Volume 5 No. 2, August 2022 *P-ISSN 2623-0062*
Universitas Banten Jaya *E-ISSN 2622-9056*

THE REALIZATION OF SEMANTIC MAPPING STRATEGY IN READING OF ENGLISH FOR FOREIGN LANGUAGE CLASS IN SMK BARDAN WASALAMAN BATANG

S. Thoriqul Huda[1], Sutinnarto[2], Haris Hamdani[3]
Universitas Selamat Sri, Universitas Bhayangkara
Jakarta Raya, Kendal, Bekasi, Indonesia
s.thoriqulhudaunissbatang@gmail.com
sutinnarto@gmail.com
haris.hamdani@dsn.ubharajaya.ac.id

ABSTRACT

The purpose of this study is to obtain a better understanding of the effectiveness of Semantic Mapping strategies for teaching reading comprehension in second grade students of SMK Bardan Wasalaman Batang. The research question is whether Semantic Mapping strategies are effective in Reading of English for Foreign language Class. Forty-two eleventh grade of in SMK Bardan Wasalaman Batang was chosen as a subject and divided equally into two groups; one group is the experimental group and the other is the control group. There are several procedures carried out in data collection to answer research questions; first, a pre-test is given before the experiment is performed to ascertain whether there are no significant differences in English proficiency in two subject groups of the lesson. Subjects are required to complete a reading comprehension test consisting of forty-five multiple-choice tests within ninety minutes. Second, after the experiment, a post-test was carried out using the same test for the pre-test. Finally, the t-test was utilized to determine whether there were significant differences in the achievement of reading comprehension between the two groups. The data showed that there were significant differences in the achievement of reading comprehension between the experimental groups - treated with Semantic Mapping strategies and the control group taught with KWL strategy. It means that the Semantic Mapping Strategy is more effective than KWL Strategy. The data indicate that there is significant difference in reading comprehension achievement between the experimental group - treated and Semantic Mapping strategy, and the control group taught with KWL strategy. It means that Semantic Mapping Strategy is more effective than KWL Strategy.

Keyword: *Semantic Mapping Strategy, Reading Comprehension, Foreign Language.*

INTRODUCTION

The importance of reading in teaching English is not only perceived in our country, which considers English as a foreign language but is also perceived in other countries which consider English as the second language. Khooi and Sharififar (2013) explained that "vocabulary is an essential element of language skills that provides an important foundation for effective communication between students". Learners can explore the vocabularies that they want to know more. Wang (2018) stated that learning a word well engages more than just recognizing its meaning in a particular context. Learners need to read some texts in order to gain many vocabularies in all aspects. According to Hart (2017) a strong ambition of some non-native English writers is to improve their vocabulary. One of the best ways to recognize it is through reading as much as possible.

In addition, reading is especially necessary for high school students, because after graduating from vocational school they can continue their studies at universities, where students are usually required to have sufficient reading skills, since the material covered is mostly written in English. Based on the national education system in Indonesia, English is taught in the curriculum from middle school to university. Generally, as conveyed in a curriculum (Kurtilas revision), "English language competence in SMA/MA and SMK/MK that can be provided to students in three types of texts, [1] functional, [2] interpersonal and [3] transactional in spoken and written context. "(Kemendikbud, 2016). If they do not have good reading skills in English they may fail in their study; they may find it difficult to read and get enough information from materials written in English that their lecturers ask them to read.

Reading comprehension, which is considered as important language skill, can be defined as an integrative, active process that readers try to relate what they read with what they had known about the topic (Diptodadi, 1992). This definition is influenced by schema theory, which seeks to explain how new information from a text is integrated with the reader's prior knowledge and thus affects the comprehension process. This theory suggests that information which is received and learned is stored in the memory of network or categories called schemata.

Second, whereas events and concepts in memory are organized according to semantic relationships, concrete instruction emphasizes meaningful relationships between old and new information will have a specific influence on the schema building process. Third, as a method of instruction which identifies an organizational framework facilitate schema building, students should be trained in using strategies which represent information in an organized way, such as graphic organizers. Since the various components of schema are organized in the network of interrelated concepts, and since words are labels for the concepts, it can be concluded that words are saved in semantically related networks.

