

# COVER

**THE EFFECT OF USING MIND MAPPING STRATEGY TOWARD STUDENTS’ VOCABULARY ACHIEVEMENT**

**(An Experimental Research at the Ninth Graders at SMP N 2 Kramat in Academic Year 2023/2024)**

**RESEARCH PROJECT**

**Submitted as Partial Fulfilment of the Requirement for Degree of**

***Sarjana Pendidikan* in English Education**

**by:**

**MEIZAR AGUNG WIHADI**

**NPM 1619500025**

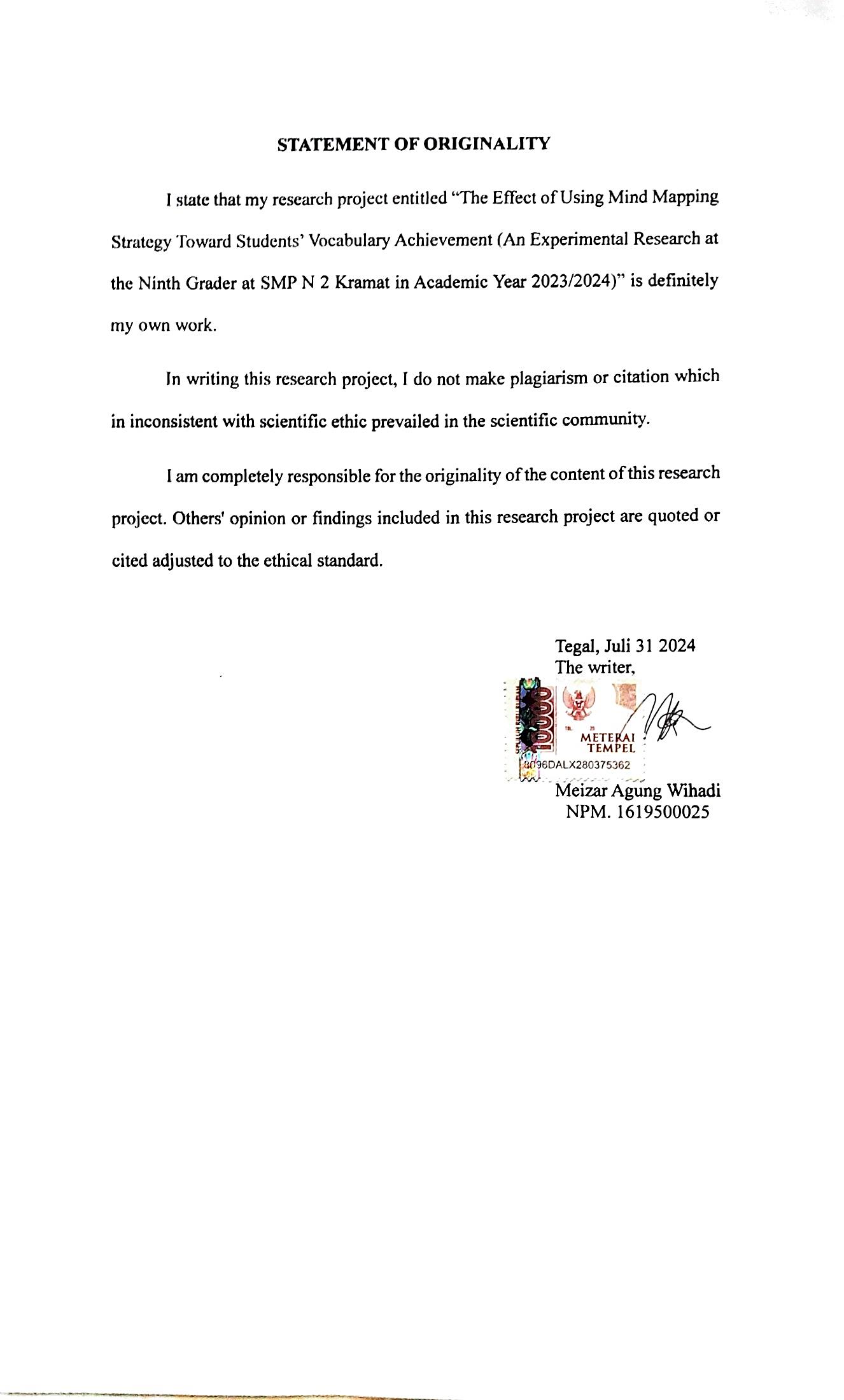
**ENGLISH EDUCATION PROGRAM**

**TEACHER TRAINING AND EDUCATION FACULTY**

**PANCASAKTI UNIVERSITY TEGAL**

**2024**

# 



# 

# ABSTRACT

**WIHADI, MEIZAR AGUNG**. **2024. 1619500025**: “*The Effect of Using Mind Mapping Strategy Toward Students’ Vocabulary Achievement**(An Experimental Research at the Ninth Graders at SMP N 2 Kramat in Academic Year 2023/2024”*. Research project Strata 1 Program, English Department of Teacher Training and Education Faculty, Pancasakti University Tegal.

First Advisor Drs. Masfuad Edy Santoso, M.Pd,

Second Advisor Yulia Nur Ekawati, M.Pd.

Key Words: Mind Mapping Strategy, Vocabulary.

This study aims to explain the implementation of Mind Mapping strategy on students' vocabulary achievement and find out whether or not Mind Mapping strategy give positive effect on students' vocabulary achievement at SMP N 2 Kramat. The writer used quantitative research with the type of this research is experimental research. The population consists of 10 classes with a total number of students of approximately 316 students and the writer took 2 classes from 10 classes as sample. Number of samples is 60 students divided into 2 groups. Each group consists of 30 students. The first group is experimental (9B), the second is control (9J). This research used vocabulary test as instrument. The test consists of pre-test and post-test. Pre-test was held before the students given treatment and post-test was held when the students had finished studying. The test contains vocabulary material which was given by the writer using Mind Mapping strategy.

The results showed that the mean score of the experimental group was greater than the mean score of the control group based on the post-test results (69.13 > 62.27). The results of the t-test showed that sig. (2-tailed) is 0.000 which less than 0.05, it can be stated that there was a significant difference between learning using Mind Mapping strategy and conventional learning in improving English vocabulary in class IX B students of SMP N 2 Kramat. This caused that the use of Mind Mapping strategy can bring to improved learning results because the use of this strategy makes students learn and think naturally to find vocabulary. This strategy also makes students more excited and confident in learning. The writer concludes that there is a significant difference between students who are taught using the Mind Mapping strategy and students who are not.

The findings of this research is that using Mind Mapping strategy results in a difference in students vocabulary achievement after being taught Mind Mapping strategy, and which has a positive effect on students' vocabulary achievement in the ninth grade. As a suggestion, the teacher should be able to use appropriate strategies in teaching English lessons, especially in teaching vocabulary.

**ABSTRAK**

WIHADI, MEIZAR AGUNG. 2024. 1619500025: “Pengaruh Penggunaan

Strategi PemetaanPikiran Terhadap Prestasi Kosakata Siswa (Penelitian

Eksperimental pada Siswa KelasSembilan di SMP N 2 Kramat pada Tahun

Ajaran 2023/2024”. Proyek penelitian ProgramStrata 1, Jurusan Keguruan dan

Ilmu Bahasa Inggris dan Fakultas Ilmu PendidikanUniversitas Pancasakti Tegal.

Pembimbing I Drs. Masfuad Edy Santoso, M.Pd,

Pembimbing II Yulia Nur Ekawati, M.Pd.

Kata Kunci: Strategi Pemetaan Pikiran, Kosakata.

Penelitian ini bertujuan untuk menjelaskan penerapan strategi Mind Mapping terhadap pencapaian kosakata siswa dan mengetahui apakah strategi Mind Mapping memberikan pengaruh positif terhadap pencapaian kosakata siswa di SMP N 2 Kramat. Penulis menggunakan penelitian kuantitatif dengan jenis penelitian ini adalah penelitian eksperimen. Populasi terdiri dari 10 kelas dengan jumlah siswa kurang lebih 316 siswa dan penulis mengambil 2 kelas dari 10 kelas

sebagai sampel. Jumlah sampel sebanyak 60 siswa yang dibagi menjadi 2 kelompok. Setiap kelompok terdiri dari 30 siswa. Kelompok pertama adalah kelompok eksperimen (9B), kelompok kedua adalah kelompok kontrol (9J). Penelitian ini menggunakan tes sebagai instrumen. Tes terdiri dari pre-test dan post-test. Pre-test dilakukan sebelum siswa diberi perlakuan dan post-test kosakata dilaksanakan setelah siswa selesai belajar. Tes ini berisi materi kosakata yang diberikan oleh penulis dengan menggunakan strategi Mind Mapping.

Hasil penelitian menunjukkan bahwa nilai rata-rata kelompok eksperimen lebih besar dari nilai rata-rata kelompok kontrol berdasarkan hasil post-test (69,13 > 62,27). Hasil uji-t menunjukkan bahwa sig. (2-tailed) 0.000 kurang dari 0.05, dapat dinyatakan terdapat perbedaan yang signifikan antara pembelajaran dengan menggunakan strategi Mind Mapping dengan pembelajaran konvensional dalam meningkatkan kosakata bahasa Inggris pada siswa kelas IX B SMP N 2 Kramat, hal ini menyebabkan penggunaan strategi Mind Mapping dapat membawa pada hasil belajar yang lebih baik karena penggunaan strategi ini membuat siswa belajar dan berfikir secara alamiah untuk menemukan kosakata. Strategi ini juga membuat siswa lebih bersemangat dan percaya diri dalam belajar. Penulis menyimpulkan bahwa terdapat perbedaan yang signifikan antara siswa yang diajar menggunakan strategi Mind Mapping dan siswa yang tidak.

