

IMPROVING READING COMPREHENSION OF THE EIGHTH GRADE STUDENTS THROUGH JUST-IN-TIME TEACHING TECHNIQUE

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Abstract

The objective of this research was to find out that Just-in-Time Teaching (JiT) technique could improve reading comprehension of the eighth grade students at MTs Al-Istiqamah Ngata Baru. The research was pre-experimental design. The researcher employed purposive sampling technique and applied one group pre-test and post-test design. The data were collected through pre-test and post-test and analyzed statistically. The mean score of the students in the pre-test was 34.37 and the post-test was 66.60. By applying one-tailed test with 0.05 level of significance and the degree of freedom (df) was (16-1) 15, it was found that the t-counted was greater than t-table. t-counted was 11.548 while t-table was 1.753. Based on the result of analysis, the hypothesis was accepted because the researcher found that there was a significant difference from the application of Just-in-Time Teaching technique in improving students' reading comprehension. In conclusion, the use of Just-in-Time Teaching technique can improve reading comprehension of the eighth grade students at MTs Al-Istiqamah Ngata Baru.

Keywords: Improving, Reading Comprehension, Just-in-Time Teaching

INTRODUCTION

Language has four skills which are speaking, reading, listening, and writing. Reading is an important language skill because without it people cannot get the variety of information which is obtained through reading newspapers, textbooks, and magazines. According to Harris et al. (1980:5), "Reading as a process of meaning elaboration or thinking in relation to written symbols". The recognition and comprehension written

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symbols are influenced by reader's perception skill, experience, language background, mind sets and reasoning abilities as they anticipate meaning on the bases of what has read.

Reading is followed by comprehension because every reader has to comprehend what he or she read to get information from the text. The teacher's instruction in teaching and learning process is needed to help students understand about what they read. Hornby (1974:711) explains, " Reading is the act of one who reads knowledge of books: the ways in which something is interpreted, while comprehension is the act of understanding". Through reading, one can increase his experience, develop new concept, solve his or her problem, which are needed to ensure continuing personal growth and adopt the change in the world yet the importance of reading has not been realized by most of our society.

There are many kinds of reading techniques that can be used to improve students' reading comprehension. In this research, the researcher tried to apply Just-in-Time Teaching technique to gain students comprehension. JiTT is a part of blended learning which is a formal education program in which a student learns at least in part through delivery of content and instruction via digital and online media with some elements of students control over time, place, path, or pace. Novak et al. (1999) points out that Just-in-Time Teaching, originally developed for use in Physics Education which is an intentionally structured teaching and learning strategy that makes use of students' responses to web-based questions covering up-coming course material. This technique would be an effective way to use because by assigning *JiTT assignments* before class, the teacher receives important feedback on her students' knowlegde and understanding of the material. By reading students' responses, the teacher learns what difficuties students' have, what reading content and the words are students understand well. This technique is a teaching and learning strategy designed to promote the use of class time for more active learning. Students prepare for class by reading from the textbook or using other resources posted to the web and by completing assignments (called Warm-ups and Puzzles) online. The students' answers will be delivered to the teacher as an instructor a few hours before class starts by using internet based program called Edmodo.

At MTs Al-Istiqamah Ngata Baru, where English has been studied from the seventh to the ninth grade students, their reading comprehension still need to be improved because there are three common problems that students find in the field of education especially in reading English text. The first is that they usually find difficulties in comprehending the text if they do not know the meaning of some words in the text. Second, the students will get bored because of the activities and strategies in learning reading that appear to students are monotonous. At last, the lack of vocabulary can make students often fail to answer the questions from the passage itself.

Based on the explanation above, the researcher thought that there had to be an appropriate technique and media which will be helpful and interesting to develop students' ability in comprehending their reading text. In this case, the researcher tried to apply Just-in-Time Teaching technique in her research. The researcher formulated her problem statement as: *Can the use of JiTT technique improve the reading comprehension of the eighth grade students of MTs Al-Istiqamah Ngata Baru?* The objective of the research was to find out whether the use of JiTT technique in teaching reading can improve reading.

