THE EFFECTIVENESS OF USING MIND MAPPING AS A LEARNING MODEL TO IMPROVE THE STUDENTS' ENGLISH VOCABULARY

Helmi
Helmi-fkip@uay.ac.id
Achmad Yani University

Article History:	

Abstract The purpose of this study was to examine the comparison between the vocabulary mastery of students who were taught using mind mapping techniques and students who were not taught using these techniques. Based on the results of preliminary observations and interviews with English teachers at local schools, there were several obstacles experienced by students in learning English. The main problem is the lack of mastery of English vocabulary that is owned by students so that they have difficulty communicating using English both spoken and written. Based on this problem, the researcher formulated the problem in this study, namely, how much influence is the mind mapping learning model to improve the English vocabulary of students in class VII at SMPN 35 Banjarmasin City. In this study, researchers are the main actors in applying the mind mapping learning model to the learning process in the classroom.

This research will use quasi experimental research. The population of this study were all of the seventh grade students of SMPN 35 Banjarmasin City. The author will take a sample using purposive random sampling in which students are divided into two groups. The research instrument that will be used to collect data in this study is a test. The test results are the scores of students from the experimental and control groups. The data of the research were then analyzed through paired sample t-test after normally test. Researchers used the SPSS version 21 application. Based on the findings of this research, mind mapping technique cannot give significance influence to the students' vocabulary mastery because significance value of wilcoxon analysis was bigger than 0,05. So the alternative hypothesis was rejected and null hypothesis is accepted. it can be concluded that mind mapping technique is not good learning model to apply in teaching English for junior high school.

INTRODUCTION

A.   Background

There are several factors that cause student difficulties in learning English. As a foreign language, English actually requires an effective method in the learning process, because the right method will greatly affect learning outcomes. One of these factors is the lack of vocabulary that is owned by students so that they find it difficult to understand written or spoken language. Saleh (2017) states in his book that "success in vocabulary mastery depends on how much vocabulary has been learned". In mastering a language, vocabulary mastery is an important basis for students. There are many ways that can make students interested in what they are learning, especially learning vocabulary. Memory sensors have an important role in learning vocabulary. Students need to balance the use of the left and right brain, so that the brain can work perfectly. The function of the right brain from human is for creativity and visual power, while the left brain's function is for logical and rational thinking.

Students may have difficulty learning a language if they have a limited number of words. Saleh (2017) argues, "Success in mastering a language is determined by the size of the vocabulary that has been learned." Thornbury (2010) adds "Students not only need to learn a lot of English words, but also to remind them one by one. To master all language skills, knowledge of vocabulary is important that students must know. English teachers must have techniques that make students interested in learning vocabulary. words by trying various methods or ways. There are many techniques to make students interested in what they are learning, especially in learning vocabulary. Brown (2010) says in his book: "Techniques are specific activities that are manifested in the classroom that are consistent with the method and therefore aligned with the approach. too."

Sensory memory has an important value in learning vocabulary. Students need to balance the use of the left brain and right brain. All brain functions must be

used as much as possible by students to think perfectly. The right brain is for creativity and visualization. The left brain is for logical and rational. Mind mapping as a learning model in teaching and learning process can combines the two and becomes the whole brain. It can stimulates the students' brain by drawing on the creative and logical side of it. According to DePotter and Hernacki, "Mind mapping uses visual and sensory reminders into patterns of related ideas". Mind mapping allows students to clarify their thinking by grouping and grouping related ideas. Starting with the student's main topic or theme as a central idea and allowing the main branch of mind mapping to represent the main points of their thinking (right brain) then combined with interesting colors and images (left brain) which stimulates the brain. Thornbury (2010) says, "Acquiring vocabulary requires not only labels but also categorizing skills." The writer chooses mind mapping as a technique to help students memorize words which are expected to improve their vocabulary skills easily. Based on the observations of researchers, at SMPN 35 Banjarmasin City, there were many students who had difficulty learning English, because there were so many words they did not know their meaning, so students often asked the English teacher to interpret them. This habit must be changed by students because it makes students forget the meaning more quickly because if they search for themselves it means that they can remember longer. So that the researchers concluded that the vocabulary of these students must be increased first so that the learning process can be more easily carried out by looking for learning methods that are attractive to students.

