



The Effectiveness of Using Semantic Mapping to Enrich EFL Learner's Reading Comprehension

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Abstract: This study employs quasi-experiment design. The population of this study was 51 students consisting of 25 students from class VII-A as experimental class and 26 students from class VII-B as control class. In this study, the pre-test, treatments, and post-test given to both experimental and control classes. The data were analyzed by using T-test for using SPSS 16.00 Windows to know the significant difference of the students' reading comprehension text between experimental and control class. The effects of using semantic mapping strategy to enrich EFL Learners' reading comprehension at the seventh grade students of SMP IT Asy-Syadili Pakis gives significant differences in students' reading comprehension text. This is proven by the mean score of post-test of the experimental group and the control classes. Based on the output of independent samples T-test by using SPSS, the sig. score (2-tailed) was 0.00, in this research the significant level was 0.05 ($p=0.05$). So the result of the sig. score (2-tailed) was lower than 0.05, this means the H_0 was rejected. It meant that the alternative hypothesis (H_1), which was "The students who are taught using semantic mapping were better scores in reading comprehension text than those who are not taught without semantic mapping", was accepted.

Keywords: reading comprehension, semantic mapping.

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Introduction

Semantic mapping is a simple method that is used to help students easily to understand about a reading text with thought a series of cores assembled into an understanding. Jones (2006) states that semantic mapping is a visual strategy, which shows the major ideas of a certain topic and how they are related (Jones, 2006). In learning teaching reading, semantic mapping helps teachers to get students to focus not just on individual details but also on the structure of a text and helps in the conceptualization of paragraph and short essay structure. Thus, semantic mapping is a simple method that displays the interrelationships among ideas, and the components of the story.

The researcher intended to investigate semantic mapping technique in reading comprehension because of the several reasons. At present, English subject is a compulsory skill to be taught in all secondary schools while in all primary school is only subjected extra (*muatan lokal*) in Indonesia. The learning outcomes for English language curriculum, English have four language skills, they are listening, speaking, reading and writing. These four skills are the core of the curriculum. Therefore, the researcher only chooses reading skill to this study. Reading skill is still one of the most important aspects to be taught in school. Besides reading can help Learners use these skills to communicate with people, obtain information and present information, respond to the literary texts, and express themselves creatively.

Reading is an important skill to help people learn any kind of knowledge and experience. Through reading, knowledge has greatly contributed to the growth of mankind. Reading is fastest and simplest way to raise people's education level, (Hung & Tzeng, 2007). Reading is like opening the door of understanding to human and also stimuli the development to brain cells, reinforces language skills, enhances organizational abilities, improve one's temperament and poise, and provides strength to endure frustration. In short, reading is the best way to enrich knowledge, new experience and replace old views.

Reading comprehension is the ability away to read text, process it and understand its meaning. An individual's ability to comprehend text is influenced by their traits and skills, one of which is the ability to make inferences. If word recognition is difficult, students use too much of their processing capacity to read individual words, which interferes their ability to comprehend what is read. To solve student's difficulties, there are a number of approaches to improve reading comprehension, including improving one's vocabulary and reading strategies.

Education world in Indonesia often found students fall behind in reading skills never catch up with their peers become to fluent readers. They fall further and further behind in school, become frustrated, and drop out at much higher rates than their classmates. They find it difficult to obtain rewarding employment and are effectively prevented from drawing on the power of education to improve and enrich their lives.

In SMP ASY-SYADZILI Pakis which is classified as junior high school, the researcher has found many error experiences in understanding the reading text. That problem is affected by some factors, such as: first the students feel bored, second students have difficulties to understand the meaning of reading text, and the last the teachers do have not any strategies in teaching reading. Thus, those problems became the basic problems that would be to solve in the teaching of reading at SMP ASY-SYADZILI Pakis especially at the seven grade students.