Research has shown that individuals tend to remember words compatible to the semantic way in which they are theoretically mapped. Zaid in Emor (2012) stated that semantic mapping is an effective method when teaching vocabulary and text patterns in an organization and is also effective for developing creative thinking skills. In a general sense, semantic mapping is a portrayal of science and as an image of conceptual relationships. In the technique, students are required to think of ideas or

words related to the central word. For instance, the teacher provides elephant as the central word. He asked students to think the word according to it. Students are able to find words such as small, big body, brown, four legs ground and so on. Then, the teacher and students make a category the words. These categories are able to be in the form of habitat, size and characteristics physically. Dilek (2013) stated that semantic mapping is the process of creating visual representations of classifications and their relations. It is a categorical structure of information in graphic form. It is a method which guides students to connect new words with their prior experiences and own knowledge.

Khoii and Sharififar (2013), explained that semantic mapping is a visual technique in vocabulary extension and expansion of knowledge by showing in classifications connected to other words. There are two aspects of semantic mapping in learning and teaching language, they are conceptual and visual. Gaut (2002) explained that when teaching vocabulary, semantic mapping can be utilized as a means for students to find the relation between vocabularies.

The scope of the Study For the purpose of the study the writer chose the students of SMK Bardan Wasalaman Batang, Batang in Academic Year 2021/2022 to be the subject of the study, whereas the samples were taken from the First year students of SMK Bardan Wasalaman Batang. There are five- first-year classes in SMK Bardan Wasalaman Batang in the Academic Year of 2021/2022, and each of the class has about thirty-students. The researchers took forty students of those five classes, twenty students were treated as the experimental group, and the other twenty students were treated as the control group. The selection of samples was conducted by utilizing the simple random sampling.

The objectives of the study with regard to the research question, the objective to be achieved in this research is to know the effectiveness of Semantic Mapping strategy when teaching Reading Comprehension in the First year students of SMK Bardan Wasalaman. 5. Significance of the Research The result of this research may, hopefully, be able to offer a contribution to the English teachers, especially the ones teaching in SMA level, in using language teaching strategies. More specifically, the significances of the study are elaborated as follows a. to suggest English teachers at SMK Bardan Wasalaman to use various kinds of strategies in teaching reading comprehension; b. to give alternatives strategies in teaching reading

comprehension; c. to stimulate other teachers to conduct similar experiment by using different strategy . 6. Definitions of the Terms Used in this Study Some specific terms are used in relation to this study. To provide clear understanding of the terms, it is necessary to provide an explanation of each of them : 1. Semantic Mapping : A arrangement graphically showing how the major and minor ideas are formed in written works.

Reading texts related to the topic/ theme in the basic course outline of the First year students of SMK Bardan Wasalaman in the first term. 1. Importance of Background Knowledge in the Learning Process. So prior knowledge can be utilized as a stepping block to new science. This phase allows the teacher to see the level of readiness for each student in the new subject. As a technique for students to incorporate what they have learned in the reading. As they read, students write down new information they get from the text and decide what to add or remove from the pre-reading map. New information is thus combined with previous knowledge. As a post-reading strategy for them to combine or synthesize what they have studied. After reading, students discuss the information gained from the passage and how to modify the pre-reading map. The final shape of the map is decided by the class as a whole. It gives as a visual representation of the knowledge they got from the reading. 5. Hypothesis In developing a hypothesis for scientific investigation, it is necessary to assure a null hypothesis (Ho) which indicates that there is no difference between mean grade of the experiment and control groups, and alternative hypothesis (Hi) which predicate the relationship between two variables. In this study , it is hypothesized that Semantic Mapping would prove to be a more effective strategy to teach reading comprehension than KWL Strategy of SMK Bardan Wasalaman Batang, in the Academic Year 2021/2022 to be the subject of a study, whereas the samples were taken from the First year students of SMK Bardan Wasalaman Batang.