B.   Problem Formulation

The formulation of the problem in this research is whether there is an effect of using a mind mapping learning model on improving students' English vocabulary?

C.   **Objective of the Research**

This study aims to measure how much influence the mind mapping learning model has to improve students' English vocabulary in the learning process.

D.   Hypothesis

1.   Alternative Hypothesis   : Mind mapping technique in teaching and learning process will improve the students' English vocabulary.

2.   Null Hypothesis   : Mind mapping technique in teaching and learning process will not improve the students' English vocabulary.

E. Review of Related Literature

1. English Vocabulary

In class, vocabulary is presented as the first consideration before students learn something. According to an article published in the Journal of Language and Linguistic Studies, it is stated that Vocabulary is one of the most important elements among others while learning a new language. Because, learning a new language takes a place with acquisition of new words (Gargouri & Naatus, 2017). At least there are several things that must be considered in mastering vocabulary, namely age and environment. Student age is an important factor. Older students need more words to learn than younger students. Their curiosity was even greater than the younger ones. In fact, being older means that it takes more words to explore. The same works with purpose. By having knowledge of what the goal is, vocabulary mastery can be organized or designed to achieve the goal. The environment supports students in learning English vocabulary.

Mastering English vocabulary for Indonesian students will not be the same as mastering English for students from other countries. Indonesian does not belong to the same family as English, such as Dutch or German. Indonesian is different from English. This factor will affect the difficulty of learning English for most Indonesian students. In addition, Indonesian is bilingual.

Mastery of English vocabulary itself is closely related to the students' ability to acquire vocabulary. Henry and Pongrantz (2010), show that "mastering language means being able to understand vocabulary and phonological systems both orally and in writing". This means that learners learning English as a second language must understand the meaning of words and be able to apply them in sentences.

Beck, Perfitti, and Mckeown (2010) stated that: Everyone has two vocabularies. Anything greater than this is called a recognition vocabulary and consists of all recognizable words. in written and oral contexts. The second and smaller vocabulary consists of words that are actually used in everyday speaking and writing. The second vocabulary is called vocabulary which serves as a stock of words. The more a person can broaden his recognition of words, the greater his chances of enlarging his vocabulary. Shefelbine (2011) asserts that, whenever we think about language and language learning, we usually think of mastering the vocabulary of learning 'words'. Mastery of vocabulary cannot be denied in learning English, not only speaking skills of students, but also reading and writing them as well, because vocabulary is one of the most important elements to improve students' mastery of English vocabulary which can also be developed naturally by their experiences during life according to their needs and education.

2. Mind Mapping Concept

The concept of Mind mapping actually mimics the process of thinking where things might move from one topic to another. Recording information through symbols, pictures, emotional meanings and colors, or rather our brain processes. A pattern consisting of at least pictures, symbols and colors that will not only help students understand a knowledge of vocabulary, but also make students feel better and enjoy their brains so that there is interest in mastering the vocabulary. Buzzan states that mind mapping is a powerful graphic which provides a universal key to unlock the potential of the brain. Trianto (2009) describes that mind mapping can be divided into four forms, namely:

a. Tree network

The main idea made up of other words is written on connected lines. It is suitable for visualization of (a) cause and effect, (b) hierarchy, (c) series of procedures, (d) techniques that can be used to describe some relationships.
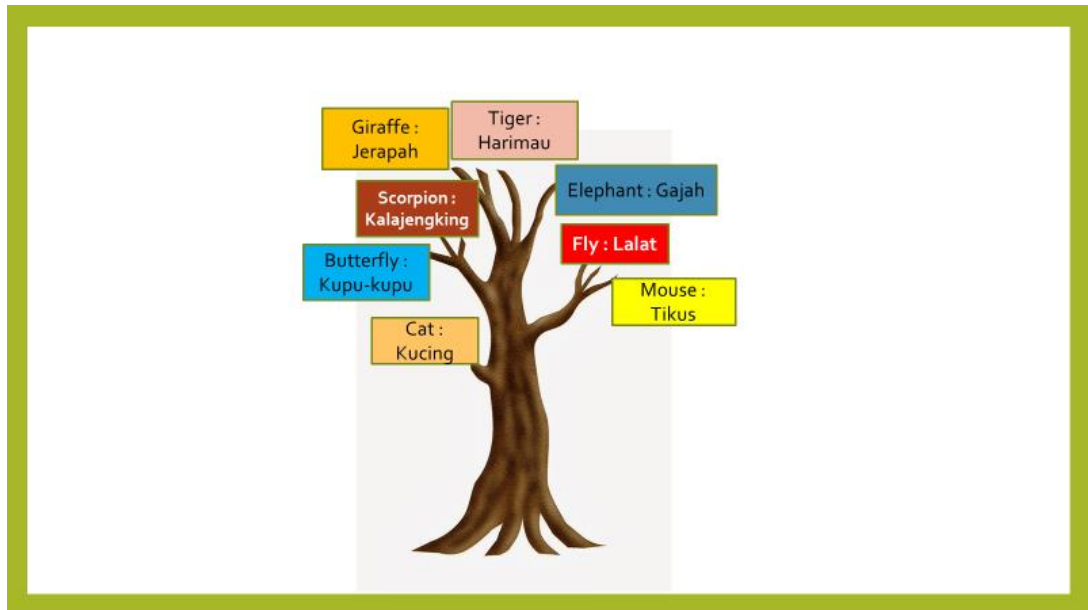
b. Chain

