UTILIZING SEMANTIC MAPPING STRATEGIES TO IMPROVE VOCABULARY ACHIEVEMENT IN YOUNG ENGLISH LEARNERS

(An Undergraduate Thesis)

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ABSTRACT

UTILIZING SEMANTIC MAPPING STRATEGIES TO IMPROVE VOCABULARY ACHIEVEMENT IN YOUNG ENGLISH LEARNERS

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This research aimed to examine the improvement of young English learners' vocabulary achievement using semantic mapping strategies. The experiment involved 26 sixth-year students of SD Muhammadiyah 1 Bandar Lampung in the academic year 2024/2025 as the participants. The research utilized a one-group pre-test and post-test design, in which a vocabulary test served as the primary instrument for the data collection, measuring students' performance before and after the treatment. The result revealed a significant improvement in students' vocabulary achievement, with mean scores increasing from 61.41 in the pre-test to 72.83 in the post-test. The t-value of 18.102 with a significance level of $p < 0.001$ indicated a statistically significant improvement in students' vocabulary achievement. Since the p-value was far below the 0.05 threshold, the null hypothesis was rejected, confirming the effectiveness semantic mapping strategy in improving young English learners' vocabulary achievement.

Keywords: *English as a foreign Language (EFL), semantic mapping strategy, vocabulary, vocabulary achievement, young English learners.*

ABSTRAK

STRATEGI PEMETAAN SEMANTIK UNTUK MENINGKATKAN PENGUASAAN KOSAKATA PADA ANAK-ANAK SEKOLAH DASAR

Oleh:

Ratu Intan Thahira

Penelitian ini bertujuan untuk mengkaji peningkatan pencapaian kosakata siswa muda dalam pembelajaran bahasa Inggris melalui strategi pemetaan semantik. Eksperimen ini melibatkan 26 peserta didik kelas enam SD Muhammadiyah 1 Bandar Lampung pada tahun ajaran 2024/2025. Penelitian menggunakan desain one-group pre-test dan post-test, dengan tes kosakata sebagai instrumen utama untuk pengumpulan data, yang mengukur kemampuan siswa sebelum dan sesudah perlakuan. Hasil penelitian menunjukkan adanya peningkatan signifikan dalam pencapaian kosakata siswa, dengan skor rata-rata meningkat dari 61,41 pada pre-test menjadi 72,83 pada post-test. Nilai t sebesar 18,102 dengan tingkat signifikansi $p < 0,001$ menunjukkan bahwa peningkatan pencapaian kosakata siswa secara statistik sangat signifikan. Karena nilai p jauh di bawah batas 0,05, hipotesis nol ditolak, sehingga strategi pemetaan semantik terbukti efektif dalam meningkatkan pencapaian kosakata siswa sekolah dasar dalam pembelajaran bahasa Inggris..

Kata Kunci: *bahasa Inggris sebagai bahasa asing, pemetaan semantik, kosakata, peningkatan kosakata, siswa sekolah dasar.*

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Menyatakan bahwa skripsi ini adalah hasil karya saya sendiri. Sepanjang pengetahuan saya, karya ini tidak berisi materi yang ditulis orang lain, kecuali bagian-bagian tertentu yang saya gunakan sebagai acuan. Apabila ternyata terbukti bahwa pernyataan ini tidak benar, sepenuhnya menjadi tanggung jawab saya.

Bandar Lampung, 21 Juni 2025

Yang membuat pernyataan,

Ratu Intan Thahira

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CURRICULUM VITAE

Ratu Intan Thahira was born in the culturally rich city of Yogyakarta on March 1st 2003. Her life has been marked by movement, growth and resilience, traited by many places she has called home. As the second daughter of Mr. Iwan Wahyudi and Mrs. Dhayu Linggarwati, she grew up in so many undergoing changes that shaped her into someone who values a lot about understanding, independence, and maturity that continue to guide her to this day.

Her early childhood began in Yogyakarta before she moved to Bandar Lampung and stepping her feet into her first formal education in Tunas Mekar Indonesia, and continue her elementary journey in Lazuardi Haura GIS. The transition sparked her adaptability at a young age. Not long after, her academic path brought her to Kotagajah, Central Lampung, where she completed both her junior and senior high school education. During these formative years, when she studied in SMAN 1 Kotagajah, she discovered her love for the English language and her growing interest in teaching. In 2021, her journey came full circle as she returned to Bandar Lampung, this time as a university student. She was admitted to the English Education Department at Lampung University.

During her time in university, she became actively involved in various student organizations that helped her improve her leadership and communication skills through several organization and its programs from Society of English Education Department Students (SEEDS) and AIESEC in Unila.

