, many reading experts find it necessary to make an attempt to improve students' reading

ability in English that is by applying reading techniques.

There are many techniques in teaching reading. One of them is Jigsaw technique. It is one of the cooperative learning techniques which is useful to teach reading. According to Aronson et. al., Jigsaw technique is an approach to provide an excellent learning environment for the acquisition of language through relevant content, the development of academic skills through carefully structured reading activities, and the exploration of a relevant content through the use of a purposeful talk in the classroom (Aronson et. al., 1978). In the group the students are invited to work together to exchange the information and share the opinion among others about the reading passages. Here the students can learn how to cooperate with other students because without a good cooperation, the goals of the group cannot be achieved successfully.

Further, the writer also wants to know :

1. whether there is difference between the reading achievement of English freshmen taught by using Jigsaw technique and the reading achievement of those taught without Jigsaw technique in answering *knowledge* question type;
2. whether there is difference between the reading achievement of English freshmen taught by using Jigsaw technique and the reading achievement of those taught without Jigsaw technique in answering *comprehension* question type;

Because of the reasons above, the writer is interested in conducting a study about the application of Jigsaw technique in class.

RESEARCH METHOD

This study took the form of a quasi-experimental study due to the fact that the process of taking the samples was by using intact groups since it was impossible

to randomly assign subjects to group. It applied pretest and posttest design as the research design. The pretest was administered before the students received the treatments, while the posttest was administered after the students received the treatments.

In this study, the writer used two groups as his samples. The first one was called experimental group. This group was given Jigsaw technique in order to make the students more interested in the reading subject and avoid boredom in class. Another group was called control group. This group was only given the common technique. During the treatment, the same teacher taught those two groups. Before the research instruments were used, they were tried out first in the pilot group.

**Table 1
Research Design**

Procedure	Pretest	Treatment	Posttest
Experimental Group	O1	X1	O2
Control Group	O1	X2	O2

Where:

O1 : Pretest

X1 : Using Jigsaw technique

O2 : Posttest

X2 : Using Common technique

Population and Sample

The population of this study was the English Freshmen English Department in the second semester, academic year of 2009-2010, Faculty of Teacher Training and Education, Islamic University of Kadiri. The Freshmen were chosen under the assumption that they have had reading skill since they were in Junior and Senior High School. Besides they passed Reading 1 in the previous semester.

There were three Reading classes for freshmen the academic year of 2009-2010. The first class was used as the experimental group. It received teaching reading using Jigsaw technique for every

treatment. The second class was used as the control group. It contrasted with experimental group. It did not receive teaching reading by using Jigsaw technique but it received common technique. The third class was used as the pilot group. The pilot group was used to try out the instrument first before it was given to the experimental and control group.

Before choosing those three classes, the writer analyzed the *result* of English *mid test grades* from the students belonging to those three classes. The analysis was used to judge which classes had the same level intelligence. After the writer decided the three classes (X-1, X-2, and X-3) then *t-test* was held to compare the mean of the students' English mid test grades. In deciding which classes would be the pilot group, experimental group or control group the writer randomized the intact groups by *making lots*. Finally the writer found the result that X-1 was used as the experimental group, X-3 was used as the pilot group, and X-2 was used as the experimental group.

**Table 2
Population and Sample**

Population	English Freshmen at Second Semester academic year 2009-2010	
Sample	Two classes from three classes available	
Group	Experimental Group Class X-1 (Using Jigsaw Technique)	Control Group Class X-2 (Using Common Technique)

Treatment

Both of the groups-the experimental group and the control group got the same reading test as the media for treatments. The experimental group were given technique namely Jigsaw technique. They were engaged in the following instruction activities, first, the teacher formed home teams. Each home team consisted of four

students and every student got a piece of the texts. Next she asked the students to form expert teams. The students who received the same pieces of the reading texts worked together in groups. Those groups were called the expert teams. The students worked in the expert teams to understand the reading texts with the other member in the expert teams. After that, the experts went back to their home teams and taught their pieces to their home teams. Then, the students had discussion and made a short summary about the whole pieces in the home teams. Finally the students did the reading test individually. The control group was dealt with the common technique. Therefore, the learning activities in the class were different. The activities began with the explanation from the teacher about general instruction of the topic followed by some triggering questions given to the students. The teacher distributed the text and asked each student to read the texts silently. Then the students found the main ideas of the texts and retold the whole texts in front of the class. Finally, the teacher asked the students to do the reading comprehension exercises individually at the end of the session.

The writer gave three times treatment to both experimental groups (X-1) and control group (X-2). The treatments were given in almost two weeks, started from June 05th – June 15th 2010. The topics that were used in the treatments were Sport and Tourism (tentative alternatives).