Temuan dari penelitian ini adalah bahwa dengan menggunakan strategi Mind Mapping menghasilkan perbedaan dalam pencapaian kosakata siswa setelah diajarkan strategi Mind Mapping, dan memiliki efek positif pada pencapaian kosakata siswa di kelas sembilan. Sebagai saran, guru harus dapat menggunakan strategi yang tepat dalam mengajarkan pelajaran bahasa Inggris, terutama dalam mengajarkan kosakata.

# TABLE OF CONTENT

[COVER i](#_Toc174923443)

[APPROVAL ii](#_Toc174923444)

[STATEMENT OF ORIGINALITY iii](#_Toc174923445)

[ABSTRACT iv](#_Toc174923446)

[TABLE OF CONTENT vi](#_Toc174923447)

[CHAPTER I 1](#_Toc174923448)

[INTRODUCTION 1](#_Toc174923449)

[1.1 Background of the Study 1](#_Toc174923450)

[1.2 Identification of the Problem 6](#_Toc174923451)

[1.3 Limitation of Study 6](#_Toc174923452)

[1.4 Statement of the Problem 7](#_Toc174923453)

[1.5 Objectives of the Research 7](#_Toc174923454)

[1.6 Significances of the Research 8](#_Toc174923455)

[CHAPTER II 9](#_Toc174923456)

[REVIEW OF RELATED THEORIES 9](#_Toc174923457)

[2.1 Previous Studies 9](#_Toc174923458)

[2.2 Review of Related Theories 21](#_Toc174923459)

[2.2.1 Mind Mapping 21](#_Toc174923460)

[2.2.2 Characteristics of Mind Mapping 26](#_Toc174923461)

[2.2.3 Parts of Mind Mapping 27](#_Toc174923462)

[2.2.4 Steps of Implementing Mind Mapping Strategy 29](#_Toc174923463)

[2.2.5 The Advantages of Using Mind Mapping Strategy 31](#_Toc174923464)

[2.2.6 Vocabulary Learning Strategy 32](#_Toc174923465)

[2.2.7 Categories of Vocabulary 37](#_Toc174923466)

[2.2.8 The Technique of Teaching Vocabulary 38](#_Toc174923467)

[2.2.9 Types of Vocabulary 39](#_Toc174923468)

[2.2.10 Vocabulary for Junior High School 41](#_Toc174923469)

[2.3 Theoretical Framework 44](#_Toc174923470)

[2.4 Hypothesis 46](#_Toc174923471)

[CHAPTER III 48](#_Toc174923472)

[RESEARCH METHODOLOGY 48](#_Toc174923473)

[3.1 Research Approach, Type, and Design of The Research 48](#_Toc174923474)

[3.1.1 Research Approach 48](#_Toc174923475)

[3.1.2 Type of Research 49](#_Toc174923476)

[3.1.3 Research Design 49](#_Toc174923477)

[3.2 Population, Sample, and Sampling Technique 51](#_Toc174923478)

[3.2.1 Population 51](#_Toc174923479)

[3.2.2 Sample 51](#_Toc174923480)

[3.2.3 Sampling Technique 52](#_Toc174923481)

[3.3 Research Variable 52](#_Toc174923482)

[3.4 Data Collecting Technique 53](#_Toc174923483)

[3.5 Research Instrument 54](#_Toc174923484)

[3.5.1 Validity 54](#_Toc174923485)

[3.5.2 Reliability 55](#_Toc174923486)

[3.6 Technique of Analyzing Data 57](#_Toc174923487)

[CHAPTER IV 59](#_Toc174923488)

[4.1 Research Result 59](#_Toc174923489)

[4.1.1 The Implementation of Using Mind Mapping Strategy 59](#_Toc174923490)

[4.2 Data Analysis 62](#_Toc174923491)

[4.2.1 Data Description of Pre-test and Post-test 62](#_Toc174923492)

[4.3 Discussion 68](#_Toc174923493)

[CHAPTER V 72](#_Toc174923494)

[5.1 Conclusions 72](#_Toc174923495)

[5.2 Suggestions 74](#_Toc174923496)

[BIBLIOGRAPHY 75](#_Toc174923497)

[APPENDICES 78](#_Toc174923498)

# CHAPTER I

# INTRODUCTION

This chapter consists of background of the problem, identification of the problem, limitation of the problem, formulation of the problem, objectives of the research and significances of the research.

## 1.1 Background of the Study

In learning English there are four language skills and three language components, which have to be mastered. The skills consist of listening, speaking, reading, and writing. In language teaching and learning, there are three components that support the four language skills above which consist of grammar (structure), vocabulary, and pronunciation that are also taught in teaching English and learning process.

Language ability is determined by many factors. One of the factor is mastering vocabulary. Vocabulary connects directly to comprehend sentence meaning as a smallest element that contains idea, so that the communication between people who express or write a sentence to people who listen or read the sentence is well done.

Learning vocabulary is essential because it is an integral part of communication. Therefore, everyone who studies English or another language must have knowledge the vocabulary. Vocabulary mastery can aid them in communicating with others, writing, and translating the meaning of words. Without understanding the meaning of vocabulary, people will experience a complete inability to verbally communicate, compose written text, or comprehend the English language (Samhudi, 2015). According to that affirmation, language is considered to be one of the most crucial elements of verbal communication.

Learning vocabulary encompasses more than mere familiarity with words and their definitions; it entails the broadening of one's understanding of a word and the mastery of diverse facets inherent in the process of acquiring and employing vocabulary within different linguistic settings (Alahmadi, 2020). Vocabulary is the foundational skill that students must master in order to acquire these language skills. However, vocabulary is not emphasised in the classroom instruction of English. As a result, students lack vocabulary knowledge, which impacts their language abilities.

Proficiency in vocabulary is crucial for the mastery of the English language as it enables students to understand the concepts presented by others and effectively communicate their own thoughts. Especially as students go towards more competence and expressiveness in English, it is crucial for them to learn a vocabulary that contributes more effectively to their work as well as establish their own particular approaches for acquiring vocabulary. This is especially important for them to do as they obtain greater fluency in English (Aziz & Yamat, 2016). Mastering a large number of vocabularies helps students confidently interact with one another in English. It implies that whenever students can choose relevant words for their sentences, students will simply to deploy spoken and written English in everyday situations. According to the Curriculum 2013 (K13), it is required for students to utilise the textual form and linguistic elements in order to perform a social function, specifically as an instructional tool (Faradita et al., 2020). Having an extensive vocabulary is beneficial for students in both spoken and written contexts.

According to Wicaksana & Rachman (2018), The main issue with vocabulary training is that it is limited in its ability to teach only a limited number of words and a small fraction of the knowledge necessary to fully understand a word at any given time. This constraint also applies to the acquisition of knowledge by passive listening or reading. However, it is far easier to manage a substantial volume of self-directed listening and reading compared to organising a significant number of instructional activities.

The mastery of vocabulary is widely recognized as a challenging part of language acquisition, as reflected by the significant portion of students who continue to have difficulties in this area. As a result, it is imperative for the instructor to seek out a proficient methodology that facilitates the acquisition of vocabulary in a manner that is both accessible and engaging. English educators should employ effective teaching strategies to facilitate students' comprehension of the subject matter. Teachers are devising methods to pique students' interest in the subject matter. Important roles are played by the instructors' instructional strategies in the success of learning. (Sirait et al., 2020).

Hakim (2022) states that mind mapping strategy was highly efficient in constructing and scaffolding the student's vocabulary mastery. In addition, mind mapping encourages students to use both sides of their brains when learning vocabulary. This strategy can also be used by another researcher to discover more specific aspects of acquiring vocabulary in various fields and subjects.

An analysis of mind mapping generation was observed that despite its apparent graphical nature, mind maps possess significant reservoirs of knowledge (Liu, 2016). Hence, it is evidently impractical to solely depend on pupils to autonomously complete the task of mind mapping. Teachers are responsible for the primary duty of engaging in the practice of mind mapping and should prioritize the incorporation of mind mapping products into their instructional planning. In the process of concrete preparation, it is imperative to employ a flexible and meticulous approach in order to create pertinent diagrams. Furthermore, it is crucial to prioritize the accuracy of information and the comprehensiveness of content in order to captivate students' engagement in the learning process. Mind mapping enhances learner engagement and fosters creativity by stimulating bilateral brain activation. Therefore, students will have enhanced comprehension of the instructional content delivered by the educator within the educational setting (Rahayu, 2021). Teachers can implement the mind mapping learning strategy to enhance students' academic performance (Redhana et al., 2021).

Based on the writer's observations in the surrounding environment, the writer found the fact that to be proficient in English it is necessary to know various vocabularies and the meanings in them. Most people want to possess the ability to communicate in English but they have difficulty in remembering English vocabulary. This can be proven through the experience of writers when doing teaching practice (PLP). Writers heard directly from students that learning English is difficult because they have to know a lot of vocabulary with different meanings.