These academic, organizational, and community experiences have provided Ratu with not only technical teaching skills, but also a deep sense of empathy, cultural awareness, and adaptability. Each environment she has lived in—from Yogyakarta to Bandar Lampung, and Central Lampung in between—has contributed to the shaping of a thoughtful, driven, and socially conscious individual.

MOTTO

"There is No Force More Powerful than A Woman Determined to Rise."

DEDICATIONS

To My Beloved Father.

Iwan Wahyudi.

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Bandar Lampung, 21 Juni 2025

The researcher

Ratu Intan Thahira

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I. INTRODUCTION

This chapter indicates some points at the prior information of the research. It consists of research background, research questions, research purposes, research significance, scope and limitations, and definition of key terms.

1.1 Background

The most crucial component of learning language is vocabulary. Other parts of language acquisition include pronunciation, writing system, grammar, pragmatics, rhetorical modes for reading and writing. This relevance of recent second language (L2) research is demonstrated by the volume of articles published during the decades. Vocabulary is central to language because words are extremely important for the majority of language learners (Zimmerman, 2012). Having a wide vocabulary is crucial for students to succeed academically. It enables them to comprehend complex texts, participate in discussions, and express themselves effectively in written and oral assignments.

Vocabulary is a crucial component of both in acquisitioning language and learning, particularly for young learners in academic settings. It involves the process of learning new words, which is essential for students to comprehend and communicate effectively in their target language. In studying a second language (L2), especially for younger students, developing one's vocabulary is essential. Comprehension, communication, and academic performance are all assisted by language mastery. Learning a significant amount of academic vocabulary is a struggle for young learners studying English as a second language (ESL), requiring particular teaching strategies and distinct challenges. Previous researches indicate that early vocabulary development significantly influences overall language proficiency and academic success.

Formerly, vocabulary development in language instruction was mainly based on rote memorization and repetitive exercise. Learners would frequently use an activity which using drills to assimilate new vocabulary. Strategies such as contextual learning, visual aids, and interactive activities have been proven effective in facilitating vocabulary retention and usage. Oxford (1990) advocated that memory strategies are regarded as "powerful mental tools" for language learners to cope with vocabulary learning difficulties, because they "make learning easier, faster, more enjoyable, more self–directed, more effective, and more transferable to new situations". It should be noted that memory strategies could build up learners' learning autonomy, facilitate their vocabulary and develop a long-term retention of English vocabulary (Zahedi, 2021). The majority of memory strategies, also referred to as mnemonics, entail grouping, using imagery, or connecting the word to be memorized with previously learned information. Nonetheless, semantic mapping comes within the study's area of memory strategy.

Memory strategies play a critical role in language learning by assisting students in storing and retrieving new information, addressing the challenge of remembering extensive vocabulary necessary for fluency. Oxford (1990) emphasized their importance by categorizing memory strategies into ten sub-strategies, such as grouping, associating, and using imagery, among others. There is a notable tendency for language learners to favor strategies involving "shallow" sensory processing, which pertains to visual or acoustic properties, over "deep" semantic processing strategies that engage with the meaning and cognitive context of new vocabulary. This preference aligns with the Depth of Processing Hypothesis (Craik & Lockhart, 1972; Craik & Tulving, 1975), which posits that deeper semantic processing leads to better long-term memory retention compared to shallow processing, which is more conducive to short-term memory. Nattinger (1988) supports the use of deep processing strategies like semantic mapping and grouping in classroom activities to enhance word recall.

A study conducted by Palma (2023) investigate the use of semantic mapping strategy in vocabulary development and retention among Grade 10 students and to

find out whether there is a relationship between semantic mapping and vocabulary learning strategies. The mean gain scores of the pretest and posttest differ significantly from one another. The posttest results indicate that the subjects that utilized semantic mapping as an intervention for vocabulary development showed a significantly higher mean gain score. With a similar strategies by using semantic mapping and vocabulary self-collection as additional tool, the study conducted by Zamrizal (2022) has compared and examined the effects of vocabulary self-collection strategies and semantic mapping strategies for reading comprehension skills. Both of the study used a quasi-experimental design that is nonequivalent in terms of pre-test and post-test group design. Zamrizal (2022) used groups as one of his research design with one group is used as a comparison group and the other as an experimental group. Sabbah (2020) aimed that there are two strategies, which are semantic mapping and question generation, that impactful for student's reading achievement.

Another study has investigated the efficacy of semantic mapping as a pre-reading strategy for improving reading comprehension of cultural texts among beginner EFL which stated by Mouchrif, Mokhtari, & Benzehaf (2023). The study implies that the technique is more effective in improving higher-order thinking skills, such as making inferences and drawing conclusions, rather than simply understanding the surface-level meaning of the text. Similarity by targeting the second language acquisition fields, the adaptation of focusing on vocabulary skill for English First Learner (EFL) that addressed by Nordlund & Norberg (2020) also aim that vocabulary is a key factor in successful language acquisition and as the textbook is central in the teaching of English.