Moreover, learners are expected to read difficult texts as they move to higher forms. They found texts complex and difficult for them to comprehend as they move from one level to another level. Most of the texts require learners' thought and individual construction of meaning. In these days, the text contains various genres and subject matters which challenge the reader to understand. The texts that are read by the learners at present are more diverse than those used in the old days or several decades ago. Formerly, reading skills was taught for the instructional purpose and learners are only exposed to narrative, expository and descriptive genres. While, these days students are expected to read a variety of text which differ in content, and readability. These varieties of text make the learners much more difficult to read and comprehend the text. On this premise, it is important to the learners

especially SMP ASY-SYADILI Pakis to move beyond the text and use semantic mapping strategy when they engage with the longer and more complicated reading texts.

Apart from that, another reason to examine the effectiveness of semantic mapping strategy and reading comprehension is that reading remains as one of the skills that are tested in examination and it can be used to interpret students' performance. Most of students are having problem in acquiring reading. It is important for students to use some useful strategy when dealing with reading comprehension. In reading comprehension students are good enough in factual comprehension. However this is the lowest level of understanding because these students just have to reproduce the words of the teacher in answering the questions in examination. Since the students are no longer at primary level they are required to have a higher order of reading comprehension skills like inference and critical reading for their examination or assessment. Most of the students are not good at inferring meaning because to get inferences from the reading, the reader must read understand implied meaning. Thus, exposing semantic mapping in reading comprehension will give some insight in students' performance in reading comprehension skill during examination.

In this case, reading is one of major problem for many learners in learning difficulties. Most of the learners were facing problem due to the lack of awareness in reading comprehension. They were unable to understand the complex reading text. In this sense, many studies have been carried out to understand the problems that students faced during their reading process. According to Arikunto (2008) many of language teachers reported that their students dislike reading.

There are several reasons why students dislike and are weak on reading. In order to quench the curiosity about the factors, which causes the weaknesses on reading skills among students, many interested party had conducted a research on this area. Among of them are Arbaiyah & Zaidah (2001) who found that students are less efficient in reading because they lack independence reading. These students always have problem in reading. In other words, if the students read rarely, they might have problem in acquiring vocabulary. Secondly, students are unable to use context clues to guess the word meaning. If the students come across with the difficult words, they tend to ignore the words and it makes them discouraged and stop reading. The last factor is that they do not converse in English outside the classroom; as a result they have less ability to express their idea in English.

Based on the research background above, the researcher would like to conduct research about the effectiveness of using semantic mapping to enrich learners reading comprehension. So, it is to help students to solve many problems that facing by students in understand reading and also exposing semantic mapping in reading comprehension will give some insight at seventh grades students of SMP ASY-SYADILI Pakis in enrich students' performance in reading comprehension.

Method

In this study, the researcher decided to use quasi - experiment design because the study was in the natural setting but variables were isolated, controlled, and manipulated. The quasi experiment design used was non-equivalent of pretest and posttest design (Creswell, 1994: 132). It meant that in this research, the task of experimental and control group was not randomly sampling. Both groups got pretest and posttest and the experimental group was treated. The following is the diagram of this experimental model:

Table 1. The schematic of the quasi-experimental design.

Group	Pre-test	Treatment	Post-test
Experimental	O ₁	X	O ₂
Control	O ₃	-	O ₄

(Cohen et.al, 2007: 170)

Note:

- O₁ : Pretest of experimental group
- O₂ : Posttest of experimental group
- O₃ : Pretest of control group
- O₄ : Posttest of control group
- X : Treatment
- : No treatment

This study conducted in SMP AST-SYADILI Pakis, Malang. The researcher was working in the particular school and teaching two classes especially seventh grades of junior high school. VII A and VII B class are chosen class that would like do research. Class VII A is chosen as the experimental group which is taught using semantic mapping while class VIII B is chosen as the control group which is taught without semantic mapping.

For research instrument the researcher used a test. The test used to obtain the data of reading comprehension. In this study, the researcher used pretest and posttest score to obtain the data.

Table 2. Research instrument and variables to measure.