In junior high school, the common problems which are faced by the students is mastering vocabulary. Most of them cannot comprehend the material, read the passage, answer the question or even speak because they do not master the vocabulary as the vital element of language. There are so many words in English, besides mastering the content word, function words is also expected be mastered by the students. The teacher should have a strategy and method to easier the students to catch the content. One of some learning methods which can be developed for the students at junior high school level is a Mind Mapping method. There are many kinds of the Mind Mapping for studying English, for example: Brace Map, Circle Maps, Bubble Map, Tree Map, Double Bubble Maps (Venn Diagrams), Spider Map, Flow Map, Multy Flow Map, System Event, and Dialogue Map. By this strategy, it is expected that the students can learn English with pleasure.

In this research, the writer applies a Mind Mapping as learning method in class. By using Mind Mapping it is expected that the students will be easier and more enjoyable in English learning. Mind Mapping is applied by the writer to enhance the students’ vocabulary mastery in English learning in class. Therefore, with Mind Mapping, it is expected that the achievement of students learning will increase.

Based on this problem and the importance of English, the writer is interested on take a research with the title: “The Effect of Using Mind Mapping Toward Students’ Vocabulary Achievement (An Experimental Study at the Ninth Grade Students of State Junior High School 2 Kramat)".

## 1.2 Identification of the Problem

In junior high school, the common problems which are faced by the students is mastering vocabulary. Most of them cannot comprehend the material, read the passage, answer the question or even speak because they do not master the vocabulary as the vital aspect of language.

Based on the problem aforementioned, the writer found some students’ problems in learning English, specifically in understanding vocabulary. The first is that students have difficulty remembering the vocabulary words they have aquired knowledge, because English vocabulary has different meanings in one word. Second, the students do not only learn one subject at school. Therefore, the students have difficulty in dividing their time just to remember vocabulary in English and finally they forget English leassons and the most important problem is the lack of interest from the students themselves.

## 1.3 Limitation of Study

In this research, because it is not enough time, financial, energy and other to study all the problems of the study, the writer only focus to figure out “The Effect of Using Mind Mapping Toward Students’ Vocabulary Achievement at Ninth Grade Students of State Junior High School 2 Kramat”.

## 1.4 Statement of the Problem

Based on background of the study above, the statement of the problems are as follows:

1. How is Mind Mapping strategy implemented in teaching vocabulary at SMP N 2 Kramat?
2. Does Mind Mapping strategy give any positive effect on students vocabulary achievement at the ninth grader students of SMP N 2 Kramat?

## 1.5 Objectives of the Research

Based on the statement of the problem above, the objectives of the research are as follow:

1. This study aims to explain the implementation of Mind Mapping strategy on students' vocabulary achievement.
2. This study aims to find out whether or not Mind Mapping strategy gives positive effect on students' vocabulary achievement at SMP N 2 Kramat.

## 1.6 Significances of the Research

The findings of this research are anticipated to have significance in two aspects. There are theoretical and practical significance. In theoretical, this research is expected able to add information as reference especially for English subject. It is expected able to support the information of previous research.

In practical, the findings of this study can be helpful for teachers, students, school and the researcher. For the teacher is as additional information to overcome the students who have difficulties on comprehend the material, as a feed back to know how far the difficulties of students’ learning English subject. For the students on ninth grader of SMP N 2 Kramat are more interests of English subject. To assist students in gaining an understanding of the material which is taught by the teacher easier. To give a sense of enthusiasm to the students to learning vocabulary. For the school, it can give an advice to school to make an improvement of teaching and learning process in the class. To improve the students learning achievement so that can produce the good quality students and good quality graduation. For the researcher, the results of this study have the potential to expand their knowledge of educational research and teaching English, particularly vocabulary.

# 

# CHAPTER II

# REVIEW OF RELATED THEORIES

This chapter consists of review of related theories, theoretical framework, and hypothesis of the research.

## 2.1 Previous Studies

Several studies have been conducted related to Mind Mapping. Including from Rosaria et al. (2019) entitled Improving Students' Vocabulary and Activity Using Mind Mapping: A Classroom Action Research of First-Semester Law Students at Semarang University's Law Faculty. This study aims to increase students' vocabulary and activity during the teaching-learning process. The sample for the classroom action research conducted at Semarang University consists of first-semester law faculty students. This action research in the classroom employs two cycles. Planning, taking action, observing, and reflecting are the components that make up each cycle. The results demonstrated that by doing mind mapping, students are easy to acquire English vocabulary, particularly English vocabulary for law. Additionally, their test scores improved, and they became more active in class by asking and answering questions, delivering opinions, and completing assignments. Then from Herman et al. (2022) entitled Increasing Students’ Vocabulary Mastery by Using Mind Mapping. The aim of this study was to enhance students' language acquisition skills by utilising mind mapping techniques. The researcher distributed instructional resources on vocabulary acquisition by employing mind mapping techniques within an online learning platform, specifically a WhatsApp group. This study specifically targeted Class VII C, with a total of 25 students, at SMP Tut Wuri Handayani Makassar. The researcher employed the CAR methodology in two cycles. The tool utilised interviews, field notes, test, and documentation. The results of this study indicate that the use of the mind mapping technique led to a significant improvement in students' vocabulary proficiency between cycle 1 and cycle 2. In cycle I, the average exam score was 70.48, with 11 students achieving a completeness rate of 44%. In cycle II, the average test score increased to 80.6, with 18 students achieving a completeness rate of 72%. These findings show that the utilisation of mind mapping might significantly enhance pupils' proficiency in language.

From Tara et al. (2020) entitled Increasing Students' Vocabulary By Using Mind Mapping Technique at SMP N 2 Bitung. This research aimed to examine the possible influence of utilising the mind mapping approach on improving students' vocabulary learning. The research was conducted at SMP N 2 Bitung. This study focused on Class V11-4 during the academic year 2017/2018, which consisted of a total of 35 students. This study utilised a pre-experimental design, incorporating both a pre-test and a post-test for a single group. The pre-test is an assessment given to students before treatment to ascertain their language proficiency. A post-test is an assessment given to pupils to evaluate their performance following therapy or instruction use the mind mapping technique. The results demonstrated that the pupils' post-test scores surpassed their pre-test scores. The data description indicated that the average score of the post-test (82) is greater than that of the pre-test (49). Furthermore, the standard deviation before the exam was slightly greater (7.05) compared to the standard deviation after the test (5.71). This indicates that the utilisation of mind mapping resulted in an enhancement in pupils' vocabulary.

Akbar et al. (2024) entitled Improving the Vocabulary Mastery of Year Eleven Students Using Mind Mapping Method. This research is to examine the efficacy of the Mind Map Technique in enhancing vocabulary acquisition among Grade Eleven students. This study employed a mixed methods technique to investigate both qualitative and quantitative data. A pre-experimental approach was employed, with a sample size of 20 pupils from a single class at SMA Negeri 10 Gowa. The findings demonstrated a notable enhancement in students' vocabulary proficiency as a direct consequence of employing Mind Maps. The first assessment revealed that only 40% of students achieved flawless scores, however following the intervention, the proportion of students attaining perfect marks rose to 70%. Furthermore, the examination of the questionnaire revealed that students exhibited a favourable response towards the utilisation of Mind Maps as a means to enhance their vocabulary. The findings indicate that the Mind Map Technique can serve as a potent instrument for English teachers to enhance their students' vocabulary proficiency. It is advisable to motivate students to apply and commit terminology to memory in authentic contexts.

Arts & Soc (2023) entitled The Use of Mind Mapping Technique in Teaching Vocabulary to non-English Major Students at Dong Nai Technology University. The present study aims to ascertain the extent to which the utilisation of mind maps influences students' vocabulary. The population consisted of 60 second-year students. The study utilised a quasi-experimental design known as the Non-equivalent Group Design Post-test Only Design. The experimental group was instructed in vocabulary acquisition through the utilisation of mind mapping, whereas the control group was exposed to the conventional approach of memorization. A conventional approach to memorization. The study's findings indicate that the utilisation of the mind mapping approach significantly enhanced students' vocabulary acquisition, as evidenced by the results of the initial and final exams. The study suggests that employing the mind mapping technique as an instructional tool can enhance the vocabulary acquisition of non-English major students.

Based on research from Fikriah (2021) with the title The Use of Mind Mapping Technique In Teaching English Vocabulary Type at Seventh Grade Students of SMPN 2 Sungai Pandan. The aim of this research is to examine the utilisation of mind mapping by instructors in the process of teaching English vocabulary, and to assess the effects of utilising mind mapping on the learning of English vocabulary among seventh grade students at SMPN 2 Sungai Pandan. The research employed a qualitative approach. The study found that using mind mapping into English language learning, specifically for verbs, adjectives, and nouns, facilitates comprehension and enhances the memorization of new vocabulary for students. Utilising mind mapping techniques enhances classroom engagement and participation.

Wu & Zheng (2023) entitled Using Mind Mapping for English Vocabulary Teaching. The objective of this study is to investigate the utilisation of mind mapping in the instruction of English vocabulary. The researchers implemented on-site instruction utilising mind mapping techniques at a vocational institution in China and administered a survey to investigate its efficacy. The authors discovered, through practical experience, that employing mind mapping as a teaching method for English vocabulary can strengthen students' ability to remember and apply vocabulary, make the learning process more engaging and efficient, and improve students' capacity for independent learning. To summarise the results of this study, there are: (1) The utilisation of mind mapping in the instruction of English vocabulary can enhance both immediate and enduring memory, with a more notable impact on long-term memory. (2) Mind mapping has a more pronounced impact on the understanding of word meaning compared to word form. (3) Training in mind mapping has a beneficial effect on enhancing self-directed learning of English vocabulary. (4) Mind mapping has a stronger impact on enhancing vocabulary self-learning ability for high-scoring groups compared to low-scoring groups. (5) The implementation of mind mapping is influenced by an individual's language competence and cognitive approach.