METHODOLOGY

The design of this research was pre-experimental that aims at proving whether or not the use of Just-in-Time Teaching technique can improve students reading comprehension of the eight grade students at MTs Al-Istiqamah Ngata Baru. There was one class only as the sample. The design of this research was taken from Creswell (2005:160) which can be seen as follows:

$$O_1 \quad X \quad O_2$$

Where O_1 = pre-test
X = treatment
 O_2 = post-test

The research design shows the use of pre-experimental research. There is the differentiation between this research design and another design which was the researcher only chose one class to get the treatment and no need a control class. In this research design there were three main points which the researcher had to do. They are pre-test (O_1),

treatment (X), and posttest (O2). Pre-test were given before treatment while post-test after treatment. Then, the researcher compared the result of pre-test and post-test.

The sample of this research was class VIII FB. To select it, the researcher used purposive sampling technique. The researcher used two variables referring to the title of this research. They were dependent and independent variables. The dependent variable was students' reading comprehension, while the independent variable was Just-in-Time Teaching Technique.

In conducting this research, the researcher used one instrument that is test. The test consisted of pre-test and post-test. The pre-test was used to measure students' comprehension level in reading before they were given the treatment. Post-test was used to measure the competence and the achievement of the students in reading after getting a treatment. In order to get the information about the students' prior knowledge, the researcher gave a test before delivering the treatment. There were 12 items of test in which 7 items for multiple choice and 5 items for essay test. The researcher used a scoring rubric to test students reading comprehension as in the following:

Table 1
Scoring Rubric of the Essay Test

No.	Explanation	Score
1.	Correct content, grammar, and spelling.	5
2.	Correct content and grammar; incorrect spelling.	4
3.	Correct content and spelling; incorrect grammar.	3
4.	Correct answer; incorrect grammar and spelling.	2
5.	Incorrect content.	1
6.	No answer.	0

Adapted from KTSP 2006

After giving the treatment for eight meetings, the researcher gave the post-test to the students. The purpose of post-test is to know whether the reading comprehension of the students improved by using Just-in-Time Teaching technique. In this case, the researcher made a test to the students by giving them reading text. To analyze students' individual standard score, the researcher applied formula which is design by Arikunto (2006) as follows:

$$\Sigma = \frac{X}{N} X 100\%$$

Where:

- Σ = standard of score
- X = raw of score
- N = maximum score

Secondly, the researcher computed the mean score of the students by using the formula proposed by Arikunto (2006:308) as follows:

$$M = \frac{\Sigma X}{n}$$

Where:

- M = the mean of the score
- ΣX = the sum of the score obtained by students
- N = the number of students

Furthermore, the researcher computed the mean deviation and square deviation by using formula proposed by Arikunto (2006) as follow:

$$Md = \frac{\Sigma d}{N}$$

$$\Sigma X^2 d = \Sigma d^2 - \frac{(\Sigma d)^2}{N}$$

Where:

- Md = the mean deviation of pre-test and post-test difference
- Σd = deviation of pre-test and post-test
- $\Sigma X^2 d$ = the sum of deviation squared in each subject
- Σd^2 = the sum of squared deviation
- N = The number of the students

After getting the result of deviation square, the researcher used t_{table} test to find out the significant difference between the result of pre-test and post-test. The researcher used the following formula proposed by Arikunto (2006:306):

$$t = \frac{Md}{\sqrt{\frac{\Sigma x^2 d}{N(N-1)}}}$$

Where:

- t = the value of $t_{counted}$
- Md = the mean deviation of pre-test and post-test difference
- $\sum x^2 d$ = the sum of deviation squared in each subject
- N = the number of students
- 1 = constant number

FINDINGS

The data of this research were analyzed statistically. The researcher examined students by giving them pre-test in order to know their prior knowledge in reading comprehension before getting the treatment. At the end of meeting the researcher gave post-test in order to know the effectiveness of the treatment.