All of these studies align with the purpose of demonstrating that vocabulary skills are crucial for language acquisition and comprehension. However, a research gap remains in understanding the fields of the effectiveness of using semantic mapping to young learners' vocabulary skills in order to building learners' vocabulary retention and the integration of deep processing strategies in classroom settings. While these studies have demonstrated the short-term effectiveness of strategies

like semantic mapping with teenage students, there is limited research on their sustained impact over the preferred of age range. Additionally, the differential impact of these strategies across diverse learner populations and educational contexts is not well explored since the target of the researches are mostly grown-up teenagers.

In brief, his study aims to fill this gap by evaluating whether the use of semantic mapping is impactful to increasing the vocabulary skill among the English as a foreign language learner moreover young learners in public elementary school. The researchers also intend to investigate the long-term retention of vocabulary acquired through semantic mapping, assessing whether this strategy leads to more durable learning outcomes compared to traditional methods.

1.2 Research Questions

As the Research Background explained above, this research attempts to answer the following question of “Is there any significant improvement in young learner’s vocabulary achievement before and after receiving semantic mapping treatment?”

1.3 Research Objectives

In line with the research question, the objective of this study is to evaluate and determine whether the use of semantic mapping can improve vocabulary skills among young learners in public elementary schools. The study also aims to provide practical recommendations for teachers to enhance vocabulary instruction through the implementation of semantic mapping strategies, based on data-driven findings..

1.4 Research Significance

This research aims to make significant contributions to the fields of second language learner particulary in the context of vocabulary learning for young learners. By focusing on semantic mapping, the study addresses the critical need

for effective vocabulary learning strategies, which are fundamental to language learning and overall academic success. Vocabulary is central to language proficiency, enabling students to comprehend complex texts, participate in discussions, and express themselves effectively in written and oral assignments. This study's findings will provide empirical evidence on the effectiveness of semantic mapping in enhancing vocabulary skills, thus supporting educators in adopting more impactful teaching methods.

This study aims to determine if semantic mapping produces more enduring learning results than other techniques by assessing the vocabulary knowledge that is learned through this strategy. Teachers and curriculum designers will find these results extremely useful in creating teaching strategies that guarantee long-term retention while also improving vocabulary knowledge.

Additionally, this study will investigate the effective integration of deep processing methodologies, such as semantic mapping, into classroom settings. Since language learners frequently select superficial sensory processing procedures, it is important to show how more cognitively demanding techniques can be used in a practical and efficient approach. Teachers will be able to design more efficient and entertaining vocabulary learning experiences for their students by using the study's best practices for integrating semantic mapping into a variety of educational situations.

1.5 Scope and Limitations

This research focuses on evaluating the effectiveness of semantic mapping strategies in enhancing vocabulary skills among young learners in public elementary schools. By concentrating on young learners, this study aims to find out how could semantic mapping strategies could be imply in young learners fun learning environment. The research will involve an experimental design with pre-test and post-test assessments to measure vocabulary gains and retention over time. Additionally, the study will explore the integration of deep processing strategies in classroom settings, identifying best practices and entertaining approach for effective implementation.

However, there are several limitations to this research. Firstly, the study's focus on young learners in public elementary schools may limit the generalizability of the findings to other age groups and educational contexts. While the research aims to address the gap in literature concerning young learners, the results may not be directly applicable to older students, adult learners, or those in private or specialized educational institutions. Future research could expand the sample to include a broader range of learners to enhance generalizability.

Secondly, the experimental design class, while robust in many respects, may not account for all variables influencing vocabulary acquisition and retention. Factors such as individual differences in cognitive abilities, prior knowledge, and motivation could impact the outcomes, and the study may not fully control for these variables. Despite efforts to mitigate these influences through careful experimental design, some uncontrolled variables may still affect the results.

In conclusion, while this research seeks to make significant contributions to the field of second language learning by focusing on the effectiveness of semantic mapping for young learners, the limitations highlighted must be considered. Addressing these limitations in future research will help to build a more comprehensive understanding of how vocabulary skills strategies can be optimized across diverse educational contexts.

1.6 Definition of Key Terms

In order to ensured clarity and avoided confusion, this section helped to explains the spesific meanings of important word or concepts used in the study. Researcher used certain terms that may have different meaning interpreted within other context. Therefore, by providing clear definitions of these key terms, the researchers established a common understanding.

1.6.1 Young Learners

An empirical research by Nicholas and Lightbown (2008) shows that there are important differences between younger children, typically below the age of 7 (2 to 7) and those above 7 (8 to 12) in terms of language learning. The focus in this research is on children ageing above seven until twelve years old according to Nicholas and Lightbown definition of terms who are considered to still be at the beginner level of schooling. These learners are in the early stages of their formal education and are developing foundational skills in various subjects, including language acquisition.