 Chain patterns can be used to give orders in a systematic manner, the steps in a procedure, or the steps in a process. It is suitable for the visualization of (a) several steps in a process, (b) several steps in a linear procedure, and (c) impromptu commands.
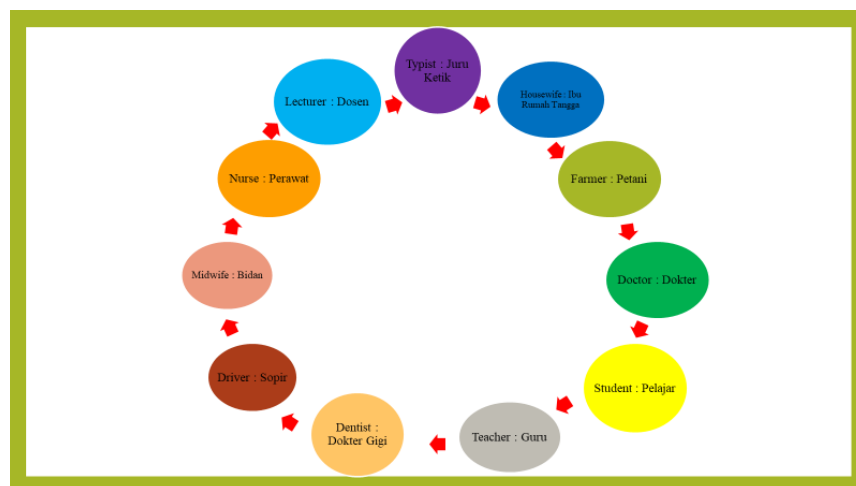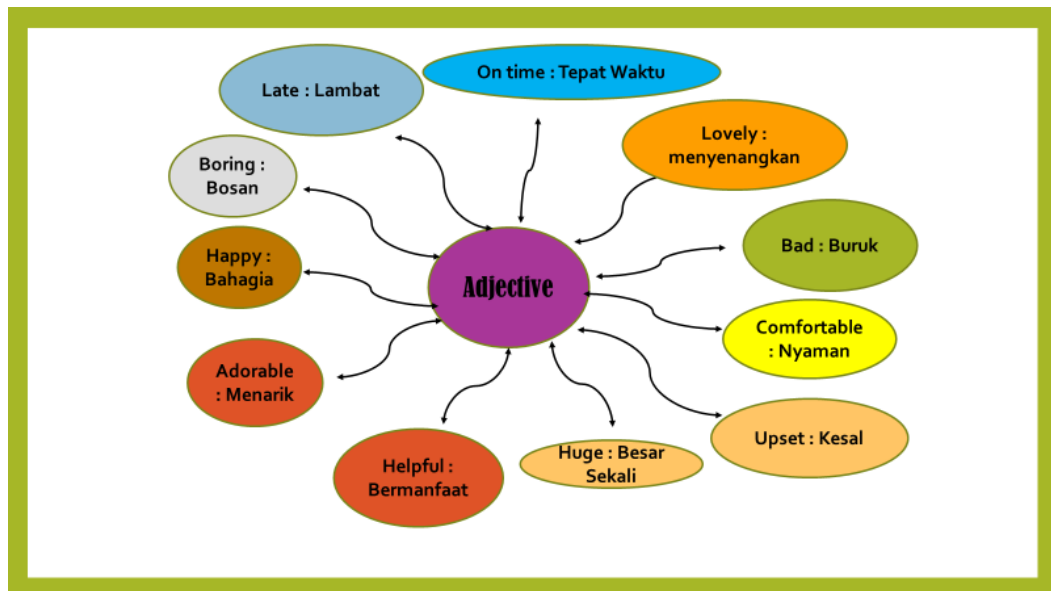