Albakia et al. (2023) entitled Improving Students' Vocabulary Mastery Through Mind Mapping on Class VIII Students At SMP Negeri 03 Waesama. This research is a class action research (CAR). The research was carried out in two cycles, specifically cycle 1 and cycle 2, with each cycle comprising four meetings. The research process is composed of four distinct stages: preparation, action, observation, and reflection. The study utilised quantitative data as the primary source, consisting of tests, and qualitative data as supplementary sources, including observation checklists and field notes. The participants in this study consisted of 24 students from class VIII SMPN 03 WAESAMA. The findings demonstrated that the utilisation of Mind Mapping effectively enhanced students' proficiency in language. This is evident in the mean score of eighth-grade students. The mean score in cycle 1 was 72.75, classified as good, whereas the mean score in cycle 2 was 82.37, classified as very good. This study demonstrates that the mean score in cycle 2 surpasses that in cycle 1. The proportion of students who satisfied the requirements for comprehensiveness also rose. In the first cycle, 14 students (67%) achieved the minimal completion criteria (KKM). In cycle 2, all 24 students (100%) achieved the minimal completeness criteria (KKM). Thus, it can be inferred that the utilisation of Mind Mapping can enhance students' academic performance and their proficiency in vocabulary.

Wahid & Sudirman (2023) entitled The Effect of Mind Mapping Technique on Students' Writing Skills. The mind mapping approach is employed to aid pupils in enhancing their writing proficiency. This study approach employs a quasi-experimental design, which consists of two groups: the experimental class and the control class. The disparity between the two classes demonstrated that the experimental class had a significance level of 3.0 and a mean score of 28.25. Consequently, thought mapping is successfully utilised in the classroom to enhance students' writing proficiency. In contrast, the t-test value in the control class is 3.0, and the mean score is 25. This demonstrates the efficacy of mind mapping in enhancing pupils' writing proficiency. This demonstrates that there is a substantial disparity between the scores of the two classes. The Mind mapping technique is efficiently utilised in the classroom to teach writing. This technique focuses on fostering students' critical thinking and creativity in order to structure ideas into coherent sentences. The mind mapping approach is a highly efficient method for assisting students in overcoming issues such as uneasiness and lack of confidence when it comes to enhancing their writing skills. Additionally, it aids students in organising their ideas in a methodical manner, thereby making their work more comprehensible.

Le et al. (2023) entitle The Use of Mind Mapping Technique in Descriptive Writing among Primary School Students. The objective of this study is to provide guidance and incorporate the use of mind mapping in teaching descriptive writing to primary school children. A total of ninety-four fifth-grade kids from an elementary school were chosen to take part in this investigation. Two cohorts of pupils from an elementary school were enlisted for the experiment. The proposed methodology will be instructed in one class, whereas the conventional methodology will be instructed in the other class. The findings indicated that students in the experimental group, who were instructed utilising the mind map technique, demonstrated superior writing skills compared to the control group. Mind mapping possesses numerous educational applications and can assist students in the writing process. Educators can utilise mind mapping tools to enhance their expertise and establish the groundwork for their students' education. Teachers should be incentivized to participate in training programmes focused on mind mapping in order to acquire and hone the necessary skills for implementing mind mapping techniques in their classrooms.

Wafa’ A. Hazaymeh and Moath Khalaf Alomery (2019) entitled The Effectiveness of Visual Mind Mapping Strategy for Improving English Language Learners' Critical Thinking Skills and Reading Ability. This study examined the efficacy of visual mind mapping as a reading technique for enhancing the critical thinking skills of English language learners. Students from two general English classes were assigned at random to either an experimental group or a control group. The California Critical Thinking Test was employed to evaluate the critical thinking proficiency of the participants. The results indicated a statistically significant distinction (p < .005) in the average scores between the experimental group and the control group in the post-test. The visual mind mapping strategy had a positive and significant effect on the critical thinking ability of the participants, favouring the experimental group. The results also demonstrated a significant increase in the scores of the experimental group across all indices of critical thinking. The findings demonstrated that the utilisation of the visual mind mapping technique had a significant impact on enhancing both critical thinking skills and reading comprehension skills. The study's findings demonstrate that employing the visual mind mapping approach significantly improves the critical thinking and reading comprehension skills of English language learners.

Luangkrajang (2022) entitled Use of Mind-Mapping in Language Learning: A Cognitive Approach. The aim of this study is to clarify how the use of mind mapping methodologies might help students develop their analytical, organisational, collaborative, and creative skills. Furthermore, help them to become better in their language acquisition. The results suggested that the incorporation of mind maps in the English classroom promoted active learning among students, allowing them to acquire information, evaluate facts, organise data, and cultivate their own comprehension. Moreover, the use of the mind mapping technique led to improved aptitudes among pupils, encompassing innovative and analytical thinking, cooperative and managerial talents, as well as higher fluency in the English language. In addition, students developed a positive attitude towards the mind mapping method, which they might then use in other academic subjects.

Yugafiati & Priscila (2019) entitled The Use of Mind Map to Improve Students’ Vocabulary. The objective of this study was to enhance the proficiency of eighth grade students at Waringin Junior High School in vocabulary acquisition by implementing mind maps. The research employed the Classroom Action Research (PTK) approach, which encompasses the stages of Planning, Acting, Observing, and Reflecting. Based on the results, it can be inferred that the utilisation of mind maps has the potential to enhance the language skills of eighth-grade students at SMP Waringin Bandung. Furthermore, through the utilisation of mind maps, students can collaboratively address challenges and mutually enhance their vocabulary. This condition has a positive effect on English teachers who teach English in the classroom. This study was carried out in two cycles consisting of a total of seven sessions, with three sessions dedicated to testing and four sessions dedicated to therapy. The process consisted of four stages: preparation, activity, observation, and reflection. Based on the data gathered by the researchers, it can be inferred that including mind maps into vocabulary instruction can enhance students' performance. This demonstrates that the mind map technique is an effective approach. The scores in the pre-test showed a rise from 59.833 to 63.100 in the first post-test, and further climbed to 80.733 in the second post-test. It is strongly advised for teachers to instruct vocabulary, as this approach can serve as a means of refreshing students and mitigating monotony in the course of instruction and learning.

Marunevich et al. (2021) entitled Mind mapping as a tool of teaching English vocabulary at transport university. The objective of this study is to investigate the strategic utilisation of mind mapping techniques in order to enhance students' vocabulary acquisition and retention. The study demonstrated a statistically significant favourable impact of utilising mind maps on the vocabulary attainment of second-year students at Rostov State Transport University. Throughout a sequence of interviews, the students conveyed the advantageous elements of mind mapping, including its aid in exam preparation, stimulation of brainstorming, cultivation of multidimensional thinking, and enhancement of creativity, among others. The researchers have achieved conclusive findings demonstrating that engineering students readily embrace keywords, colours, and images, which are the fundamental elements of conventional mind maps, with more ease compared to text shown alone on a blackboard.

Fitri et al. (2019) with the title Mind Mapping Game‘ Using Pictures to Improve Students’. The objective of this study is to provide a description of the utilisation of mind mapping games that incorporate visual imagery in order to enhance students' vocabulary skills. Engaging in mind mapping activities can enhance students' enjoyment and engagement in the learning process. Students can visually perceive or comprehend the words either through direct observation or by utilising visual aids such as graphics. This study employs the Classroom Action Research (PTK) approach. The findings indicate that mind mapping has a positive impact on students, as it aids in the development of their cognitive abilities and critical thinking skills, particularly in the context of learning English. Introducing English language and vocabulary to beginner level students is beneficial as well.

Al Shdaifat et al. (2019) entitled The Impact of an E-mind Mapping Strategy on Improving Basic Stage Students'. The objective of this study is to examine the impact of mind mapping techniques on addressing difficulties in an English as a Foreign Language (EFL) setting. The study demonstrated statistically significant findings regarding the average scores of the E-mind mapping group, which can be attributed to the instructional technique. Consequently, students in the E-mind mapping group outperformed the control group in both overall vocabulary performance and vocabulary sub-skills. Precision showed the greatest improvement among the sub-skills, whereas generalisation showed the least improvement.

The aforementioned studies provide strong evidence that the mind mapping strategy is useful for improving students' English language skills, particularly their vocabulary. since English is a foreign language in Indonesia and does not use in daily communication, the teacher should use a strategy to encourages the students’ attention and curiosity, if the students feel enjoy in learning, then the purpose of learning will be reached.

Based on the previous studies above, there are similarities and differences. The similarities of the three previous studies journals in the use of mind mapping to improve students' vocabulary. Differences can be found in the type of the research used in conducting a study, some of which are found in the journals using the type of Classroom Action Research (CAR), while in the other journal using the type of pre-experimental research. The research subjects also have differences in journals that use college-level subjects, while the other journals have similarities, namely the junior high school level.

In this study, the writer focuses on explaining the effect of using mind mapping on students' vocabulary achievement in SMP N 2 Kramat at ninth grade, and wants to know whether the use of mind mapping can have a positive effect on students' vocabulary achievement at the junior high school level, especially in SMP N 2 Kramat.