1.6.2 Vocabulary Skills

The term "vocabulary skills" describes the capacity to comprehend and apply words correctly in written and spoken communication. In order to speak and write English, children need to learn one to two thousand words (Cameron, 2001). Learning new words, comprehending their meanings, and being able to use them effectively in various circumstances are all part of the vocabulary development process for young learners. This is an essential part of academic achievement and language competency.

1.6.3 English as a Foreign Language (EFL)

English as a Foreign Language (EFL) refers to the use of English in a non-English-speaking region or by non-native English speakers. In this context, English is not the primary language of communication and is usually learnt for educational, professional, or personal purposes rather than for direct use in daily interaction. Gebhard (1996) states that by EFL, English as studied by people who live in places where English is not the first language of the people.

1.6.4 Semantic Mapping

Johnson (1986) explains that semantic mapping is a categorical structuring of information in graphic from. This technique involves creating a diagram that shows the relationships between a central word and related words or

ideas. Semantic mapping helps learners understand and retain vocabulary by connecting new words to their existing knowledge and by visualizing the associations between concepts.

II. LITERATURE REVIEW

This chapter explores various theories within a framework centered on the topic of the effectiveness of semantic mapping for young learners' vocabulary skill. It encompasses the concepts related to vocabulary learning strategies, the cognitive processes involved in semantic mapping, and the impact of these strategies on vocabulary retention and usage among elementary school students.

2.1 Definition of Vocabulary

An individual's knowledge and usage of words in a given language is referred to as their vocabulary, which is a crucial aspect of language ability. According to the Cambridge Advanced Learner’s Dictionary (2008), vocabulary encompasses all the terms that are known and utilized by an individual, along with all the terms that are found in a specific language or topic.

The definition above emphasizes two essential components of vocabulary: an individual's personal lexicon and the larger lexicon connected to a particular language or academic subject. The terms that a person actively uses in conversation as well as those they comprehend when reading or listening are included in their personal lexicon. On the other hand, the term "broader lexicon" refers to all of the terms that are available in a language, including both specialized and common terms that are utilized in a variety of situations and fields.

In the context of English as a foreign language, Vocabulary is acknowledged as a key component or a central element that profoundly affects learners' capacity for successful communication. According to Thornbury (2002), students may express

themselves more clearly and creatively when they have a large vocabulary. Given its significant influence on students' communicative skill and confidence, he proposes that vocabulary development needs to be a fundamental component of language learning. Additionally, Hiebert and Kamil (2005) describe vocabulary as the understanding of word meanings. Therefore, vocabulary encompasses the elements of language that individuals use to communicate with one another in their everyday activities.

In conclusion, vocabulary is an essential part of learning a language and includes understanding individual words as well as their usage, meanings, and appropriateness in various contexts. In any language, it is necessary for both successful academic communication and academic achievement. Many academics have emphasized the comprehensive understanding of vocabulary, which emphasizes its importance in language training and the necessity for efficient teaching methods to improve vocabulary knowledge and retention.

2.2 Teaching Vocabulary

Teaching vocabulary is an essential component of language education since it affects students' comprehension and productive language usage. Numerous academics and instructors have investigated techniques and approaches to improve vocabulary learning, emphasizing the significance of vocabulary for overall language ability.

Vocabulary has become part of the syllabus design in learning language since it is an essentials part in language mastery. It is crucial to learn vocabulary in English in order to support speaking, listening, writing, and reading skills (Sutarsyah, 2015). However, in our status quo right now, a major issue in teaching english is the lack of students motivation due to their limited vocabulary knowledge. Students often struggle to achieve high levels of success in their language learning abilities because of this deficiency.

According to the problem stated by Andini, U., & Sutarsyah, C. (2019) was that the teachers frequently taught the students from the books without providing them with other ideas or acceptable media, which led to the students becoming overly dependent on those books. Students need a meaningful learning moreover for the young learners. Learning from textbook merely is a formal way of how schools have performed without giving students the real context of the language meaning. As a result, they found it difficult to learn English and ended up becoming passive learners. To address this, educators need to implement engaging and varied instructional methods that cater to different learning styles and preferences.

To summaries, the process of teaching vocabulary is complex and demands a blend of inventive strategies, contextual learning, and explicit instruction for effective outcomes. Teachers may facilitate students become more proficient in language by recognizing the value of vocabulary and using a variety of instructional strategies. In order to foster student motivation and language learning success, it is essential to address the challenges associated with teaching vocabulary.