c. Cycle concept map

In this concept map, accident combinations have no final result. It is suitable for showing the correlation of how combination accidents interact to produce a group of results over and over.
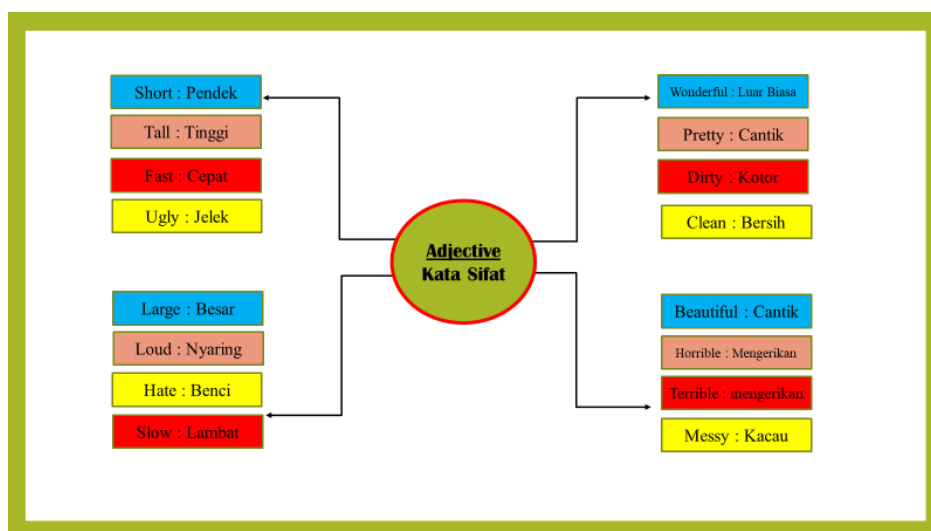
d. Map of the spider

      The concept of spider can be used to share opinions from central ideas to get more big ideas. It is suitable for the visualization of (a) something that is not based on a hierarchy of (b) unparalleled categories, and (d) the result of sharing opinions.

Mind mapping is similar to a path that makes studying, working, and thinking fun, it can help solve the shortage of vocabulary in students memorizing some words related to universal words as keywords.

3. Part of Mind Mapping

There are several parts of mind mapping (Windura, 2009), namely; (1) middle image, (2) keywords, (3) basic ordering ideas, (4) branches, (4) colors and (5) images.

a. Middle Image

A central image should illustrate the main idea of mind mapping and place it in the center of the paper. This is to activate students 'right brain, strengthen students' memory and make learning activities fun.

b. Keywords

Keywords are words that can lead to sentences or events. Identify familiar words in your own language or other languages that sound like new words and use only one keyword per line. This is an encouragement to memorize many words for the students. It is a strong noun or verb that creates an image to trigger memory recall.

c. Basic Ordering Ideas

The basic ordering idea is a branch that collects sorting information and connects with a central topic that radiates outward from the center. Creating basic ordering ideas that can direct our minds to make mind maps and it requires creativity that encourages students to understand the material. Thick and thinner at the ends. This can be seen as a title for a topic and spreads anywhere but does not become steep.

d. Twig

The branch should be curved and the same length as the word or image on it. These branches can be seen as subtitles. These are the thinner branches and contain more detail.

e. Color

Color is a sign of excellent memory and engages the right brain in learning for long-term memory. Colors encourage creativity and aid in memorization. Adding

lots of color via branches, map backgrounds and images will add life to the student mind maps. It makes it easier to understand and remember.

f. Picture

 In mind mapping, pictures that can change or strengthen previously written keywords.