THE RESEARCH FINDING

a. Scores of the Pretest for Total Question

To know the condition of the two groups as sample in this research, the pretest was given. And the result of the calculation is shown in the following table:

Table 3
A Summary of t-test of Pretest Score for Total Question Between Two Groups

Group	Pretest Mean	SD	SDx-bar	t-obsv. (to).	t-table (tb)
Exp.Gr	64.2	11.37	10.38	0.11	2.01
Ctl. Gr	65.4	10.95			

From the pretest, it can be seen that in the experimental group, the pretest mean was 64.2 and the result of standard deviation was 11.37. While in the control group, the pretest mean was 65.4, and the result of standard deviation was 10.95. The result of standard deviation between two groups was 10.38. With the level of significance of 5% (0.05) and a t-table of = 2.01, it was found the calculation that the observed-t (to) was 0.11.

b. Scores of the Posttest for Total Question

To answer the major question that is “Is there significant difference between the reading achievement of English freshmen taught by using Jigsaw and the reading achievement of those taught without Jigsaw?” this research conducted posttest as the only data. Then, the posttest score is calculated by using t-test. The result of the calculation is shown as follows:

Table 4
A Summary of t-test of Posttest Score for Total Question Between Two Groups

Group	Posttest Mean	SD	SDx-bar	t-obsv. (to).	t-table (tb)
Exp.Gr	74.88	7.02	2.44	3.94	2.01
Ctl. Gr	65.28	9.65			

From the table of posttest above, it can be seen that in the experimental group, the posttest mean was 74.88. The

result of standard deviation was 7.02. While in the control group, the posttest mean was 65.28 and the result of standard deviation was 9.65. The result of standard deviation between two groups was 2.44. With the level of significance of 5% (0.05) and a t-table of : 2.01, it was found the calculation of the observed-t was 3.94.

This research also calculated the effect of Jigsaw in two types of comprehension questions namely knowledge and comprehension. The formula used for calculating the two types of questions was the same with the formula used for calculating the pretest and the posttest for total question previously. The findings of each type of those comprehension questions will be stated as follows:

1. Scores for Knowledge Question Type

Using the data stated in chapter III, the students' answers were analyzed to determine whether there is significant difference between the reading achievement of English freshmen taught by using Jigsaw and the reading achievement of those taught without Jigsaw in answering knowledge question items. In posttest, there was *seven* knowledge question items. Based on the calculation, it was found that in the experimental group, the mean of the students' answers in knowledge question type was 24.48 and the result of standard deviation was 3.45. While in the control group, the mean of the students' answers in knowledge question type was 21.76 and the result of standard deviation was 3.93. The result of standard deviation between two groups was 1.07. With the level of significance of 5% (0.05) and a t-table of: 2.01, it was found that the observed-t (to) was 2.55. The result of the calculation is shown in the following table:

Table 5
A Summary of t-test of Posttest Score for Knowledge Question Type

Group	Posttest Mean	SD	SDx-bar	to	t-table (tb)
Exp.Gr.	24.48	3.45	1.07	2.55	2.01
Cont.Gr.	21.76	3.93			

2. Scores for Comprehension Question Type

To determine whether there is significant difference between the reading achievement of English freshmen taught by using Jigsaw and the reading achievement of those taught without Jigsaw in answering comprehension question type, the writer analyzed the students' answers in posttest. In the posttest, there was *nine* comprehension question items. Based on the calculation, it was found that in the experimental group, the mean of the students' answers in comprehension question type was 22.32 and the result of standard deviation was 3.82. While in the control group, the mean of the students' answers in comprehension question type was 20.16 and the result of standard deviation was 4.15. The result of standard deviation between two groups was 1.15. With the level of significance of 5% (0.05) and a t-table of = 2.01, it was found out that the observed-t (to) was 1.87. The result of the calculation is shown in the following table:

Table 6
A Summary of t-test of Posttest Score for Comprehension Question Type

Group	Posttest Mean	SD	SDx-bar	to	t-table (tb)
Exp.Gr.	22.32	3.82	1.15	1.87	2.01
Cont.Gr.	20.16	4.15			

CONCLUSION

Based on the statistical calculation of the posttest score between the experimental and control group, the data shows that the observed-t (to) is higher than the t-table (tb). It means that there is significant difference between the students' reading achievement of those two groups, namely Jigsaw is better than common technique to used to teach reading (comprehension), because it can increase the students' reading achievement significantly especially in terms of the four cognitive levels such as

application, analysis, synthesis, and evaluation.

While the two question types, namely knowledge and comprehension, the data show that the observed-t (to) is lower than t-table (tb). It means that there is no significant difference between the students' achievement of those two groups. In other words, it can be said that both Jigsaw and common technique are good to be used in teaching reading; they can also increase the students' reading achievement in answering knowledge and comprehension types of reading comprehension question.