2.3 Aspect of Vocabulary

Vocabulary knowledge is an essential component of language learning and literacy development. It includes not only the amount of words known, but also the level of understanding and capacity to utilize these words effectively in communication. In the field of vocabulary learning, one of the most influential frameworks comes from Nation (2001), who emphasizes that knowing a word is not as simple as knowing its translation or definition. Nation stated that learning vocabulary is a multifaceted process that requires comprehension of three key aspects: form, meaning, and use. These three apects represent the depth of knowledge learners need to fully acquire and apply a word in both receptive (listening and reading) and productive (speaking and writing) skills.

2.3.1 Form

According to Nation (2001), understanding a word's form—which includes its spoken, written, and component parts—is the first step in learning it.

Students must be able to identify and produce the word's spelling, pronunciation, and construction, for example with prefixes, suffixes, or root words. Accurately applying these components is the goal of productive knowledge, while understanding them is the goal of receptive knowledge in form.

This component is essential, especially for younger students who are still learning orthographic and phonological awareness. When writing, many young learners may misspell or pronounce words they recognize in writing. By focusing both production and recognition, students are more capable to understand the word's form. This research was limited to assessing receptive vocabulary knowledge through listening, focusing only on learners' ability to recognize word meaning from spoken input through the class activity that was given. As a result, other aspects of supporting word form were not included. These components, though important, fell outside the scope of this research. It is therefore suggested that future researches explore both receptive and productive aspects of word form to provide a more complete picture of vocabulary development.

2.3.2 Meaning

The second dimension of word knowledge, according to Nation, is meaning. This involves form and meaning (knowing what a word represents), concept and referents (understanding what the word refers to in the real world), and associations (recognizing related or synonymous words). Both receptive and productive knowledge are needed to fully grasp a word's meaning.

In this research, the students were involved in activities that supported their development in knowing the meaning of words through interactive learning tasks. Students developed their understanding of word meaning through semantic mapping activities and visual materials provided by the teacher.

2.3.3 Use

The third component refers to the grammatical and functional application of the word. This includes knowledge of *grammatical patterns* (e.g., knowing

that *climb* is a verb), *collocations* (e.g., *climb the tower*), and *constraints on use* (e.g., formal vs. informal, or spoken vs. written usage).

Students develop an awareness of use when they help complete sentences, describe story events, and fill out the semantic web. Even though the lesson does not explicitly label word types like "verb" or "conjunction," learners still practice using words appropriately in context—combining content words like *hair*, *climb*, *fast* with functional words like *and*, *because*, or *the*. This implicit exposure builds intuitive knowledge of vocabulary use over time.

While Nation identifies three key demensions of word knowledge, this research intentionally focused on the first two aspects due to the scope and nature of the classroom activities provided to young learners. Listening to the story introduces learners to the 'form' of words, especially when combined with written examples. Group discussion and word-mapping support 'meaning' through contextual explanation and visual representation.

As stated in the aspects explanation, he component of 'form' was acknowledge in the research, however it was not explored in literal its literal sense. In Nation framework, 'form' includes the written and spoken appearance of a word, such as its spelling, pronunciation, and morphological construction (e.g., root, prefixes, and suffixes). Students' proficiency in pronouncing and spelling the target vocabulary was not specifically evaluated in this study. The form-related input was provided only receptively through listening activities, not through productive means such as speaking or writing tasks. As a result, the study did not focus on literal elements like phonological production or orthographic accuracy. Instead, learners worked on identifying words in relation to visual materials and recognizing word structures through auditory input.

To gain a more comprehensive picture of vocabulary development, future studies are recommended to include both receptive and productive dimensions of word

knowledge, particularly in the area of form and especially in word use, including grammar and collocation application in context.

2.4 Concept of Semantic Mapping

According to Kholi and Sharifafar (2013), "semantic mapping" is a visual approach for expanding vocabulary and knowledge which involves categorizing similar words. A semantic map is a method for visually representing cross-linguistic regularity or universality in semantic structure Georgakopoulos (2019). Typologists have found this approach appealing since it presents a useful graphical representation of the connections between meanings or functions in many languages, while simultaneously distinguishing between universal and language-specific concepts.

Memory strategies, such as semantic mapping, are effective in aiding vocabulary retention. Oxford (1990) categorizes memory strategies into various techniques, including grouping, associating, and using imagery. Semantic mapping, which involves visually organizing words and their relationships, helps learners understand and remember vocabulary more effectively. By creating visual connections between new words and existing knowledge, students can enhance their memory and recall abilities.

Semantic mapping requires collaboration between the teacher and the students in order to create a diagrammatic map that represents the relationships between vocabulary given by the teacher, vocabulary chosen by the students, and vocabulary found in reading text. Participating in a semantic mapping process awakens students' prior knowledge about the topic and provides an effective technique to strengthen important words, helping students to incorporate new language into their existing conceptual frameworks. Semantic mapping helps the learners learn unknown words within a semantically connected network.

