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THE EFFECT OF USING CONNECTING, ORGANIZING, REFLECTING, EXTENDING (CORE) MODEL ASSISTED BY INTERACTIVE DIGITAL CONCEPT MAPPING ON STUDENTS' VOCABULARY MASTERY

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Abstract
This aims of research are to know the appplication of CORE model assisted by Interactive Digital Concept Mapping teaching vocabulary mastery, the students vocabulary mastery before and after using CORE model, whether there is any significant effect of using CORE model assisted by Interactive Digital Concept Mapping on students' vocabulary mastery at the seventh grade of SMP Negeri 9 Padangsidimpuan. This research uses experimental method with pre-experimental design by one group pretest-posttest design. The population of this research is all of the seventh grade students of SMP Negeri 9 which consist of 168 students. Sample are seventh 1 which consist of students 28 students which taken by purposive sampling. In data collection techniques researcher uses observation sheets and test as an instrument. The results of this research: the applying of CORE model assisted by Iteractive Digital Concept Mapping is 80% (very good category). The students' vocabulary mastery before and after using CORE model assisted by Interactive Digital Concept Mapping is 46.14 (poor category), and 78.57 (good category). the Hypothesis testing researcher shows the Asymp. Sig. (2-tailed) value was 0.000, lower than the significance level of 0.05 (0.000 < 0.05). So the hypothesis is accepted. It means that, there is significant effect of connecting, organizing, reflecting, extending (CORE) model assisted by Interactive Digital Concept Mapping on students' vocabulary mastery at the seventh grade students of SMP Negeri 9 Padangsidimpuan in 2024/2025 Academic Year.

Keywords— *CORE model , Interactive Digital, Concept Mapping, Vocabulary, Mastery*

Introduction

Language is tools for human communication, and in the global era of 2024, English remains the most essential bridge for international interaction. For Indonesian students, particularly those at the junior high school level, mastering English is not merely an academic requirement but a gateway to global information. At the heart of this mastery lies **vocabulary**. Without an adequate bank of words, students find it impossible to express ideas, understand texts, or engage in meaningful conversation. Nowadays, there are many ways or methods that can be used to learn vocabulary, including learning online using the latest application, using Space Repetition System (SRS) in this method avoid the same word everiday and uses frase or sentece to make you understand them., Try to wach video or Podcast in youtube withoud subtitle Indonesia., Use AI become your friends in communication., Make a list of your vocabulary and self talk (describe your daily activities and if you find difficult word you can translated.

Vocabulary is a collection of words in a language that a person understands and uses in speaking, listening, reading, and writing. Vocabulary plays an important role in language communication and comprehension because the more words a person knows, the better they can

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convey and understand information. Based on the interview with the teacher of English at February 18th 2025, with Mr. Sukri Ashari, S.Pd as the teacher of English has gives many efforts to help students increase their vocabulary mastery, such as giving motivation to students to learn a lot of English vocabulary, using book that contain English vocabulary and listen to songs or watch English movies. The result is still low in vocabulary mastery.

Internal factors, such as lack of vocabulary mastery, low interest in learning English. Were identified as factors affected the quality of students learning process, external factors, such as; the teacher less creative in using the learning model, so that make students lazy to study English and easily feel bored. The researcher try to using connecting, organizing, reflecting, extending (core) model assisted by Interactive Digital Concept Mapping which is the model that can be use to various level of students, or is also can be focus on vocabulary mastery. It is to make learning interesting and students easier to mastery of vocabulary. The researcher aim to investigated The Effect of Connecting, Organizing, Reflecting,Extending (CORE) assisted by Interactive Digital Concept Mapping Model on Students'Vocabulary Mastery at the Seventh Grade of SMP Negeri 9 Padangsidimpuan 2024/2025 Academic Year.

Literature Review

Vocabulary is important for students to master because it affects their ability to communicate affectively in all for language skills. (Wesche &Paribakht, 2018)Moustaghfir (2026: 3) in Vocabulary knowledge is widely conceptualized as a multidimensional construct encompassing both breadths, defined as the number of lexical items a learner knows, and depth, which refers to the quality of knowledge associated with each word.Coxhead (2012); Moats (2014) in(Green & Coxhead, 2026) the teacher of English should underprepare for vocabulary instruction in teacher training. Thenaccording Hiebert and Kamil, (2005:3) in (PIRDA, 2024)"Vocabulary is all the known words tha any particular person uses. This means that vocabulary is one of the keys that students need to understand if they want to know these four basic skills well".According to Zelamutia,U(2019: 12) in(Anah et al., 2022) "Vocabulary is the basic knowledge of language, especially in English". Futhermore According to YarahMadzehi and Goodarzi (2020) in (Saputro et al., 2025)Vocabulary is the core structure of language, essential for affective communication in both speech and writing.