## 2.2 Review of Related Theories

### 2.2.1 Mind Mapping

Mind Mapping is an innovative method for taking notes that helps our to retain a great deal of information (De Porter, 1999: 175). The most effective mind mapping is uses vibrant color, uses numerous images and symbols; it resembles art.

Buzan in (Samhudi, 2015) states that Mind mapping is a highly effective method that uses visual graphics which can provide universal potential to activate the capabilities and intelligence of the brain. The mind mapping method relies on the process of thinking by allowing the mind to move from one topic to another freely. The way the brain records information through symbols, images, emotional meanings and colours naturally processes it so that it can attract students' attention to master vocabulary knowledge because there is a pattern in the form of consisting of images, symbols and colours will make students feel comfortable and fun.

In the 1960s, mind mapping was devised as a successful method of obtaining insights through correlation (Murley, 2007). Mind maps are graphic organizers in which the primary columns radiate from the central concept, and subgroups are depicted as branches of larger categories. A mind map is a equipment item can be employed to organize thoughts, develop concepts, compile notes, and express ideas within them (Budd, 2003; Murley, 2007; Siriphanic & Laohawiriyano, 2010; Al-Jarf, 2011). Consequently, it can be asserted that mind mapping is a language teaching instrument that enables educators to introduce or unify a variety of terms associated with a single subject under a specific theme.

Mind maps are equivalent to conventional outlines in that they organize information through categories and relationships. However, in mind mapping, structures and organizations extend from the central image in a manner that is both organized and coherent, while also free-flowing. Branches that emanate from the central image represent the primary topic or categories that are associated with the primary topic. A keyword or image is used to identify each branch. Related branches are used to create smaller sections within each category.

In order to create a mind map, it is common to start a text in the page's central focus, focusing on the main concept or theme. Starting with the primary theme, then create arrows in every directions to create an expanding diagram consisting of keywords, phrases, concepts, facts, and images. Murley, n.d. (2007) defines mind mapping as a visual representation of ideas, where the central topic is placed in the center of the map, main subtopics are connected to the central topic through branches, and sub-subtopics are positioned around each subtopic. This can be done using traditional pen and paper or with various computer software.

Mind mapping is a graphical representation of ideas, arranged in a circular shape around a central concept. It utilizes a distinctive blend of images, colors, and spatial organization that has been scientifically shown to enhance memory to a greater extent than traditional learning approaches. Mind mapping is an effective visual approach that serves as a universal tool for unleashing the full potential of the brain. The process of activating our brain to recall information requires the use of imagination and association (Buzan, 1993: 15).

According to DePotter and Hernacki (in Abdurrahman, 2008:153), mind mapping is a process that involves the entire brain by relying on visualization with along other visual approaches means to make things more memorable. In addition, mind mapping is a fun way to get students interested in learning vocabulary.

Martin in Trianto (2009: 158), defines mind mapping as a visual representation that demonstrates the relationship between a particular concept and other concepts within the same category. Mind mapping is a cognitive method that engages the use of visual elements such as pictures, symbols, and colors. This technique not merely aids students in comprehending vocabulary knowledge, but as well enhances their positive emotions and engages their cognitive processes, ultimately fostering an interest in mastering vocabulary.

A concrete graphic illustration that demonstrates the relationship between a concept and other concepts in the same category is known as mind mapping (Trianto, 2009: 158), according to Martin. Furthermore, Murley (2007: 15) disclosed that mind maps are straightforward to comprehend. This is advantageous for students, as it can enhance productivity and reduce time. Vocabulary classes may also accommodate diverse learning approaches. Mind-maps are particularly beneficial for individuals who are avid visual learners, as they are more likely to retain information when presented through illustration and other aids to sight than through simple written content.

Likewise, students are able to move their knowledge and apply it to new circumtance by recognizing the connection between prior knowledge and receiving new information through the use of mind mapping. Al-Jarf (2009: 71) has demonstrated that the mind mapping technique is a potent instrument for enhancing students' capacity to generate, visualize, and organize ideas in their pursuit of knowledge.

Furthermore, mind mapping allows students to more effectively arrange, prioritize, and incorporate the information provided in a class Al-Jarf (2011: 51). According to Al-Jarf (2011: 54), mind mapping is utilized to improve the process of learning. Visual learners benefit from the use of visual aids as a means of organizing thoughts, facilitating learning, and establishing connections.

Mind mapping is a cognitive technique that diverges from linear thinking by using the full brain (Buzzan, 2013). It extends in every direction and captures thoughts from any perspective. Furthermore, mind mapping is a method used to condense and visualize the information that needs to be studied, presenting the challenges encountered in the shape of a map or graph. This approach facilitates comprehension. It involves persons engaging in a creative study of a concept, thoroughly examining a subtopic and the ideas related to the theme, and presenting their findings on paper using symbols, words, lines, and arrows.

Additionally, mind mapping offers numerous advantages that can enhance an individual's capabilities (Nurlaila, 2013; Darusman, 2014). Mind mapping has a useful equipment for kids to enhance their learning and critical thinking abilities, addressing the challenges they encounter. Mind mapping can also offer insights to effectively address the encountered challenges (Concenciao, 2017).

The capacity of humans to integrate a wide range of stimuli with their memories is one of the human abilities that has led to the development of new forms of creativity. On the other hand, it is a typical result that learning can be used to measure how far pupils can get in terms of their learning results.

From the discussion related to mind mapping above, It is possible to draw the conclusion that mind mapping is an efficient approach or method that can be utilized as a strategy in order to effectively utilize the power of both sides of the human brain in order to promote learning, problem solving, critical thinking, and memory. This conclusion can be reached based on the information that was presented before regarding mind mapping.

### 2.2.2 Characteristics of Mind Mapping

A mind map is a graphical method of taking notes, as stated in the definition of the term. The visual component of it helps one to differentiate between words or ideas, frequently through the use of colors and symbols. In most cases, mind maps are organized in a hierarchical or tree branch manner, with concepts branching out into subsections. One of the benefits of using mind maps is that they enable the person taking notes to correlate words with visual representations, which in turn allows for better creativity while collecting thoughts and facts. According to Asari (2016), the primary distinction between mind maps and concept maps is that the former only concentrate on a single word or idea, whilst the latter connects a number of words or ideas.

From a center idea, mind mapping extends outward in all directions. In addition, mind mapping may be applied to every facet of life where it can promote learning and clearer thinking which will improve human performance and clearer thinking which will enhance human performance. The following are four important properties of mind mapping: There is a center image, word, or phrase that serves as a summary of the primary subject matter of the mind map. The primary ideas of the topic are depicted as branches that extend outward from the central image. Keywords, images, or themes that are presented on related lines combine to form branches, which then divide into higher sub-branches and branches of connected structures. Branches are made up of these elements.

### 2.2.3 Parts of Mind Mapping

The components of mind mapping, as identified by Windura (2008: 77-86), include: (1) a center image, (2) key words, (3) basic organizing ideas, (4) branches, (5) color, and (6) pictures.

1. Central Image

The central image must encapsulate the core concept of a mind mapping and be positioned at the center of the paper. The purpose is to stimulate student's right brain, enhance their memory, and create an entertaining learning experience.

2. Key Word

A key word is a term that has the ability to initiate or guide a sentence or event. The process involves recognizing a term that is known in either one's native language or another language, which has a similar sound to the new word. Each line should contain only one key word. For students, there is a strong desire to memorize a large number of words. A powerful term or phrase can evoke vivid imagery that stimulates memory retrieval.

3. Basic Ordering Ideas

The basic ordering ideas are the divisions that gather and arrange information, which are linked to the major theme and extend outward from the center. Developing fundamental ordering concepts that can guide our thinking in creating mind maps requires creativity to stimulate students' comprehension of the topic.

At the ends, it is thicker than it is in the middle. They can be interpreted as headings for your subject matter and can be dispersed anywhere, but they do not become extreme.

4. Branches

It is intended that the branches be curved and of the same length as the words or pictures that are located above it. It is possible to consider these branches to be subheadings. It is composed of branches that are narrower and contains information.

5. Colour

Color is an effective mnemonic device that engages the right hemisphere of the brain, facilitating long-term memory retention. Colors stimulate creativity and aid in the process of memorizing. Enhancing your mind map with a variety of colors through the use of branches, a map background, and images will infuse vitality into it. It facilitates comprehension and enhances retention.

6. Picture

Mind mapping involves the use of images that can be altered or strengthened in comparison to a keyword that have been previously created.

From the 6 parts of mind mapping above, it is feasible to get the conclusion that before making mind mapping, it is necessary to know the parts of mind mapping so that in its use it can be understood easily and from these parts it has its own meaning in each part.

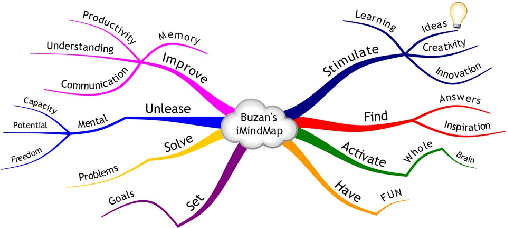
### 2.2.4 Steps of Implementing Mind Mapping Strategy

Based on Purwoko (2005) in Samhudi (2015), mind mapping makes use of colors and graphics to assist in the construction of your imagination while allowing you to express your personal style. It will be easier for the students' memories to form associations if they are presented with words or pictures that are arranged in a branching or curving pattern.