2.5 Teaching Vocabulary through Semantic Mapping

Research about learning strategies has focused on language learning and teaching in order to provide insights for developing effective vocabulary teaching and learning (Dilek, Y., & Yürük, N., 2013). In teaching vocabulary, it is essential to employ a variety of techniques to keep learners engaged and enthusiastic about English classes, preventing boredom during the learning process. The semantic mapping technique focuses on enhancing comprehension by illustrating the relationships between words. Students tend to remember words more effectively when they see them organized in a map, as semantic mapping serves as an excellent method for presenting vocabulary.

Semantic mapping is an instructional approach that involves constructing visual representations of words and their meanings. This strategy assists learners in categorizing words, understanding their relationships, and developing a network of vocabulary knowledge. Semantic mapping helps to organize language cognitively by visually illustrating how words are associated through categories, synonyms, antonyms, and other associations. This strategy not only aids in the acquisition of particular words, but it also improves students overall comprehension of language structure and usage.

Semantic mapping is currently shown to be beneficial in enhancing vocabulary learning and retention. By connecting new language to prior knowledge, semantic maps can be an effective tool for supporting students in understanding and memory of the material, as Heimlich and Pittelman (1986) showed. For visual learners, such as young learners, the graphical representation of words helps in better retention and recall. For students who struggle with traditional rote memorization techniques, semantic maps offer a meaningful context for understanding and remembering new vocabulary.

Semantic mapping needs to be implemented carefully, and teachers must provide direction. Teachers must help students in creating and organizing words by giving

them accurate guidance. This could entail giving background information, guiding the categorizing process, and facilitating discussions to increase comprehension. Therefore in this case of the implementation of semantic mapping to enhance young learners vocabulary, teachers need another supporting tools which is pictures of a situation that will lead students to vocabulary knowledge transfer.

With proper scaffolding, students can effectively use semantic maps to enhance their vocabulary learning. By implementing this technique, the visual and associative learning help students organize and recall new words. It also encourages active involvement and teamwork. Semantic mapping can be used to make vocabulary instruction more dynamic and productive for teachers and students.

2.6 Procedure

Within the explanation of teaching vocabulary through Semantic mapping, and referring to Paul Nation's Theory, this part of research examines the procedure for teaching semantic mapping to enhance vocabulary skills among young learners, focusing on a specific instructional framework involving pictures, questioning, and the use of semantic maps.

1. The first step in this instructional framework involves showing an assistance of a video story or story telling to picture a situation. With the theme of fairytale, student were shown a video with subtitle of a fairytale story. This activity serves a powerful visual that is able to stimulate their cognitive, as it able to provide a concrete context for understanding abstract words (Paivio, 1990). By presenting an engaging video, teachers can create a visual anchor for the vocabulary to be learned, making it easier for students to grasp and remember new words.

2. Following the presentation of the story, teachers encourage students to have discussion related to the story by asking stimulative and interactive questions. Within this kind of activity, it could activate students' prior knowledge and encourages them to think about the context of the story. Moreover, it fosters a

communicative classroom environment where students are encouraged to participate actively.

3. After engaging students with questions, the teacher introduces the semantic mapping activity. Teacher starts to write the main topic or key word in the center of the map, then eliciting related words from the students and adding these to the map in connected clusters. To stole and help more young learners to understand better, students are shown pictures related to the topic and had a discussion with the whole class, the process of semantic mapping would be a meaningful learning to the students, moreover young learners.

   For instance, if the picture is of a kingdom/castle in fairytale, the key word "kingdom" might be placed at the center. Categories such as "king/prince/princess" which related to people and roles, “places” like tower or castle, and "fantasy/legend" can be created around the central word, with students contributing words to each category based on their observations and responses to the earlier questions. This collaborative process helps students to see how words are related and provides a structured way to organize new vocabulary.

4. After gaining new vocabulary by doing the semantic mapping technique, students are asked to take an assignment which testing their knowledge after the learning process and testing whether this approach is effective to applied.

The technique for teaching vocabulary through semantic mapping is well-structured, beginning with visual stimuli and progressing through interactive questioning to the production of a semantic map. This strategy uses the qualities of visual learning, active engagement, and cognitive organization to improve vocabulary acquisition in young learners. Teachers may create a dynamic and effective learning environment that encourages vocabulary growth by incorporating visuals, interactive questioning, and semantic mapping.

2.7 Advantages and Disadvantages

Semantic mapping is a collaborative and interactive strategy used to enhance vocabulary skills in young learners. Young learners' vocabulary knowledge could be improved by the use of semantic mapping, an innovative and successful teaching technique that has drawn attention. To optimize its efficacy, it must be taken consideration that, like to other instructional instrument, it has a unique set of benefits and drawbacks. It's important for educators to understand both of these advantages and disadvantages if they are willing to properly integrate semantic mapping strategies into their teaching and overcome the learning objectives.