METHOD

The subjects of this study were the first year of students of SMK Bardan Wasalaman Batang, in the Academic Year 2021/2022. There are one hundred and forty five students grouped in five classes; X Pharmacy students are 36, II Pharmacy students are 32, II Pharmacy students are 34, II Accounting students are 25, and II Accounting students are 23. The writers chose this school because the foundation of the Vocational school has a great focus on language learning - teaching, particularly

English. Besides IPA and IPS programs, the school also runs special program for language development – Language Program for the Third Year students, which is facilitated with a set of language laboratory.

While sampling is a process of choosing a number of individuals for research in such a means that the individuals serve the larger group which they were chosen Sampling is selecting a number of individuals in processing for study in the way that these individuals serve the larger group in which they are chosen. (Sax :1987) The sampling technique utilized in this study was simple random sampling. It was chosen to avoid the subjectivity in choosing the sample, since this technique gives the same chance to all populations to be chosen as samples. For this study, forty students were chosen as samples.

This refers to Arikunto (2019) that when the population is more than 100, the samples were chosen around 10 % - 15 %, or 20% - 25%. The procedure of the sampling is as follows : First, identifying all students in the second year classes, then, writing their names on pieces of paper - one piece for one name. Forty names of those students were taken randomly using Fish - Bowl Draw technique. The names of the students taken were the samples. Twenty students were as the experimental group, and the other twenty were as the control group. 3. Variables of the Experiment There are two variables considered in the experiment. a.

The design of research is the Control Group Pretest-Posttest Design (Arikunto, 2019) that can be shown in the table below:

Table 1. The Design of the Research

Group	Observation	Treatment	Observation
Experiment	O_1	X_1	O_2
Control	O_3	X_2	O_4

As it can be seen from the diagram, two groups were employed in this research ; one group, the experimental group, received the treatment (X_1) utilizing Semantic Mapping strategy, while the second group, the control group, was treated utilizing KWL strategy (X_2). Both groups were given a pretest (O_1, O_3) and a posttest (O_2, O_4). The independent variable is strategies used when teaching reading comprehension. The strategies are Semantic Mapping strategy, which was applied to the experimental group, and What One Knows, What One Wants to Know, What One

Learned (KWL) strategy to the control group. b. The dependent variable is the students' achievements in reading comprehension. 4. Instrument The instrument derived in this study is reading comprehension test.

DISCUSSION

The test was constructed to measure the students' mastery in obtaining the meaning of the text – in this case the ideational meaning of the text. The test is in the multiple form– choice test with five options. The test used consists of forty-five items and it needed ninety minutes to do the test. The material of the test covers five reading texts relevant to the themes suggested in the Basic Course Outline. It assessed the following skills : a. student's ability in finding particular information from the text; b. student's ability in getting the general picture of the text; c. student's ability in finding explicit and implicit main ideas of the text; d.

Before performing the treatment, the researchers gave homogeneity test for both groups, experimental and control groups, based on the average scores of pre-test. This test was done to know whether the two groups had a significant difference of variant or not.

The criteria of testing Hypothesis said that Accepted Ho, if $-t_{1-\frac{1}{2}\alpha} < t < t_{1-\frac{1}{2}\alpha}$, df = n1 + n2 – 2, it means that accepted Ho, if $-t_{0.975} < t < t_{0.975}$, df = 20 + 20 – 2 = 38, or –2.02 < t < 2.02.

From the homogeneity testing t = - 0.31985, is located between –2.02 and 2.02 or –2.02 < - 0.31985 < 2.02, so Ho is accepted, it means that there is no different means of pre-test for experimental and control groups, or in other words that there is no significant difference between the two groups.

Student's ability in finding all detail information from the text; e. student's ability in deducing a meaning of phrase and sentences in context; f. student's ability in interpreting references. 5. Design of Research The design of research is the Control Group Pretest-Posttest Design (Arikunto, 1998:86) that can be shown in the following diagram : Group _Observation _Treatment _Observation _ _Experiment _O1 _X1 _O2 _ _Control _O3 _X2 _O4 _ _Diagram 1 : Design of the research As can be seen from the diagram, two groups were employed in this research ; one group, the experimental group, received a treatment (X1) utilizing Semantic Mapping strategy, while the second group, the control group, was treated utilizing KWL strategy (X2). Both groups were given a pretest (O1, O3) and a posttest (O2,

O4). 6. Statistical Analysis of the Result of the Test The result of the research was calculated by the procedure that is commonly applied.