In addition, Purwoko (2005) in Samhudi (2015) provides an explanation of the stages that are needed to create mind maps. These procedures are described below:

1. Students obtain a sheet of blank paper and orient it in a horizontal position.
2. Students begin by creating a colored illustration in the middle of the paper and then write the main keyword in uppercase letters.
3. Next, students are allowed to select a color and start drawing the main theme of mind mapping on thick branches that extend outward from the primary image.
4. Put additional main theme branches everywhere on the map.
5. Create thick and vivid branches that radiate out from the student's mind map.
6. Students preserve the uppercase letter and list the fundamental concepts on keywords.
7. To symbolize each major subject and also help to visualize each significant keyword on the map, place images on every main branch..
8. Students are left to make the mind map as imaginative as possible.

From the explanation above, there are 8 steps to create Mind Mapping and It is possible to get the conclusion that creating mind mapping requires a high level of imagination so that the results of the mind mapping itself can be easily understood.



Picture 1. Concept of Mind Mapping by Tony Buzan

Picture 1 shows an example of tony buzan's concept of the Thinking Mapping strategy. In the figure above, there is a theme placed in the center with a picture as the keyword of the theme.

### 2.2.5 The Advantages of Using Mind Mapping Strategy

There are a few benefits associated with the utilization of the mind mapping approach according to DePorter and Hernacki (quoted in Abdurrahman, 2008: 172). These benefits are as follows:

1.Flexible

Clarifying a concept can be made simple by avoiding confusion and incorporating relevant information utilizing the method of mind mapping as a strategy of mind mapping. In the mind mapping process, we have the flexibility to assign the label and category of something according to our subjective judgment.

2. Concentrate on the Topic

Efficiently identifying the subtopics of our conversation and emphasizing the important themes. Maintaining focus on the keyword enables us to simplify the task and avoid wasting time.

3. Increasing Comprehension

Using mind mapping helps facilitate comprehension of the topic. Mind mapping is a cognitive technique that facilitates comprehension and retention of learnt material by employing a straightforward thinking pattern, hence minimizing confusion.

4. Enjoyable

Using mind mapping allows for limitless imagination and creativity, making the learning process enjoyable. By incorporating visual stimuli such as pictures and colors, it stimulates the brain and enhances its engagement in processing the desired information.

### 2.2.6 Vocabulary Learning Strategy

Mastering vocabulary is a crucial component of acquiring proficiency in a foreign language. Vocabulary is an integral part of language, as jargon constitutes a component of language. (Delatu et al, 2020). Vocabulary is one of the four language abilities. Vocabulary pertains to the lexicon of a language, encompassing the collection of words and their meanings. According to Setiyaningsih et al., (2009) vocabulary encompasses all the words that an individual acquires through both unintentional and intentional indirect exposure to words, as well as explicit education on particular terms and ways for acquiring new words. Learning a foreign language depends critically on vocabulary since English language education often emphasizes the meanings of newly acquired terms. Vocabulary, on the other hand, refers to the knowledge of the English language that serves as the most important single source for second language learners (Muara, 1980).

Vocabulary encompasses the entirety of words that are possessed by a person knowledge of and comprehends. Vocabulary is considered as a fundamental element of language, as stated by Napa (1991). According to Jarpersen (2007), vocabulary refers to the process of creating words using suffixes and prefixes. In order to improve their language skills in speaking, writing, reading, and listening, children need to acquire a wide range of vocabulary. When students begin their English language learning journey, they must acquire a substantial vocabulary in the language. The initial phase involves pupils acquiring a set of vocabulary terms introduced by their instructors.

As stated by Alqahtani (2015), the teaching of vocabulary is an indispensable component of the process of learning a language. When there were no words in a language, it was extremely difficult to learn them. Recent studies have shown that teaching vocabulary would be troublesome due to the fact that many teachers were uncertain about the optimal approach to vocabulary instruction and teachers lacked a clear starting point for developing a focused approach to teaching vocabulary (Berne & Blachowicz, 2008). Such findings have shed light on the fact that teaching vocabulary would be challenging.

The aim of vocabulary learning methods is to encourage students to become active participants in their own education (Ghazal, 2007:84). These strategies have become a component of language learning strategies. Self-direction is a term that is comparable to learner autonomy, which is a goal that aims to aid students in becoming autonomous learners and having their own responsibilities in the process of learning. There are four distinct categories of vocabulary acquisition strategies, according to Gu and Johnson (1996), as cited in Ghazal (2007:85). There are several different tactics, including metacognitive, cognitive, memory, and activation.

The metacognitive technique can be categorised into two distinct processes: selective attention and self-initiation. Selective attention is the cognitive act of identifying and focusing on the key words in a text in order to enhance comprehension. Put simply, this approach involves identifying the crucial terms inside a text. The process of self-initiation involves the creation of a distinct and coherent sense of purpose through the utilisation of various methods. To clarify, the individual employing this strategy will endeavour to achieve a benevolent outcome through various means.

The cognitive technique involves employing a guessing process, effectively utilising dictionaries, and accurately recording knowledge. Thirdly, the memory technique can be divided into two types of activities: rehearsal, which involves creating word lists and engaging in repetition, and encoding, which involves linking information with images, visuals, audio, and so on. Activation strategy refers to the process of acquiring knowledge by employing unfamiliar vocabulary in a distinct setting.

Schmitt (1997) suggests in Ghazal's study (2007:86) that learners utilise many ways to enhance their vocabulary acquisition. He categorises vocabulary acquisition processes into four distinct classes. The methods encompass social, memory, cognitive, and metacognitive aspects. The initial approach, known as the social strategy, entails engaging in social activities such as seeking assistance from others to acquire knowledge about the intended significance. For example, inquiring of the teacher or consulting with other acquaintances. The second strategy involves utilising memory techniques that depend on establishing connections or associations with word knowledge. It implies that learners will rely on their memory to establish connections between newly learnt words and previously acquired ones. Furthermore, the cognitive technique employed in this context bears resemblance to a memory strategy, as it involves engaging in activities such as creating word lists, using flashcards, and maintaining a vocabulary notebook to enhance vocabulary acquisition. A metacognitive strategy is a technique that empowers students to assume control and evaluate their own learning approach.

The taxonomies that have been previously mentioned are regarded as beneficial for educators. Consequently, the educator has the option of selecting a single strategy or combining several strategies to accommodate the students' needs. In the alternative, the educator must take into account the students' preferences when determining which strategy to employ. The teacher must also inform students that they should practise in order to develop their own confidence and proficiency in learning, in accordance with the purpose of the vocabulary learning strategy. To achieve this objective, students must adopt the belief that the learning strategy is solely for their benefit, which necessitates increased engagement in the learning process.

Ultimately, the goal of vocabulary learning tactics should be to empower students to become self-directed learners of new words; after all, teachers can only impart so much information about words to their students.

Knowing that information earlier, this can be deduced that acquiring vocabulary is a key and indispensable ability for mastering the English language. The discussion of the significance of vocabulary pertains to the ability to effectively communicate with others using a particular language. Consequently, it is imperative that we attain a high level of proficiency in vocabulary. Insufficient vocabulary hinders pupils' comprehension of others and their ability to articulate their thoughts.

### 2.2.7 Categories of Vocabulary

Vocabulary refers to one's understanding of the meanings of words. This concept is further complicated by the existence of words in both oral and written forms. Word knowledge can be categorised into two types: receptive, referring to the language that we comprehend or recognise, and productive, referring to the vocabulary that we employ when writing or speaking. Hiebert, (2004) classifies vocabulary in two categories, they are:

1. Receptive vocabulary surpasses production vocabulary. Furthermore, it should be emphasised that when it comes to novice readers, their spoken vocabulary surpasses their written vocabulary by a significant margin.
2. Productive Vocabulary relates to the accumulation of words that a person owns and is able to utilise in both written and spoken communication. They are commonly recognised, familiar words that are often employed.

Thus, the distinction between receptive and productive vocabulary is the time when a word is introduced and stored in the brain, referred to as receptive vocabulary, and the time when the word is retrieved from the brain and used, referred to as productive vocabulary.

There is more to acquiring vocabulary than simply memorizing a list of words. vocabulary instruction in elementary students are frequently asked to recall a large number of words, as school is typically still emotionally concentrated on memorization. Students, however, rapidly forget the words they've learned or memorized.

Harmer (1991:159) categorises vocabulary into two distinct varieties:

* 1. Active vocabulary pertains to vocabulary that is commonly encountered and learnt by students.
  2. Passive vocabulary pertains to vocabulary that students can detect when they encounter the vocabulary, but they cannot interpret it.

Good (1959:644) divides vocabulary into four types:

1. Oral vocabulary is vocabulary that refers to words which a person employs them to express an idea orally and actively.
2. Writing vocabulary is the vocabulary that refers to words commonly used in written form.
3. Listening vocabulary is vocabulary that refers to words that person could comprehend given their hearing.
4. Reading vocabulary is the vocabulary that a person can recognize when they encounter them in the form of written text.

### 2.2.8 The Technique of Teaching Vocabulary

Teaching and learning vocabulary are a difficult activity. It is necessary for teachers to be able to identify and acknowledge the pupils' aptitude and distinctive qualities. It is not the same to teach vocabulary to boys and girls as it is to teach vocabulary to infants, thus the topic taught to students ought to be appropriate for their level or age. Harmer (1991:7) categorizes the students as either children, adolescent beginners, adult intermediates, or adult advanced students.