Semantic mapping technique has various benefits that contribute to its effectiveness in educational environments. One key benefit is the encouragement of collaborative learning. Semantic mapping allows students to collaborate, building a sense of community and actively participating in the learning process. This collaborative setting not only improves vocabulary acquisition but also fosters social and communication skills in young learners.

Another advantages of semantic mapping is the ability to support in contextual learning. Students learn more efficiently and effectively when they correlate new vocabulary to previously learned words and concepts. This strategy takes advantage of the fact that word acquisition is most effective in familiar settings, allowing students to expand on their existing knowledge base. Furthermore, the use of graphical tools in semantic mapping allows students to arrange and integrate new terminology to what they already know, improving both visual and conceptual understanding. This graphic representation makes abstract topics more concrete and accessible, which improves comprehension and recall.

Despite its numerous benefits, semantic mapping has several drawbacks, especially when applied to young learners. One initial challenge is that young learners may struggle to develop words linked to the key idea word, particularly if they have little prior knowledge of the issue. This difficulty requires extensive teacher support;

educators must give scaffolding, such as previous knowledge or a list of related words, to help pupils generate vocabulary. Furthermore, semantic mapping can be a time-consuming process, especially if it is used widely or in big classes, which can be inconvenient in situations with tight deadlines. Furthermore, young learners may lack the essential reading and writing skills to fully participate in the activity, requiring changes such as using visuals instead of words.

The advantages of implementing semantic mapping for vocabulary development in young learners outweigh the disadvantages. Semantic mapping's collaborative and interactive nature generates an engaging learning environment that promotes deeper comprehension and vocabulary retention. Students may more effectively internalize and recall language if they organize it graphically and connect it to previous knowledge. This strategy also promotes active involvement and critical thinking, which are necessary for academic achievement.

2.8 Previous Studies

Several research have examined into the effectiveness of semantic mapping as an instructional approach in language education, with a focus on improving vocabulary development and comprehension abilities. This overview of the literature looks at a number of significant research that have used semantic mapping techniques, emphasizing their approaches, conclusions, and ramifications. There is still a significant study vacuum concerning the application of semantic mapping for young learners, despite the number of studies on the topic.

Palma (2023) conducted a study focusing on the use of semantic mapping strategies to improve vocabulary development and retention among Grade 10 students. The study aimed to determine whether there was a significant relationship between the use of semantic mapping and vocabulary learning strategies. Utilizing a quasi-experimental design, Palma employed pre-test and post-test assessments to measure the vocabulary gains of the students. The results indicated a significant increase in the mean gain scores from pre-test to post-test, demonstrating that students who used semantic mapping as an intervention exhibited substantial improvement in

their vocabulary development. This study underscores the effectiveness of semantic mapping in enhancing vocabulary acquisition and suggests its potential applicability in various educational contexts.

In a similar vein, Zamrizal (2022) investigated the effects of semantic mapping and vocabulary self-collection strategies on reading comprehension skills. This study also employed a quasi-experimental design with nonequivalent groups. One group was designated as the experimental group, using semantic mapping strategies, while the other served as a comparison group, employing vocabulary self-collection strategies. The study found that both strategies positively impacted reading comprehension, but semantic mapping had a more pronounced effect on students' ability to understand and recall vocabulary within the context of reading. This comparison highlights the relative efficacy of semantic mapping over other vocabulary learning strategies.

Sabbah (2020) explored the combined use of semantic mapping and question generation strategies to enhance students' reading achievement. The study aimed to determine how these two strategies could be integrated to improve reading comprehension and vocabulary acquisition. The findings revealed that both strategies significantly contributed to students' reading performance, with semantic mapping providing a strong visual framework for understanding text structure and vocabulary relationships. This study emphasizes the value of combining semantic mapping with other instructional strategies to maximize educational outcomes.

Another significant contribution comes from Mouchrif, Mokhtari, and Benzehaf (2023), who investigated the efficacy of semantic mapping as a pre-reading strategy for improving the reading comprehension of cultural texts among beginner EFL learners. Their research highlighted that semantic mapping was particularly effective in enhancing higher-order thinking skills, such as making inferences and drawing conclusions. The study suggested that while semantic mapping helped students grasp the surface-level meaning of texts, its primary strength lay in

facilitating deeper cognitive processing and comprehension of complex cultural content.

Nordlund and Norberg (2020) addressed the importance of vocabulary skills in second language acquisition, focusing on EFL learners. Their research emphasized the central role of textbooks in vocabulary teaching and the necessity of integrating effective vocabulary learning strategies, such as semantic mapping, into the curriculum. The study concluded that vocabulary is a critical factor in successful language acquisition and that semantic mapping could significantly enhance students' vocabulary skills, making it an invaluable tool for EFL instruction.