4. Criteria for Making Mind Mapping Techniques

 Based on what Buzan (2011) said, mind mapping uses colors and images to help build imagination with style in mind mapping. Words or pictures that are in curved lines or branches will help students remember to make associations. Buzan (2011) further explains the steps below in how to make a mind mapping, namely as follows;

a. Take a sheet of white paper and position it horizontally.

b. Start by drawing a colored picture in the center of the paper and writing the keywords in capital letters.

c. Pick a color and draw a mind-mapping main theme on the thick branches that radiate outward from the central image.

d. Add other main theme branches around the map.

e. Create thick, colorful branches that extend from your mind map.

f. Write down basic ideas about keywords and still use capital letters.

g. Add images to all main branches to represent each key theme and also use images to visualize each important keyword on the map. h. Let mind mapping be as imaginative as possible.

METHOD

A. Research Design

This study uses a quantitative approach with experimental methods. According to Sukardi (2011), experimental research in principle can be defined as a systematic method to build relationships that contain causal-effect relationships. The X variable is the use of the mind mapping strategy in learning English vocabulary, while the Y variable is the students' mastery of English vocabulary.

Table 2
Design Penelitian Experimen

Group	Random	*Pre-test*	Perlakuan	*Post test*
Group Experimen	R	O1	X	O2
Group kontrol	R	O3		O4

Information :

R: Random sample

O1: pre-test results from the experimental group

O2: post test results from the experimental group

O3: pre-test results from the control group

O4: post test results from the control group

X: Researcher's treatment for the experimental group using mind strategies

mapping, while the control group with the usual strategy.

B. Research Place

This research was conducted at SMPN 35 Banjarmasin City, located on Jalan Sungai Andai, Sungai Andai Village, North Banjarmasin District, Banjarmasin City, South Kalimantan Province.

C. Population and Sample

The population in this study were all seventh grade students of SMPN 35 Banjarmasin City. In the COVID-19 pandemic situation as it is currently happening, researchers only took a sample of 8 people who were divided into two groups, namely 4 people into the experimental group and the remaining 4 people into the control group.

D. Research Instruments

The research instrument in this study was a multiple choice test sheet and pairs of words. The test sheet is of course tested for validity and reliability first before being distributed. The implementation of the test is divided into two stages, namely the pre-test and post-test of the sample from the experimental group and the control group.

E. Data Collection and Analysis Techniques

In collecting data, the researcher used a written test to determine the students' ability in vocabulary mastery. The test is in the form of multiple choice with a total of 40 questions. Analysis of research data through three stages, namely individual scores, value conversion and t-test.

FINDINGS AND DISCUSSIONS

Instrument of this research is vocabulary test that was given twice for the sample. Before the researcher divide it to the students, it has been validity and reliability test. In testing the instrument, the researcher distributed it to class 7 c which was not included in the experimental or control group. There are 40 (fourty) questions in vocabulary test. Before carrying out learning using mind mapping for the experimental group and ordinary learning techniques for the control group, the researcher gave a pre-test to the two groups that were the research samples, namely classes 7a and 7b. The following are the results of the pre-test :

The Result of Pre-test score of Experiment Group (7A Class) :

No	Sample of Research	Score
1.	A1	25
2.	A2	24
3.	A3	28
4.	A4	22
Total Score		99

The Result of Pre-test score of Control Group (7B Class) :

No	Sample of Research	Score
1.	A1	14
2.	A2	20
3.	A3	30
4.	A4	39
Total Score		103

After giving the pre-test, the researcher gave different treatment or teaching between the two groups, in which the control group was given an ordinary learning model, namely by mentioning the meanings of words with normal patterns,

namely by displaying English words one by one accompanied by that is, while the experimental group was given a mind mapping learning model. Furthermore, the researcher gave a post-test after giving the treatment to find out the difference in learning outcomes of the two groups. The following are the results of the post-test :

The Result of Post-test score of Experiment Group (7A Class) :

No	Sample of Research	Score
1.	A1	22
2.	A2	18
3.	A3	24
4.	A4	15
Total Score		79

The Result of Post-test score of Control Group (7B Class) :

No	Sample of Research	Score
1.	A1	5
2.	A2	12
3.	A3	23
4.	A4	22
Total Score		62

To determine whether or not there is an effect of the mind mapping learning model on increasing students' vocabulary, researchers used paired sample t test. Before the researcher analyzed it by using paired sample t-test, there is a requirement namely the data should normal first. The following are the results of normality analysis by using the SPSS application :

Tests of Normality

	Kelas	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Hasil Belajar Siswa	Pre-Test Experiment	.210	4	.	.982	4	.911
	Post-Test Experiment	.212	4	.	.963	4	.796
	Pre-Test Control	.199	4	.	.974	4	.864

Post-Test Control		.276	4	.	.891	4	.389

a. Lilliefors Significance Correction

Based on the analyze using SPSS, it means that the data is not distributed normal, so paired sample t-test cannot be used for analyzing the score of pre-test and post-test from experiment group and control group. The researcher continued to use Wilcoxon analysis to take the decision of hypothesis.