Instrument	Variables to Measure	Function
1. Pre-Test	Reading comprehension before treatment	As a test of Homogeneity and to know the students' basic ability on reading achievement
2. Post-Test	Reading comprehension with semantic mapping after treatment	To decide the effectiveness of the study

The data would be analyzed based on the data collection from the instruments of the research. The data found in this research was compared by T-test to find the significant difference result of pretest and posttest. In the other hand, the researcher used Inter-rater to measure inconsistent scores of the same test, possibly for lack of attention to scoring criteria, inexperience, inattention, or even preconceived biases. To know the consistency between Rater 1 and Rater 2, and result of analysis T-test the researcher used SPSS.

Results

Correlations Rater I and Rater II

Table 3. Consistency between Rater I and Rater II

		Correlations	
		Posttest A	Posttest B
Posttest A	Pearson Correlation	1	.992**
	Sig. (2-tailed)		.000
	N	51	51
Posttest B	Pearson Correlation	.992**	1
	Sig. (2-tailed)	.000	
	N	51	51

**** . Correlation is significant at the 0.01 level (2-tailed).**

Based on the table of correlation (Table 3), it can be seen that the consistency value between rater I (Posttest_A) and rater II (Posttest_B) is 0.992 means the measurement of students' score in posttest is highly consistent both of the raters. It is because a reliability coefficient can go as high as +1.00 for a perfectly reliable rater and can only go as low as 0.00. Hence, based on the result above, it can be stated that both of the raters almost have the same perception about the criteria scoring rubric of students' reading comprehension.

The Hypothesis Testing

After conducting tests of normality and homogeneity, the next step is to test the hypothesis based on the analysis of independent sample t-test by using SPSS Windows 16.00. The results of independent sample t-test can be seen on the Table 4 and Table 5.

The criteria of hypothesis test as follows:

- If sig > 0.05 so Ho is accepted
- if sig < 0.05 so H0 is rejected.

Ho : There is no significant effect of morphological awareness training in acquiring vocabulary between control group and experimental group.

H1 : There is a significant effect of morphological awareness training in acquiring vocabulary between control group and experimental group.

The Independent Sample T-Test (Pre-test)

The Table 4 is the result of independent sample t-test before the treatment (pretest) using SPSS 16.0 for windows.

Table 4. The independent sample T-test (pre-test).

		Independent Sample Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Test_ Score	Equal variances assumed	.018	.894	-.602	49	.550	-1.50923	2.50783	-6.54890	3.53044
	Equal variances not assumed			-.602	48.912	.550	-1.50923	2.50795	-6.54938	3.53092

Table 4 in column Levene's Test for Equality of Variances indicates the F-test score was 3.795, and the score of sig. column was .057. Because $\text{sig } 0.057 \geq 0.05$, this means the H_0 was accepted, it meant that the variant in each group is similar or homogeneous. So it can be said that the score of students' reading comprehension by using a semantic mapping (experimental class) and without semantic mapping (control class) that is for individual homogeneous or similar. While in column T-test for Equality of Means indicates the score the sig.(2-tailed) t-test was 0.550. This score was higher than 0.05 ($p > 0.05$) so H_0 was accepted. It means that both of group was no significant effect of using semantic mapping to enrich EFL Learner's reading comprehension.

The Independent Sample T-Test (Post-test)

There were two ways to answer the hypothesis. First, by comparing t_{count} and t_{table} . If the t_{count} positive ($t_{\text{count}} > t_{\text{table}}$) means that there was a significant difference between experimental group and control group. Whereas, if the t_{count} negative ($t_{\text{count}} < t_{\text{table}}$) means that there was a significant difference between experimental group and control group. The t_{table} can be showed on appendix 6. Second, by comparing sig.score (2-tailed) or p score. If p score < 0.05 , it means that there was a significant effect of using semantic mapping to enrich EFL learner's reading comprehension between control class and experimental class. The following is the result of independent sample t-test after the treatment (post-test) using SPSS 16.0 for windows.