The researcher administered test to students. The mean score of students' achievement in pre-test was 34,37. The mean score of students' achievement in post-test was 66,60. After getting the mean score of pre-test and pot-test, then the researcher counted the mean deviation and the square deviation. The result is presented in the following table

Table 2
Deviation Score on Pre-Test and Post-Test

No	Students Initial	Test		Deviation	Square Deviation
		Post-test	Pre test		
1	NA	71,88	43,75	28,13	791,29
2	ARM	75	37,5	37,5	1406,25
3	NSN	75	37,5	37,5	1406,25
4	NHM	56,25	34,38	21,87	478,29
5	TAA	78,13	40,63	37,49	1405,5
6	ANL	56,25	34,38	21,87	478,29
7	MN	62,5	46,88	15,62	243,98
8	FNA	62,5	21,88	40,62	1649,98
9	MIS	53,13	37,5	15,63	244,29
10	JF	71,88	25	46,88	2197,73
11	NJ	75	21,88	53,12	2821,73
12	AM	71,88	28,13	43,75	1914,06
13	HK	71,88	28,13	43,75	1914,06
14	AF	59,38	34,38	25	625
15	UK	75	43,75	31,25	667,18
16	UW	50	34,38	15,62	243,98
T o t a l		1065,66	550,05	515,6	18487,86
Mean Score		66.60	34.37		

From the table 2 above, it can be seen the highest score of pre-test was 46.88, while the lowest score was 21,88. The result of pre-test indicated that there was a problem on student' reading comprehension before getting the treatment. Meanwhile, the highest score of post-test in reading comprehension was 78.13, while the lowest score was 50. It means that there was an increased score in post-test after the researcher gave the treatment. The result of the computation indicated that there was a significant difference between students' mean score in pre-test and post-test. The students' mean score of post-test was 66.60 and the students' mean score in pre-test was 34.37. it proved that the students' achievement has improved.

After counting the mean score on pre-test and post-test, the researcher computed the deviation which was 32.22. After finding the mean deviation of pre-test and post-test, the researcher computed the sum of square deviation. The computation was 11.548. from the calculation, it was found that t_{counted} was 11.548. Then, the researcher compared the value of the t_{counted} with the value of t_{table} by applying the level of significance 0.05 and degree of freedom (df) = (16-1). It is found that t_{counted} (11.548) was greater than t_{table} (1.753). It means that the research hypothesis is accepted. In conclusion, applying Just-in-Time Teaching technique can improve reading comprehension of the eighth grade students of MTs Al-Istiqamah Ngata Baru.

DISCUSSION

In conducting this research, the researcher applied Just-in-Time Teaching (JiTT) technique to improve students' reading comprehension. The mechanics of JiTT began with the teacher posted reading text and gave a number of queries (commonly called "warm ups") on a course web site prior to each class meeting. Students must log on and post replies by a certain deadline. Each question has a time limit to answer. If the students passed the specified time limit, the question is automatically locked and students are no longer able to answer the question. This is can train students' skills in scanning and skimming a reading text. Teachers reviewed the student replies before class and made students' response as the material that can be discuss in the class. This technique can increase learning during classroom time, to enhance students' motivations, and to encourage students to prepare for class. In this research, the researcher chose reading

material from the internet which are the story from national and international fable so that can make students more interest to read. The researcher used Edmodo to upload reading materials for students and asked them to read it, then there are some questions that the researcher gave to the students to check their understanding.

To conduct this research successfully and correctly, the technique of data collection were systematically done before analysis and conclusion were made. They were pre-test, treatment, and post-test as mentioned and explained previously. It can be seen they were discussed together in order to solve some weaknesses that found during the teaching and learning process. The students are very enthusiasm to follow every step of Just-in-Time Teaching technique and being active in the classroom. The researcher noticed that the teacher used both English and Indonesian in presenting the material.

In her research, the researcher gave the treatments for eight times. But, before that activity was done, she administered a pre-test. When the students got the test, they still had no clue about the text. They did not understand the text because there were many unfamiliar vocabularies for them. Nevertheless, they kept answering the questions in the test given. They should do this step to measure their ability in comprehending reading. By seeing the result, it could be known that the highest score was 46,88 and the percentage was 0.06%. On the other hand, the lowest score was 21,88 and the percentage was 0.12%.