Vocabulary consist of some types, Haslam (2019) in (Omolu & Marhum, 2022)explain that "the parts of speech most helpful teaching English are nouns, adjectives,pronouns, verbs, adverbs, prepositions, conjungtions, and determiners". While for this research, the researcher focuses on 1. Noun is one of part of speech which used to identify any of class of people, place, things. Then Krashen (1985) in(Suranto, 2024) the ability to identify basic components of language such as nouns and verbs is often foundational in second language acquisition, making them more accessible to students at intermediate levels.. 2.Verb is a word that describes an action, condition or experience of something. 3. Adjective is used to modify nouns and pronouns.. An adjective is a type of word that serves to explain, describe, illustrate, or describe a noun. 4. Adverb is a class of word that give information to other words, such as verbs and adjectives, which are not nouns.

Futher more, to solve the problem in vocabulary the researcher used CORE model assisted by Interactive Digital Concept Mapping. CORE model assisted by Interactive Digital Concept Mapping is a model that emphasizes students to be active and able to solve problems in the learning process, this model is also able to train students' memory of information. Karlina Wati in (Wahyuningsih & Purwandari, 2025)said that CORE learning modelessentially, it is a teaching method designed to make students active participants rather than just listeners. Instead of being handed answers, students use their own thinking process to discover information for them. According to S. U. S, A. Asmar, and B. Oktavia in (Ningsih et al., 2019)At CORE Learning emphasizes the students' thinking ability to connect, organize, deepen, manage and develop information obtained.It is a learning model applied students to develop creative in connecting and organizing students' knowledge which is very important in the teaching process. Futhermore, according to Asmara (2019) in(Nurasiah et al., 2021) the CORE model assisted by Interactive Digital Concept Mapping is one of the models included in the cooperative learning model. The CORE learning model is an abbreviation of four words that are interconnected in the learning process, including Connecting, Organizing, Reflecting, and Extending. Futhermore (Herfina, 2018) in (Yusuf et al., 2026) The CORE learning model (Connecting,

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Organizing, Reflecting, and Extending) is a relatively new and promising alternative learning approach. This model emphasizes four main stages: Connecting (linking prior knowledge with new concepts), Organizing (structuring ideas or concepts systematically), Reflecting (encouraging students to evaluate and deepen their understanding), and Extending (applying and expanding knowledge in broader contexts).

According Muizaddin &santoso (2016) in (Kurniawan et al., 2022)Learning steps of Core learning model, namely: a.Opening the lesson with the activity that attracts students, namely by doing singing a song where the content of the song is related to the material to be taught. b.Presentation of old contents that will be connected to the new concepts by the teacher to students is Connecting(C)c. Organizing the ideas to understand the material done by students with teacher guidance is Organizing (O) d.Division of groups heterogeneously (a mixture of a smart, medium, and less), consisting of 4-5 people. e. Thinking back, going deeper, and exploring information that has been obtained and implemented in student group learning activities Reflecting (R). f.Development, extending, using, and discovering, thorough individual work on assignments is Extending (E)

According to Aris Shoimin (2014) in (Kurniawan et al., 2022)advantagesof CORE model assisted by Interactive Digital Concept Mapping, namely; 1.Develop students' activeness in learning2.Developand train students' memory about a concept in learning material.3.Develop critical thinking power at the same time develop problem solving skils.4.Provide learning experiences to students because they play an active role so that learning becomes meaningful. According to(Moustaghfir, 2026)Disadvantages of (CORE) model, namely: 1.Requires careful preparation from the teacher to use this model.2. Ifstudentsare critical, the learning process cannot run smoothly.3.Requires a lot tim.4.Not all subject matter can use the CORE learning model.

Futhermore Buran & Filyukov (2015) in Sagita and Sagita (2024) Digital mind mapping serves as a transformative pedagogical tools, offering a dynamic and interactive approach to language learning, particularly in vocabulary. Unlike traditional linear note-taking or outlining methods, digital mind maps able learners to visually represent ideas and relationships between concepts. This visualization process makes it easier to understand, organize, and retain complex information, as the structure of the mind map mimics the brain's natural way of processing data through associations and connections

Concept mapping enables college students to connect verbal and visual information to comprehend course material (Boerma et al., 2022) in Sholihah et al, (2026) Concept mapping can be effectively employed in a collaborative setting when students utilize a digital tool to create a concept map. Incorporating digital technology with group learning strategies aims to familiarize students with collaborative practices and enhance their proficiency in digital literacy.