Based on Table 5 indicates the t_{count} for post-test score for equal variances assumed the t_{count} positive was 16.837 higher than t_{table} 2.021, so the H_0 was rejected. It means that there was a significant differences between two classes who taught by using semantic mapping and without semantic mapping.

Next, based on the table of Tests for Equality of Means it can be seen that independent samples T-test find the comparing Sig. score (2-tailed) was 0.000 Where it is lower than 0.05 (an alternative alpha level). It means that there was a significant effect of using semantic mapping to enrich EFL learner's reading comprehension between control class and experimental class.

Table 5. The independent sample T-test (post-test).

		Independent Sample Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Test_ Score	Equal variances assumed	3.795	.057	16.837	49	.000	31.12308	1.84847	27.40844	34.83771
	Equal variances not assumed			16.983	42.413	.000	31.12308	1.83262	27.42577	34.82038

From the result, it could be concluded that there was a significant effect of using semantic mapping to enrich EFL learners' reading comprehension in seventh graders students at SMP IT ASY SYADILI Pakis, it can be seen at the sig. score (2-tailed) was 0.00. It was explained that the experimental class was taught using semantic mapping in reading comprehension, while the control class was taught without semantic mapping. Based on the sig. score, it was lower than 0.05 ($p < 0.05$). Consequently, the null hypothesis (H_0) was rejected and H_1 was accepted. It meant that the alternative hypothesis (H_1), which was "The students who are taught using semantic mapping have better in reading comprehension text than those who are not taught without semantic mapping", was accepted.

Summary of Finding

This section discussed the results and findings of the Pre and Post test between experimental class by using semantic mapping and control group without semantic mapping. It clearly highlighted the result of pre and post test indicated that the semantic mapping technique is an effective tool for reading comprehension. It can be seen in increasing value of pre-test to post-test. The increase of mean score from pre-test mean score of experimental group is 34.44 or 34% while the increase of the mean score of control class is 1.80 or 2 %, it is not significant like experimental class. The increase of the mean score of reading comprehension using semantic mapping is higher than the group which is taught without semantic mapping. As mentioned earlier, this technique there is a significant effect to enrich EFL learners' reading comprehension. Students became engaged in the reading comprehension task easily through the semantic mapping.

Besides, the significance effects of using semantic mapping to enrich EFL learners' reading comprehension can also be seen in the summary of Analysis T-test for using SPSS 16.00 For Windows, it was known that the sig. score (2-tailed) was 0.00, it was lower than 0.05 ($p < 0.05$). So, "Ho was rejected" and the alternative hypothesis (H_1), which was "The students who are taught using semantic mapping were better reading comprehension text than those who are not taught without semantic mapping", was accepted.

In this study, the semantic mapping training has a significant effect in enriching EFL learner's reading comprehension. It indicated that semantic mapping activate their prior knowledge. Many

linguists (Carell, 1998; Koda, 2004) granted that the activation of prior knowledge will help readers to attain better comprehension of the text to be read. This is because this strategy will facilitate readers in making predictions and interpret the text content by relating the new information to their prior knowledge. Therefore, the implementation of semantic mapping in reading will be more efficient and the readers will be able to attempt the reading comprehension easily.

Conclusion

The effects of using semantic mapping strategy to enrich EFL Learners' reading comprehension at the seventh grades students of SMP IT Asy-Syadili Pakis gives significant differences in students' reading comprehension text. This is proven by the comparing mean of post-test of the experimental group and the control group. Based on the output of independent samples T-test by using SPSS, the sig. score (2-tailed) was 0.00, in this research the significant level was 0.05 ($p=0.05$). So the result of the class sig. value was lower than 0.05, this means the H_0 was rejected. It meant that the alternative hypothesis (H_1), which was "The students who are taught using semantic mapping have better in reading comprehension text than those who are not taught without semantic mapping", was accepted.

From the result above, it could be concluded that there is a significant effect of using semantic mapping to enrich EFL Learners' at seventh graders students of SMP IT Asy-Syadili Pakis. Teaching reading comprehension skill by using semantic mapping is more effective than without taught semantic mapping.

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