A t – test formula was used to know whether the difference is significant or not. The formula is shown as follows (Sudjana ,1996 :239) : t = _ 7. Testing Hypothesis Homogeny testing of experimental and control groups' post-tests was conducted by utilizing t-test formula to test the hypothesis of the research. The criteria of accepted hypothesis is as follows : If _, df = n1 + n2 – 2, it means that hypothesis is accepted if _, df = 20 + 20 – 2 = 38, or –2.02 < t < 2.02 (acceptance area). (Sudjana, 1996 :239).

Soon after completing the treatment given to the experimental group, the writer conducted post-test. The data gained from the result of the post-test were used to examine whether there is significant difference between the two groups, and to know which group has better achievement in reading comprehension.

The scores of post-test shows that the mean of the post-test of the experimental group is 77.6, while the mean of the post-test of the control group is 71,3.

Data analysis using *t-test* formula shows that t = 2.18. It doesn't lie between -2.02 and 2.02, or in other words that it lies outside the acceptance area. The criteria are accepted Ho, if $-t_{1-½\alpha} < t < t_{1-½\alpha}$, df = $n_1 + n_2 - 2$, it means that the accepted Ho, if $-t_{0.975} < t < t_{0.975}$, df = 20 + 20 – 2 = 38, or –2.02 < t < 2.02. $t_{calculation}$ = 2.18 is outside of the accepted Ho. So Ho was rejected. It means that there is significant difference between post-test means of the control and experimental groups. Because the mean of the experimental group is higher than that of the control group, the experimental group has better achievement in reading comprehension.

The result of the study shows that before the two groups of sample – experimental and control groups – were given the treatment, there was no significant difference. The mean of the pre-test of the experimental group is 62,2 while the mean of the pre-test of the control group is 63,0. It means that the mean of average score of reading comprehension of the experimental group and that of the control group are not significantly different. Meanwhile it can be seen from the Homogeneity testing that t = - 0.31985 is located between –2.02 and 2.02 or –2.02 < - 0.31985 < 2.02, so Ho is accepted, it means that there is no different means of pre-test for experimental and control groups. This means that the two groups had the same basic knowledge.

In this case they were ready to be given the treatment. The experimental

group was treated with 'Semantic Mapping Strategy', while the control group was treated by utilizing 'KWL Strategy'. After the two groups had been given the treatment, they were given the post-test. The mean of the post-test of the experimental group is 77,6, while the mean of the post-test of the control group is 71,3. It means that the mean of average score of reading comprehension of the experimental group is higher / better than that of the control group. Meanwhile statistical analysis using t-test formula shows that t = 2.18. It doesn't lie between -2.02 and 2.02, or in other words that it lies outside the acceptance area. The criteria used to know that Ho is accepted is ; if _, df = n1 + n2 – 2, it means that the accepted Ho, if _, df = 20 + 20 – 2 = 38, or –2.02 < t < 2.02. t calculation = 2.18 is outside of the acceptance area. So Ho is rejected. It means that there is significant difference between the two groups.

No	Code of students	Pre-test	Pos-test
1	X1	67	73
2	X2	62	78
3	X3	58	69
4	X4	60	78
5	X5	60	91
6	X6	73	71
7	X7	71	64
8	X8	67	87
9	X9	62	74
10	X10	60	64
11	X11	64	51
12	X12	58	71
13	X13	60	73
14	X14	62	78
15	X15	51	87
16	X16	58	78
17	X17	64	71
18	X18	60	73
19	X19	78	87
20	X20	51	71
	Average	62,2	77,6

Table 2. Scores of Pre and Post-Test Experimental Group

Table 3. Scores of Pre and Post-Test of the Control Group.