Research Method

In this research, researcher used quantitative research methods. which is experimental research According to Gay (2009: 240) in (Kamisah et al., 2024) Experimental research is the only type of research that can test hypotheses to established cause and effect". Furthermore, Creswell (2005: 28) in (Kamisah et al., 2024)says that experimental researches include true experiment with the random assignment of subject to treatment condition as well as quasi experiment that use none randomized

The location of the research is in SMP Negeri 9 Padangsidimpuan on Jl. Merdeka KM.4, 5Kota Padangsidimpuan which thePopulationconsist of 168 students and the sample seventh grade which consist of 28 students. Researcher used purposive sampling. The researcher instruments' used are observation and multiple choices which consist of 25 items.

Salkin 2009 said in (Hossan et al., 2023)The group of people or entities that the study is focusing on is called the 'population of interest'. This includes individuals, pairs, groups, organizations, or other similar entities. It also helps to make sure these groups in the study are well-connected and aligned with each other. Futhermore, According to the research in(Obilor, 2023) Purposive sampling is a non-probability sampling technique where the researcher selects only those subjects that satisfy the objectives of the study based on the researcher's conviction. It is a sampling technique where the researcher relies on his discretion to choose participants from the study population.

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Results and Discussions

This addition, describes data analysis about Observation sheet was used to answer the applying model on students' vocabulary mastery. Test used to know students' vocabulary mastery before and after using applying CORE model assisted by Interactive Digital Concept Mapping. Whether there is any significant effect of CORE model assisted by Interactive Digital Concept Mapping on students' vocabulary mastery.

1. Applying Connecting, Organizing, Reflecting, Extending (CORE) Model on students' vocabulary mastery

based on the data found by the researcher that the used of CORE model assisted by Interactive Digital Concept Mapping was success. It was found the observation sheet results score of 80% in very good category. The observation sheet was fill out by one of the teacher of English in the school. The research considers that this appropriate because the students as the subject of the research were very enthuastic and active during the learning process.

2. Vocabulary Mastery before and after using CORE model assisted by Interactive Digital Concept Mapping

a. Before

Before given treatment in vocabulary the researcher gave the pretest consisted of 25 multiple choice questions which arranged based on 4 indicators, namely noun, verb, adjective, and adverb then calculated data. after calculated the data found the highest score was 76 (good category), the lowest score was 24 (very poor category). Mean score was 46.14 (very poor category), median score 46 (very poor category) and mode 32 (very poor category). The researcher shows the specitication of calculation in the table below:

Table 4.1
Score of Mean, Median, and Mode on Students' Vocabulary Mastery Before Using CORE model assisted by Interactive Digital Concept Mapping

No	Item	Score	Category
1	Mean	46.14	Very poor
2	Median	46.00	Very poor
3	Mode	32.00	Very poor

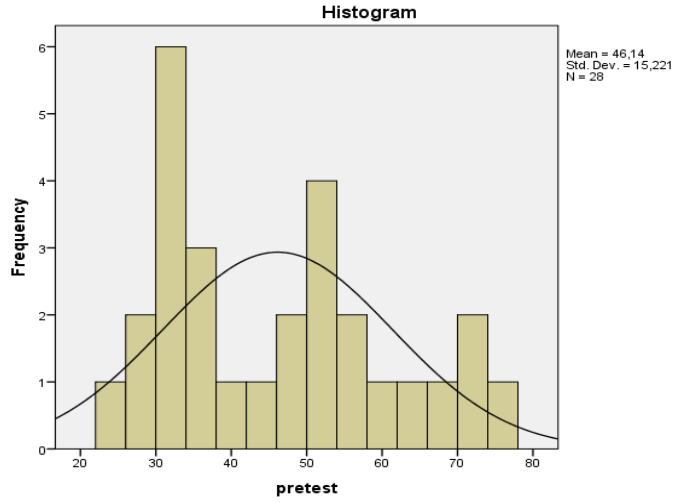


Figure 2: Histogram of Students Vocabulary Mastery before using CORE Model assisted by Interactive Digital Concept Mapping

Based on the histogram above, it can be seen that the data is not normal distribution because the highest frequency on 9 students in 32 score categories fail. It means the researcher should make a treatment to see the students vocabulary in teaching process.

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b After

After the treatment or applying of CORE model assisted by Interactive Digital Concept Mapping, the researcher gave pos test consistedof 25 multiplechoicequestionswhich were arrangedbasedon 4 indicators, namelynoun, verb, adjective, andadverb. The highestscorewas 96 (verygoodcategory) thelowestscorewas 64 (enoughcategory). Meanscorewas 78.57 (goodcategory), median score 80 was (verygoodcategory) and mode scorewas 80 (verygoodcategory). The researchershowsthes specific information below

Table. 4.2.
Score of Mean, Median, and Mode on Students' Vocabulary Mastery after Using CORE model assisted by Interactive Digital Concept Mapping

No	Item	Score	Category
1	Mean	78.57	Good
2	Median	80.00	Very Good
3	Mode	80.00	Very Good