BIBLIOGRAPHY

- Aronson, et. Al. 1978. *The Jigsaw Classroom*. Beverly Hills, CA: Sage.
- Aronson. *How to Build a Better Educational System: Jigsaw Classroom*. Available at <http://www.psychologymatters.org/jigsaw.html> Retrieved on November, 30, 2004.
- Aronson. *Jigsaw Classroom*. Available at <http://jigsaw.org> Retrieved on November, 30, 2004.
- Badrawi, Nazly. 1992. *The Reading Dilemma: Meeting Individual Needs*. English Teaching Forum, Vol. 30. No. 3.
- Bassano, S., and M. A. Christison. 1998. *Cooperative Learning in the ESL Classroom*. TESOL Newsletter, 22, No. 2:8-9.
- Bloom, Benjamin S. 1956. *Taxonomy of Educational Objectives*. USA: Longman Inc.
- Coelho, Elizabeth. 1989. *All Sides of the Issue*. Hayward, CA: Alemany Press.
- Coelho, Elizabeth. 1992. *Jigsaw: Integrating Language and Content*. In Carolyn Kessler (Ed). *Cooperative Language Learning: A Teacher's Resource Book*. (129-152). New Jersey: Prentice-Hall Inc.
- Davidson, N. 1990. *Cooperative Learning in Mathematics: A Handbook for Teachers*. Menlo Park, CA: Addison-Wesley.
- Doehring, Donald, et. Al. 1981. *Reading Disabilities: The Interaction of Language and Neuropsychological Deficits*. New York: Academic Press.
- Gronlund, Norman Edward. 1982. *Constructing Achievement Test*. New Jersey: Prentice Hall Inc.
- Harmer, Jeremy. 1992. *The Practice of English Language Teaching*. London: Longman.
- Harris, David P. 1969. *Testing English as Second Language*. New York: Mc Grow Hill Book Company.
- Hythecker, et. Al. 1988. *An Analysis of the Process Influencing the Structured Dyadic Learning Environment*. Educational Psychologist 23. 23-37.

- Kagan, Spencer & Roger E. W-B Olsen. 1992. About Cooperative Learning in Carolyn Kessler (Ed). *Cooperative Language Learning: A Teacher's Resource Book*. 1-30. New Jersey: Prentice-Hall Inc.
- Kessler, Carolyn. 1992. *Cooperative Language Learning*. New Jersey: Prentice Hall Inc.
- Kistono et al. 2004. *The Bridge English Competence for SMU 1*. Surabaya: Yudhistira.
- Klinger, Janet & Vaughn Sharon. 2000. *The Helping Behavior of Fifth Grades while Using Collaborative Strategic Reading During ESL Content Classes*. A Journal for Teachers of English to Speakers of Other Languages and of standard English as a Second Dialect. Vol. 34 No. 1 Spring 2000.
- Kurnia, Evy. 2002. *The Effect of Using Cooperative Learning by Using Jigsaw Activities and the Traditional Technique on the Reading Comprehension Achievement of SMU YPPI-1 Students*. Unpublished Thesis.
- Lie, Anita. 1993. *Using Cooperative Learning to Teach Literature*. Paper presented at the TEFLIN Silver Anniversary Seminar, IKIP Yogyakarta, Gadjah Mada University, and Sanata Dharma University.
- Mc Groarty, M. 1989. *The Benefits if Cooperative Learning Arrangements in Second Language Instruction*. NABE Journal, 13, No. 2 (Winter. 1989): 127-43.
- Mistar, Junaedy. 2006. *The Course of Statistics for Postgraduate Students*. Tulung Agung
- Nutall, Christine. 1982. *Teaching Reading Skills in Foreign Language*. London: Heinemann Education Books, Ltd.
- Olsen, Roger E. WB & Spencer Kagan. 1992. About Cooperative Learning in Carolyn Kessler (Ed). *Cooperative Learning: A Teacher's Resource Book*. 1-30. New Jersey: Prentice Hall Inc.
- Richards, C. Jack and Theodore S. Rodgers. 2001. *Approaches and Methods in Language Teaching*. Cambridge: Cambridge University Press.
- Sannia. 1998. *The Effect of Cooperative Learning on the Reading Achievement of SMU Kr. Petra 3 Students*. Unpublished Thesis.
- Slavin, R. E. 1990. *Cooperative Learning: Theory, Research ,and Practice*. Eaglewood Cliffts, New Jersey: Prentice Hall Inc.
- Sundaya, Wahyu et al. 2001. *Steps to the Global World: A Breakthrough in Learning English for SMU*. Bandung: Grafindo Media Pratama.
- Sundaya, Wahyu et al. 2002. *Contextual Learning: Developing Competencies in English Use for SMU*. Bandung: Grafindo Media Pratama.
- Universitas Islam Malang. 2005. *Pedoman Penulisan Tesis: Program Pascasarjana*, Malang: Penerbit Program Pascasarjana-Universitas Islam Malang.
- Vacca, Richard T. 1981. *Content Area Reading*. Boston: Little, Brown and Company.
- Wahab, A. & Lestari, L. A. 1999. *Menulis Karya Ilmiah*. Surabaya: Airlangga University Press.