No	Code of students	Pre-test	Pos-test
1	Y1	64	64
2	Y2	64	74
3	Y3	62	73
4	Y4	68	84
5	Y5	62	71
6	Y6	87	64
7	Y7	64	69
8	Y8	68	64
9	Y9	56	60
10	Y10	68	60
11	Y11	62	64
12	Y12	60	73
13	Y13	57	67
14	Y14	68	73
15	Y15	57	73
16	Y16	57	82
17	Y17	71	78
18	Y18	38	58
19	Y19	60	73
20	Y20	64	78
	Average	63	71,3

This shows that the group of students taught with reading comprehension by using Semantic Mapping strategy got good accomplishment in reading comprehension than those in control group, taught reading comprehension by using KWL Strategy. It was found that Semantic Mapping is effective as an advance organizer to activate students' relevant background knowledge or schemata – thing that is needed to facilitate the learning and retention of new material. The activation of relevant background knowledge will activate other related information which will then aid comprehension.

Students with sufficient and proper background knowledge had better capability in inferring the meaning and information in the text they were reading. Dealing with how background knowledge is needed to facilitate learning and retention of new material, which will then aid comprehension, the following is the description of that case during the treatment of the experiment group and teaching the control group. In the first treatment, the brainstorming activities in 'pre-reading activity', did not run smoothly, only seven students proposed their ideas about the theme (Flora and Fauna), and some ideas and information were suggested in Indonesian.

This happened because the theme

was not very familiar to the students. They did not have sufficient background knowledge about 'Animal'. This problem continued to the following phase in 'during reading activity'. The same problem arose in the forth treatment when the students' practicing in the experimental group were discussing the theme 'Welfare – Social Rehabilitation' in England. Actually in brainstorming activity most of the students proposed many ideas about the theme, but when they came to the 'during reading activity', most of the ideas proposed by the students in 'pre-reading activity' were eliminated and must be replaced with ideas they found in the text that they had read. This happened because the students did not have sufficient background knowledge about welfare system in England – the theme that was being discussed.

And because of this the students got difficulties to comprehend the text. Meanwhile in the second treatment Batang Industrial Park', in the third-the theme is 'The Fourth Industrial Revolution, 4IR', in the third (the theme is 'Agriculture' – 'Irrigation') and especially in the fifth treatment (the theme is 'History' – 'National Heroes'), the discussion about those themes went very smoothly. All the students participated actively in the brainstorming phase in 'pre-reading activity'.

The ideas and information produced by the students were matched with the ideas and information they got from the texts they read in 'during reading activity'. 'Semantic Mapping' and 'KWL' are strategies used in teaching reading comprehension. The strength of 'Semantic Mapping' is in how this strategy is able to facilitate the students to activate background knowledge, and they can express their ideas orally so that it enables students to involve actively in the learning process, and it creates an interactive language learning. While the weakness of using 'KWL Strategy' is that the students tend to learn individually - working with their columns so that the learning activity is not interactive.

The other weakness of applying KWL strategy is that the students got difficulties in expressing their ideas – especially in W- column, because the ideas must be suggested in the form of a sentence – question or interrogative. Conclusion As stated in the problem statement of this study, that the main problem is whether Semantic Mapping strategy effective when teaching reading comprehension. Through the study which was conducted by writers, it has proved that the use of the Semantic Mapping strategy when teaching reading comprehension in the second year of Madrasah Aliyah Walisongo, Pecangaan, Jepara indeed provided good effect to

students' comprehension.

The experimental group demonstrated an improvement in performance. This improvement of the experimental group was statistically significant in the areas of reading comprehension, but the reverse occurred to the control group. Thus this study supports the hypothesis of the research that Semantic Mapping is an effective strategy for enhancing the reading comprehension skill of the First year students of SMK Bardan Wasalaman. Other values the writers got from the study of utilizing Semantic Mapping strategy when teaching reading comprehension are: Semantic Mapping is interactive because in drafting the map, students cooperate with each other both before and after reading activities.

Students are thus active participants in the creation of the map. The learning activity is student-centered because semantic mapping uses students' prior knowledge and because students directly enter each stage of structuring the map. 3. Semantic mapping is an integrative activity because it lets students connect prior knowledge with new knowledge.