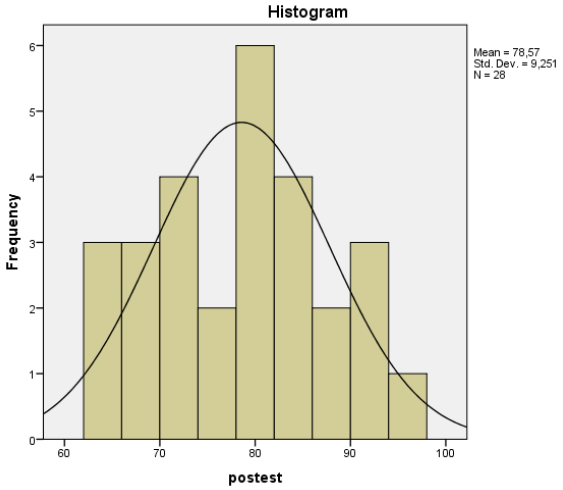


Figure 3: Histogram of Students Vocabulary Mastery after using CORE model assisted by Interactive Digital Concept Mapping

Based on the histogram above, it can seen that the data was normally distributed because the frequency was 9 and in a score of 80 very good category. it was higher then before treatment means that treatment was success. Futhermore, Before testing the hypothesis, the first step that must be taken is the normality test. The normality test aims to know whether the data to be analyzed is normally distributed or not. If the normality test is normally distributed, researcher using parametric tests, namely: paired sample t-test. However, if the normality test is not normally distributed, researcher using a non-parametric test, namely: wilcoxonsignedranktest.

1. Test of Normality

The researcher shows the result of normality test on table below:

	Kolmogorov Smimov V [a]			Shapiro- Wilk		
	Statistic	Df	Sig	Statistic	Df	Sig
Pretest	.176	28	.026	.926	28	.248
Posttest	.133	28	.200	.954	28	.248

Based on the normality test, shapiro-wilk test shows the data is normally distributed because the significance score is higher than 0.05. However, kolmogorov-smirnov test show the data is not normally distributed because the pretest significance score is less than 0.05. It means the data is not

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normally, the other words Ha is rejected and Ho is accepted. Thus, the researcher conducted that the hypothesis testing using a non-parametrictest, namely the wilcoxon signed rank test..

1. **WilcoxonSignedRankTest** The calculation of Wilcoxon Signed Rank Test was conducted through SPSS 23, the calculation results in the table below:

Ranks

	Item	Score	category	Sum of Rank
Pretest Postest	Negative Rank Positive Rank Ties Total	0[3] 28[b] 0[c] 28	.00 14.50	00 405.00

statistics

	Pos test Pretest
Z	-4.637[b]
Asymp. Sig. (2-tailed)	.000

Based on the results of the Wilcoxon Signed Rank Test, the Asymp. Sig. (2-tailed) score was 0.000. This score is less than 0.05 (0.000< 0.05). It means there is any significant effect of using CORE model assisted by Interactive Digital Concept Mapping on students' vocabulary mastery. The other words Ha is accepted and Ho is rejected.

Futhermore, Based on the observation sheet, the result of applying in teaching vocabulary mastery, the researcher found the mean score was 80 %(very goodcategory). Futhermore, the result of students vocabulary mastery before and after using CORE model assisted by Interactive Digital Concept Mapping was 46.14 (poorcategory) and 76, 57(goodcategory). The Shapiro-Wilk test showed normal data because the significance score > 0.05. However, the Kolmogorov-Smirnov test shows the data is not normal because the pretest significance score < 0.05. The data is not normally distributed. The Wilcoxon test resulted in an Asymp. Sig. 0.000 <0.05, so there is a significant and Ha is accepted.

the researcher was able to get the result because of hard work and indeed when applied the treatment the students were very cooperative, very enthusiastic in learning. If the research compare with the prevous research Based on several previous research, researcher conclude, that there are many ways to increase vocabulary such as connecting, organizing, reflecting, extending (CORE) model, mnemoni ctechnique, and drill technique. CORE model assisted by Interactive Digital Concept Mapping not only effects on students' vocabulary mastery but also affects on students' learning motivation. this study is limited the discussion with CORE and vocabulary sample which used in single educational level. Therefore generalizing the result to students learning motivation at higher levels should be done with caution. Futhermore the realiance on self report data may become a subjective bias from respondents.

Conclusion

Based on the aim of the research, the researcher found the data result of using of CORE model assisted by Interactive Digital Concept Mapping in teaching vocabulary was 80% (very good category) or there is a significant Effect in teaching vocabulary mastery . If we compare the result before and after using connecting, organizing, reflecting, extending (CORE) model the average 46.14 (very poor category) become 78.57 (good category). Based on the comparison above the researcher concluded that CORE model assisted by Interactive Digital Concept Mapping has been proven effective in teaching students Vocabulary in SMP Negeri 9 Padangsidimpuan.

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