The Result of Experiment Group by using Wilcoxon Analysis

NPar Tests

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Post_Test - Pre_Test	Negative Ranks	4[a]	2.50	10.00
	Positive Ranks	0[b]	.00	.00
	Ties	0[c]		
	Total	4		

a. Post_Test < Pre_Test

b. Post_Test > Pre_Test

c. Post_Test = Pre_Test

Test Statistics[a]

	Post_Test - Pre_Test
Z	-1.826[b]
Asymp. Sig. (2-tailed)	.068

a. Wilcoxon Signed Ranks Test
b. Based on positive ranks.

The significance value is higher than 0,05. It means that hypothesis is rejected. The researcher concluded that the use of mind mapping technique in teaching and learning process cannot improve the students' English vocabulary for the students of junior high school.

CONCLUSIONS AND SUGGESTIONS

Based on the findings, the researcher conclude of the use of mind mapping technique in teaching English namely :

1. The students' vocabulary is not increase significantly.
2. The students still felt difficult to memorize the vocabulary

Researchers suggest that English teachers always try to explore various ways to make it easier for students to master English, especially vocabulary, because vocabulary is the basis of language skills.

REFERENCES

Beck, Perfitti, Mckeown (2010) *Conditions of Vocabulary Acquisition.* San Francisco: Prentice-Hall, Inc.

Brown, H. Douglas. 2010. *Teaching by Principles: An Interactive Approach to Language Paedagogy.* San Francisco: Prentice-Hall, Inc.

Buzan, Tony. 2009. *Buku Pintar Mind Map untuk Anak : Agar Anak Mudah Menghafal dan Berkonsentrasi.* Jakarta. PT. Gramedia Pustaka Utama.

Buzan, Tony. http://www.usingmindmaps.com/ what-is-a-mind-map.html Accessed on April 18th, 2019.

De Bono. http://www.usingmindmaps.com/mind-maps-in-education.htmlAccessed on April 18th, 2019.

DePorter, Bobbi and Mike Hernacki. 2009. *Quantum Learning : Membiasakan Belajar Nyaman dan Menyenangkan.* Jakarta. Kaifa.

Gargouri, C., & Naatus, M. K. (2017). An Experiment in Mind-Mapping and Argument-Mapping: Tools for Assessing Outcomes in the Business Curriculum. *E-Journal of Business Education & Scholarship of Teaching*, *11*(2), 39–78.

Goksel, S. (2018). *The journal of language and linguistic studies. Journal of Language and Linguistic Studies*, *14*(4), 111–135. http://www.jlls.org/index.php/jlls/article/view/4/5.

Henry dan Pongrantz (2010) *Some Effects of the Nature and Frequency of Vocabulary Instruction on the Knowledge and Use of Words*. Reading Research Quarterly.

Hornby, AS. 2010. *Oxford Advance Learners' dictionary of Current English*. New York: Oxford University Press.

Saleh, Yuslizal. 2017. *Methodology of TEFL in the Indonesian Context Book 1. Palembang*: University of Sriwijaya.

Shefelbine (2011) *Student Factors Related to Variability in Learning Word Meanings from Context.* Journal of Reading Behavior, 221, 71-97.

Sukardi (2011) Metodologi Penelitian Pendidikan Kompetensi dan Praktiknya. Jakarta: PT. Bumi Aksara.

Thornbury, Scott. 2010. *How to Teach Vocabulary*. England: Longman.

Trianto, M.Pd. 2009. *Mendesain Model Pembelajaran Inovatif: Konsep, Landasan, dan Implementasinya pada Kurikulum Tingkat Satuan Dasar Pendidikan (KTSP)*. Jakarta. Kencana.

Windura, Sutanto. 2009. *Mind Map : Langkah Demi Langkah.* Jakarta: PT. Elex Media Komputindo..