Gairn's and Redman (1986) propose the subsequent methods for presenting vocabulary:

1. Visual techniques. This technique deals with memory through visuals which are believed to be very helpful in remembering vocabulary. students can more easily remember the material that has been taught through visual aids. Visual techniques are perfect for displaying specific objects of noun vocabulary. many techniques also help in conveying the meaning of verbs and adjectives. These techniques help students to associate the given material in a way that incorporates it into their grammatical system.
2. Verbal explanation. This relates to the utilisation of illustrations, synonyms, antonyms, scales, definitions, classifications, and the utilisation of dictionaries. Using dictionaries is yet another method that can be utilised to determine the meaning of words and expressions that are foreign to oneself. Students have access to a variety of dictionaries, including bilingual, monolingual, pictorial, thesaurus, and other dictionaries that are comparable.

### 2.2.9 Types of Vocabulary

The analysis of lexical relations entails investigating the semantic significance of a word, not based on its inherent characteristics, but based on its association with other words (Yule, 2010). The lexical relations that are typically invoked can be succinctly defined and illustrated, those:

1. Synonymy. This is a word that means the same thing as or almost the same thing as another word. Two or more words that sound the same but mean very different things can sometimes be used instead of each other in a sentence. These word pairs are examples of synonyms: cheer and clap, short and quick, brave and bold.
2. Antonym. A word is said to be an antonym if it has a meaning that is different from that of another word. Antonyms are further divided into two types, namely antonyms that can be graded and antonyms that cannot be graded. The pairs of long-short and up-down are instances of antonyms that are gradable and those that are not gradable. Therefore, Hence, antonyms are two forms with contrasting meanings.
3. Hyponymy. Hyponymy occurs when the definition of one word encompasses the meaning of another word. Cat and animal and cucumber and veggie are two common examples of this type of pair. The idea behind this is inclusion, which says that if something is a cat, then it is an animal. In this case, animal is part of the meaning of cat, or cat is a hyponym for animal.
4. Homophony. It is possible to demonstrate the connection that exists between two distinct (written) forms that possess identical pronunciation through the use of homophony. Some examples of homophony include the pairs die-dye, curb-verb, key-quay, fore-four, and gait-gate.
5. Homonymy. When one version of a word (written or spoken) has two or more meanings that are not related to one another, this is referred to as homonymy. Sow (mature sow) - sow (plant) are two examples of pairs that are examples of homonyms. Lead (first position) - lead (water pipe) is another example.
6. Polysemy. Polysemy refers to the phenomenon where a single form, whether written or spoken, can have numerous connotations that are all connected by extension. Polysemy refers to the characteristic of a single word or lexeme having several meanings or interpretations.

Based on the above description, it can get to draw conclusions that lexical relations are the study of the meaning between words and their relationship with other words. even if the word is unfamiliar, its meaning can be obtained from its relationship with other words. in addition, all relational lexical structures and qualities of meaning can be distinguished by looking at all words or sentences.

### 2.2.10 Vocabulary for Junior High School

The teachers teach English material, including to vocabulary for students grounded on the syllabus (K13). The materials of vocabulary for Junior High School are as follows:

1. Synonym

A synonym is a word or phrase that has an identical or comparable meaning. Therefore, synonyms are many words or phrases that have very similar meanings and can often be used interchangeably in sentences, albeit not always. The following pairs exemplify synonyms: applaud-cheer, brief-short, and bold-brave.

1. Antonym

Antonym is a word that has a meaning that is opposite to that of another. Antonyms are two words with opposite meaning. Gradable and non-gradable antonyms distinguish antonyms into two distinct categories. The antonyms bad-good and dry-wet exemplify graduable and ungraduable pairs.

1. Noun

Nouns can refer to people, places, or things. Such as Maria, the teacher, the book, etc. Nouns serve as the subjects of sentences. In addition, they serve as objects, complements, appositives, modifiers, and indirect address.

1. Verb

Verb is a word that indicates the existence, occurrence, or performance of an action. For instance, the following verbs are used as examples: run, leap, drink, sent, think, feel, sleep, and have.

1. Adjective

Adjectives are lexical units that convey supplementary details on a noun or pronoun, such as kind, bad, smart, attractive, and ugly. For instances pretty girl, talented doctor, young athlete, etc.

1. Adverb

Adverbs are lexical items that specify or intensify the meaning of a verb, adjective, another adverb, or an entire sentence. Examples of adverbs are mindfully, consistently, and truthfully. Additionally, adverbs modify verbs, adjectives, and other adverbs. Almost always, the suffix "ly" transforms an adjective into an adverb. For instance, they spoke rapidly, ran quickly, and worked frantically. Numerous adverbs do not end in "ly," but they all indicate when, where, how, how far, etc. For example, maintain a straight posture and work diligently.

1. Preposition

A preposition is a word used within a sentence to connect nouns, pronouns, or phrases to other words. It typically consists of brief words and is typically inserted directly before nouns. For instance: on, at, next to, behind, front of, side, up, between, to, and down.

1. Conjunction

The term conjunction refers to a word that serves the purpose of connecting several other words, phrases, and clauses. In the realm of conjunctions, one can identify three distinct categories: coordinating conjunctions, correlating conjunctions, and subordinating conjunctions. For instance, the words; so, for, nor, or, yet, but, and (coordinating), before, although, until, when, after (subordinating) are all considered examples.

1. Article

Articles are the terms that define a noun as either specific or generic. It is used prior to a noun as an adjective. For example, the (definite article), a, and an (indefinite articles) are examples of articles.

According to the syllabus, each of the vocabulary materials described above are included at junior high school vocabulary syllabus. The writer of this study will only consider materials pertaining to nouns, verbs, adjectives, and adverbs, as well as synonyms and antonyms. These topics are covered in the syllabus of the ninth grader of junior high school.

## 2.3 Theoretical Framework

From explanation of background of the study and review of related theory which has been told, so the writer can state frame of theoretical as follows:

Picture 2. Theoretical Framework

The writer anticipates that implementing mind mapping is a beneficial and efficient strategy for instructing and inspiring Students in the process of acquiring English vocabulary. In order to effectively learn vocabulary, it is crucial for students to maintain a balance between utilizing the left and right hemispheres of their brain, while recognizing the significance of sensory memory. Students require the entirety of their brain in order to reason with utmost precision. The right hemisphere of the brain is responsible for creative thinking and visualization. The left hemisphere of the brain is responsible for logical and reasonable cognition. Mind mapping integrates and encompasses both hemispheres of the brain. Mind mapping enhances cognitive activity by engaging both the imaginative and analytical faculties of the brain. The picture above indicates the implementation of mind mapping to learn vocabulary achievement. Using mind mapping, students are able to better understand their thinking by classifying and organising their thoughts into related concepts. The process commences with the student's main subject or theme serving as the central concept, and it enables the most significant branches of mind mapping to depict the principal facets of the student's cognition (right hemisphere of the brain). These are then combined with attractive colors and imagery (associated with the left brain) that will provoke brain activity.

Teachers should aim to identify the most efficient approach to teach vocabulary since it is a topic of great relevance. Learning vocabulary calls for classification as well as labelling abilities. The writer uses this strategy to aid students in the process of remembering words, with the aim of enhancing their vocabulary proficiency through enhanced ease of memorization.

Mind mapping is considered to be a strategy or activity that can be employed in vocabulary instruction to convey significant concepts and facilitate the memorization of words in a straightforward manner. Through developing mind maps, students can deeply exploit images and reflect on various elements of learning. In addition, by allowing students to independently generate mind maps, educators establish focal areas for students to broaden their linguistic repertoire, enhance their lexicon, stimulate and engage their creativity, and incentivize them to seek out additional sources of information.

## 2.4 Hypothesis

Based on background of study, theoretical background and frame of thinking above, the hypothesis of this study can be stated as follows:

“The implementation of Mind Mapping has positive effect on students’ vocabulary achievement at the ninth grade students of SMP N 2 Kramat Tegal in academic year 2023/2024 ".

# 

# CHAPTER III

# RESEARCH METHODOLOGY

This chapter consists of research approach, type and design of the research, research variables, population, sample and sampling technique, data collecting technique, research instrument and data analysis technique.

## 3.1 Research Approach, Type, and Design of The Research

### 3.1.1 Research Approach

In this research, the writer used quantitative research. “Quantitative research is a kind of the research to find out the scientific truth proven by index of number” (Arikunto, 2006:2). The writer use quantitative research to find out the differences of students vocabulary mastery between students who are taught by using “Mind Mapping” and students who are taught by using conventional method. By this research the writer determine whether there is positive effect of using Mind Mapping strategy toward students’ vocabulary mastery.

The quantitative method is regarded as robust and applicable as it fulfils all the necessary criteria for testing cause-and-effect correlations (Kusuma, 2021). According to Martono (2014) in his book, the quantitative method is regarded as a highly scientific approach, but it is also considered more challenging compared to other research approaches. Hence, it is imperative to consistently update research studies on this approach to ensure its relevance and applicability in the realm of educational research and other domains. Within the realm of quantitative educational research methods, there are various sorts of methods, one of which is the experimental method. This particular method possesses certain qualities that set it apart from other methods. The approach described is regarded as the most rigorous since it allows for the application of all research principles and criteria (Asep Saipul Hamdi & Bahrudin, 2018). Thus, by employing quantitative approaches, research studies in education will provide novel theories of pure nature.