Sub-finding and discussion 2

It was found that Semantic Mapping is effective as an advance organizer to activate students' relevant background knowledge or schemata – thing that is needed to facilitate the learning and retention of new material. The activation of relevant background knowledge will activate other related information which will then aid comprehension. Students with sufficient and proper background knowledge had better capability in inferring the meaning and information in the text they were reading.

Dealing with how background knowledge is needed to facilitate learning and retention of new material, which will then aid comprehension, the following is the description of that case during the treatment of the experiment group and teaching the control group.

In the first treatment, the brainstorming activities in 'pre-reading activity', did not run smoothly, only seven students proposed their ideas about the theme (Flora and Fauna), and some ideas and information were suggested in Indonesian. This happened because the theme was not very familiar to the students. They did not have sufficient background knowledge about 'Animal'. This problem continued to the following phase in 'during reading activity'.

The same problem arose in the fourth treatment when the students in the experimental group were discussing the theme 'Welfare – Social Rehabilitation' in England. Actually in brainstorming activity

most of the students proposed many ideas about the theme, but when they came to the 'during reading activity', most of the ideas proposed by the students in 'pre-reading activity' were eliminated and must be replaced with ideas they found in the text that they had read. This happened because the students did not have sufficient background knowledge about welfare system in England – the theme that was being discussed. And because of this the students got difficulties to comprehend the text.

Meanwhile in the second treatment 1(the theme is 'Batang Industrial Park', in the third-the theme is 'The Fourth Industrial Revolution, 4IR'-and especially in the fifth treatment (the theme is 'History' – 'National Heroes'), the discussion about those themes went very smoothly. All the students participated actively in the brainstorming phase in 'pre-reading activity'. The ideas and information produced by the students were matched with the ideas and information they got from the texts they read in 'during reading activity'.

CONCLUSION

As stated in the formulation of this research problem, that the main problem is whether the Semantic Mapping strategy is effective when teaching reading comprehension. Through research conducted by the researcher, it is proven that the use of Semantic Mapping strategies in learning to read comprehension at SMK Bardan Wasalaman Batang For the 2021/2022 indeed gave great impact to students' comprehension. The experimental group demonstrated an improvement in performance. This improvement of the experimental group was statistically significant in the areas of reading comprehension, but the reverse occurred to the control group. Thus this study supports the hypothesis of the research that Semantic Mapping is an effective strategy for enhancing the reading comprehension skill of the second year students of SMK Bardan Wasalaman Batang. Other values the writer got through the study of utilizing Semantic Mapping strategy for teaching reading comprehension are:

1. Semantic mapping is interactive because students work together before and after reading to construct the map. Students are thus active participants in the creation of the map.
2. The learning activity is student-centered because semantic mapping

uses students' prior knowledge and because students control the input at each stage of structuring the map.

Semantic mapping is an integral activity because it lets students connect prior knowledge with new knowledge.

REFERENCES

Arikunto, S. (2019). *Prosedur Penelitian: Suatu Pendekatan Praktik.* Jakarta: PT Rineka Cipta.

Dilek, Y., & Yürük, N. (2013). Using Semantic Mapping Technique in Vocabulary Teaching at Pre-Intermediate Level. *Procedia – Social and Behavioral Sciences*, 70 (0), 1531 – 1544.

Gaut, R. (2002). *Semantic Mapping Technique.* New York: Prentice Hall.

Hart, S. (2017). *Expand Your English: A Guide to Improving Your Academic Vocabulary.* Pokfulam Road: Hong Kong University Press.

Khoii, R, and Sharififar, S. (2013). *Memorization Versus Semantic in Second Language Vocabulary Acquisition.* ELT (2).

Novikov, A. M & Dmitry, A. N. (2013). *Research Methodology: From Philosophy of Sience to Research Design.* New York: CRC Press.

Pruzan, P. (2016). *Research Methodology: The Aims, Practices and Ethics of Science* Copenhagen: Springer.

Wang, I. S. (2018). *Learning Vocabulary Strategically in a Study Abroad Context.* Tianjin: Palgrave Macmillan