After administering pre-test, the researcher moved to the next step. She gave treatments for eight meetings. In the first meeting, the students were given a text in form of narrative. The researcher tried to describe about the steps to in applying the technique. Unfortunately, there were many students which are still confused with the application of JiTT because this technique was still new for them. Then the researcher made an example for them by logging on to the Edmodo application and explained them how to use it. Furthermore, the researcher uploaded the reading text and gave them some questions in form of multiple choices for 7 questions and 5 questions for essay to test their reading comprehension. Then asked them to turn in their answer at a set of time which are given by the researcher.

In the second and third meetings, the researcher took the data from students answer in Edmodo and tried to discuss their answers in the class with them. The researcher asked them some questions related to their answer. Many of them still felt afraid of

speaking and telling their opinion. Then, the researcher confirmed the true answer and guided the students to make a conclusion from it.

After discussing their answer from “Warm-up questions” which are given before the class by using Edmodo, the researcher gave another narrative text to the students. Then the researcher asked them some questions related to the text but only three of them could answer the questions bravely. Furthermore, the researcher found it very hard for the students to understand her explanation. That is why the researcher thought that she needed to be patient in teaching because besides they were lack of vocabulary, they also had not really usual with the activity of reading comprehension yet. But the most common problem was that they were lack of vocabulary. There were many unfamiliar words that they found in the text made them could not answer the questions perfectly. Again, the researcher explained the unfamiliar words in the text to the students to help them increasing their knowledge of vocabularies. In answering the students’ question about the meaning of any difficult words, the researcher did not tell the meaning directly, but she gave any example based on the context of the words they asked.

In the fourth and fifth meetings, they started understanding the way to apply the technique, the reading content, and the unfamiliar words. They also could share their thought and could express their idea about the text. Based on this fact, the researcher believes that there was a progress of the students’ ability in comprehending reading text.

The improvement was clearly seen in the sixth until eight meetings. The students were able to express their idea about the text. Their comprehension of the text increased. It could be seen by their ability in guessing the meaning of some unfamiliar words in the text. Therefore, they could answer the questions of the test given confidently.

After conducting the treatment, the researcher finally administered the post-test to the students. It could be concluded that the students had a positive progress in the post-test than in pre-test. The highest score was 78.13 and the percentage was 0.06%. On the other hand, the lowest score was 50 and the percentage was 0.06%. Based on the findings it indicated that the application of Just-in-Time Teaching technique could improve the students’ reading comprehension.

CONCLUSIONS AND SUGGESTIONS

After discussing and analyzing the data, the researcher comes to a conclusion that the application of Just-in-Time Teaching technique can improve the reading comprehension of the grade VIII students at MTs. Al-Istiqamah Ngata Baru. There was a significant difference between the students' score before (pre-test) and after the treatment (post-test). The students had positive progress when they were treated for eight times. It was proved by looking at the comparison between the score in pre-test and post-test. In pre-test, the score was 34,37 while in post-test, the score gained 66,60. By applying t-counted formula and comparing it with t-table, the researcher can conclude that the hypothesis of this research was accepted.

Dealing with conclusion the researcher provided some suggestions that may be valuable for those who involve English in teaching and learning process. First, it is very useful to apply some techniques to help students in comprehending reading text. Just-in-Time Teaching technique is one of many techniques that can be used in teaching. Second, in comprehending reading, it is suggested to use narrative text as the medium. This kind of reading text is easy to read because it really entertains the reader. This text will be suitable for students in junior high school. Third, explanation about unfamiliar words to the students can help them understand the text. It can gain their stock of vocabularies. The meaning should not be told directly to the students but the teacher should provide any example in explaining the meaning. Fourth, the significance difference of the data from pre-test and post-test indicated that Just-in-Time Teaching technique is an applicable technique in improving students' reading comprehension. Therefore, the teacher should note this technique and integrate it into reading instruction but remember that the teacher should describe to students the purpose of JiTT, what their role is, and how their participation is essential for success. This should be done not just at the beginning of meeting, but repeatedly throughout the class. Last, the students should put a great motivation in learning reading comprehension because motivation is one of determinant factors to learn English successfully.

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