### 3.1.2 Type of Research

Arikunto (2010:9) defines experimental research as a method used to establish a causal association between two components by examining the cause and consequence relationship. Experimental is usually conducted to see the effect of an action. The type of this research is experimental, because the objective which is reached by the researcher, it is to find out whether the use of Mind Mapping gives positive effect to the students’ vocabulary mastery or not. Experimental research also show what happens when some variables are precisely under control and manipulation.

### 3.1.3 Research Design

The writer used two-group design in this research. Based on Arikunto (2010: 349), to determine the causal correlation between cause and effect (causal correlation), in experiment design, it uses two-group design. Two-group design involves experimental group and control group. First group is experimental group is taught using Mind Mapping while the second is control group is taught using conventional method. In a simple, two group design with control group, the writer wanted to know whether the treatment has an effect or not.

This research used pre-test and post-test control design. Experimental and control group had same material that is Descriptive Text. The population of this research was given a test to find out the effect of using Mind Mapping toward students’ vocabulary mastery at the ninth-grade students of State Junior High School 2 Kramat, Tegal in Academic year 2023/2024.

The writer gave a pre-test, treatment, and post-test. The pre-test was conducted to check the students’ competency before being given the treatment. The treatment given was vocabulary teaching using Mind Mapping. The post-test was conducted to measure the students’ ability after the treatment. The writer used two group design because the objectives which are reached by the writer in this research are to find out whether the use of Mind Mapping strategy gives the positive effect to students’ vocabulary mastery between the students who are taught by using Mind Mapping strategy and those who are not taught by using Mind Mapping strategy.

The design below is about pre-test and post-test control group design

Experimental group : O1 X O2

Control Group : O1 - O2

Notes:

O1 : pre-test X : treatment by Mind Mapping

O2 : post-test - : without by Mind Mapping

## 3.2 Population, Sample, and Sampling Technique

### 3.2.1 Population

According to Sudjana (2010:71) “Population means all the sources of the research, unlimited and large”. Arikunto (2006:133) adds that “Every element that processes one or more characteristics of interest is considered to be part of the population”.

From both of meaning above, so the population in this research is all the ninth grader students of SMP N 2 Kramat in academic year 2023/2024. The population consists of 10 classes with a total number of students of approximately 316 students.

### 3.2.2 Sample

According to Arikunto (2006:131), A sample refers to a portion or representation of the population. Sudjana (2010:71) states that sample is subject chosen from population for investigation. In the process of carrying out research, one of the most crucial steps is to determine the sample. A good sample must be representative sample that can represent the population. It means that representative sample should describe the characteristics of its population.

The research sample selected from total population of the ninth-grade students of SMP N 2 Kramat. The writer took 2 classes from 10 classes as sample. Number of samples is 60 students separated into 2 groups. There are 30 students in each of the groups. The groups comprised experimental group (9B), and control group (9J).

### 3.2.3 Sampling Technique

This study applied cluster random sampling as the sampling technique. Cluster random sampling technique is technique which is used to take a sample to sampling unit (individual) where the sampling unit is on the group (cluster). Each individual unit that makes up a group is selected to serve as a sample. This technique is used if the population is able to be divided into groups, (Arikunto, 2006:134).

In the research, there are 60 students taken as sample. Sample is taken by cluster random sampling technique. Sample in this technique is divided into 2 groups, that is group of experiment and group of control. Group of experiment consisted of 30 students and group of control also 30 students. Group of experimental is taught by applying Mind Mapping. While group of control was taught with conventional technique.

## 3.3 Research Variable

Variable is the research object, or a point of attention in a research. This variable was researched by researcher. Understanding about variable and analyzing or identifying every variable in absolute condition for every researcher. In research of experiment, there are 2 variable types, namely dependent and independent variable.

Variable which can be identified in this study comprises as follows:

1. Independent variable is the effect of Mind Mapping strategy.
2. Dependent variable is students’ vocabulary achievement.

## 3.4 Data Collecting Technique

In this study the writer collects the data through a vocabulary test. The writer give the material using Mind Mapping and while material is deliver the writer set some questions in the mind-map and the students must estimate the meaning of new vocabulary using the clue of mind-map that is show by another student, and the result of the test is the primary data. To collect data the writer uses a test. The test was conducted to measure and know about the effect of using Mind Mapping in teaching learning process. From a test the writer got the quality data that was used in this study and the writer used a test to collect data. The test is multiple choice type. Multiple choices could be scored objectively.

In this research, the test contains 25 items by two alternatives. The alternatives include one correct answer and three incorrect answer. The students only choose the correct answer of the options.

## 3.5 Research Instrument

A research instrument is an equipment that is employed to quantify natural or social phenomena that have been observed, as defined by Sugiyono (2012). This researh collects data through the use of a pre-test and a post-test.

The research instrument of this research is using test. The essence of the instrument is to measure the research variable. Darmadi (2011:85) states that “Research instrument is a tool used to measure information or data”. The test is use to find out whether there is any difference of student’s achievement in vocabulary between the students who are taught by using Mind Mapping and the students who are taught by using conventional method on the ninth grader students of SMP N 2 Kramat in academic year 2023/2024. The vocabulary test is held when the students had finished studying, the test contains vocabulary material which was given by the teacher using Mind Mapping technique.

In order to assess the validity and reliability of the test, the writer tested to try out the instrument to 30 students out of samples. The test given was multiple choice test which consist of 50 question items with 4 possible answers A, B, C and D, the time allocation was 60 minutes.

### 3.5.1 Validity

In quantitative research, validity is essential in quantitative research. When doing a quantitative study, validity is defined as the extent to which a concept is evaluated in an exact manner (Heale & Twycross, 2015). It is described as the precise measurement of the study topic. Sugiyono (2012) asserts that the use of valid and reliable instruments is essential in order to acquire accurate and dependable research results. The accuracy of the research can be determined by assessing its validity. This study utilised SPSS to compute the data.

Table 1. Percentage of Calculation Results of Validity of Test Items

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Criteria | r Count | Question Number | Amount | Percentage |
| Valid | 0,361 | 5,7,9,12,14,16,19,20,21,22,23,24,26,28,30,31,33,34,36,39,40,41,42,43 & 50 | 25 | 50% |
| Not Valid | 1,2,3,4,6,8,10,11,13,15,17,18,25,27,29,32,35,37,38,44,45,46,47,48 & 49 | 25 | 50% |

To test the validity of the instrument, the writer used SPSS 26 software and the testing technique used Pearson Bivariate correlation (Pearson Product Moment). The number of test participants, N = 30 and significant level of 5%, r table = 0.361, then the item is considered valid if r count> 0.361. The validity test results in the table above are questions calculated from 50 questions, after checking into SPSS 26 valid questions there are 25 items.

### 3.5.2 Reliability

The second criterion for assessing quality in quantitative studies is the reliability or accuracy of the instrument used. Creswell (2012) defines dependability as the degree of consistency and stability in the scores obtained from an instrument. Furthermore, Heale and Twycross (2015) asserted that a study instrument consistently yields the same results when used repeatedly. An instrument is considered reliable if it can be used to measure the same item multiple times and still get the same results each time (Sugiyono, 2012).

The Alpha formula uses SPSS 26 software. The criteria for the reliability test are:

1) Reliability is very good if Alpha> 0.90.

2) Reliability is very good if the Alpha value is in the range of 0.70 and 0.90.

3) Reliability is poor if the Alpha value is less than 0.50.

4) If alpha is low, one or more products are unreliable.

The reliability test results for each variable, based on the instrument trials conducted with a total of 50 respondents, are provided in the table below:

Table 2. Table of Reliability Statistics

|  |  |
| --- | --- |
| **Reliability Statistics** | |
| Cronbach's Alpha | N of Items |
| .829 | 50 |

Based on the findings of the reliability test presented in the table above, the Cronbach's Alpha value is 0.829 which is in the high reliability category (in the range of 0.70-0.90). Therefore, it can be interpreted that the variable measurement concept used in this study is reliable.

## 3.6 Technique of Analyzing Data

The researcher's method of comparison between the post-test. The next step is to unify the standard deviation and variance. After the data is obtained, the writer summarized using the t-test. The t-test is used to analyze the data in this study. To compare the experimental group and the control group in terms of calculating the average, the t-test is used. This research used IBM SPSS 26 to perform the calculation.

1. Normality Test

Finding out whether the aquired data is regularly distributed or drawn from a normal population using the normality test is useful. The conventional approach of determining if data is normal is not that difficult. According to te practical experience of various statisticians, it is reasonable to infer the data with a sample size 0f more than 30 (n>30) is regularly distributed.

In this case used the Shapiro-Wilk method, an effective and valid normality test method used for small samples. The Shapiro-Wilk test, with a significance level of 0.05, the researcher performed to determine the normality of the study. If the score is more than 0.05, the distribution data is considered normal. Conservely, if the score is less than 0.05, then the distribution of the data is not normal.

1. Homogeneity Test

To evaluate the data gathered had the same variance, a homogeneity test was performed. Used Levene statistic in the SPSS 26 application to conduct a homogeneity test with a value of 0.05. Similarly, if the normality test value is greater than 0.05, the data are homogeneous and has similar variances. On the other hand, the value 0.05 indicates that the data are not homogeneous.

1. T-Test

The next step is to test to see if the data is regularly distributed. The research hypothesis uses a t-test of two independent samples (Independent sample t-test). This independent sample t-test compares the average of two sets of samples from different populations (Independent). The aim is to determine whether the average of two populations or samples is different. To determine whether the experimental class that received thrapy was different from the control class that did not receive treatment in terms of the average student learning outcomes.