Essentially these studies show that semantic mapping is effective in different educational contexts and that it affects vocabulary development and reading comprehension, there is a significant research gap regarding the use of semantic mapping strategies for young learners. The majority of current research focuses on intermediate or advanced EFL learners or older students. Because of their distinct cognitive and developmental characteristics, young learners require specialized instructional strategies that take into account their individual requirements and learning preferences. In order to fill the gap in the existing literature, more research is required to investigate how semantic mapping might be successfully modified and applied to improve vocabulary learning among young English language learners.

2.9 Theoretical Assumption

Based on a review of existing research on semantic mapping methodologies, various theoretical assumptions can be made about their application in improving vocabulary development, particularly among young English language learners.

Semantic mapping technique requires a deep process of learning the information, and most likely to be remembered since it encourages young learner to think about the relationships between words and concepts. Instead of just merely memorizing

definitions, the concept of semantic mapping emphasizes learners construct knowledge through active engagement and interaction with the supporting materials. This approach involves learners in the creation of their won maps, fostering active learning and personal connection to the vocabulary.

Utilizing semantic mapping to young learner indicates the social interaction and scaffolding process which is needed by the young learner in learning English foreign language. Semantic mapping allowing learner to discuss and negotiate meanings and relationships between words while receiving guidance from teachers and peers which in line with Vygotsky's sociocultural theory. Additionally, semantic mapping helps regulate cognitive load by organizing information visually. By requiring this process, learning new language could be processed and remembered more easily without overwhelming young learner's cognitive resource.

The interactive and visual character of semantic mapping may increase motivation and engagement, especially among young learners. By making vocabulary learning more dynamic and less rote, semantic mapping increases students' interest and involvement in the learning process. Finally, the Connectionism approach to cognitive research holds that mental processes can be represented using interconnected networks of simple elements. Semantic mapping illustrates connectionism by visualizing the network of word connections, which aids in vocabulary comprehension and retrieval.

By integrating these theoretical assumptions, semantic mapping offers a holistic method to vocabulary education that promotes young learners' cognitive development and language learning. This strategy not only improves vocabulary memory, but it also promotes deeper comprehension and a more enjoyable learning experience.

2.10 Hypothesis

In the research, the formulation of hypotheses is a critical step based on the problem identified in the first chapter. In alignment with the problem identified, this research proposes the following hypotheses:

> H_1 : There is a significant improvement in young learners' vocabulary achievement after receiving semantic mapping treatment.

Therefore, the researcher necessarily conducted a further research to experiment on semantic mapping as a strategy to teach vocabulary skills to solve the problem among young learners. This research aims at find out the of the use of the semantic mapping strategy to enhances young learner's vocabulary knowledge.

III. METHOD

This chapter presents the research method consists of research design, variable of the research, data source, data collecting technique, research instrument, data analysis, and hypothesis testing.

3.1 Research Design

This research used a quantitative study that intends to see the effect of utilizing semantic mapping technique in young learners' vocabulary class and find the result of students' vocabulary knowledge. Pretests and posttests are frequently used by evaluators in their assessment designs, allowing them to measure the outcome of an intervention both before and after it happened (Palma, 2023). In the several previous studies that have stated, most of the researches employed two test which were the pre-test and post-test. The purpose of the pretest was to assess students' vocabulary prior knowledge to receiving treatment, and the posttest was intended to determine students' vocabulary mastery following treatment and the effectiveness of the semantic mapping strategy employed to assist in vocabulary learning.

Therefore, this research was categorized as a one-group pre-test and post-test under the experimental design class. The design of this research could be represented as follows:

T1 X T2

Descriptions:

T1 : Pre-test

X : Treatment by using semantic mapping technique in class to enhance young learners' vocabulary knowledge.

T2 : Post-test

The one-group pretest-posttest design consists of three phases: offering a pretest measuring the dependent variable, giving the experimental treatment to the subjects, and conducting a posttest evaluating the dependent variable.

3.2 Research Variables

This study involves two main variables which are the independent variable and the dependent variable. The independent variable (X) is semantic mapping, a visual strategy used to teach vocabulary by grouping words according to meaning, association, or context. In this research, semantic mapping is implemented as a treatment over several sessions during English vocabulary lessons. The dependent variable (Y) is the students' vocabulary mastery, which refers to their ability to understand and recall the meaning of English words. This variable will be measured using a vocabulary test consisting of multiple-choice and matching items, administered as a pre-test and post-test.

To analyze the relationship between the variables, this study will apply quantitative analysis using paired sample t-tests. The mean scores of students' vocabulary tests before and after the semantic mapping treatment will be compared to identify any significant improvement. Additionally, a normality test (e.g., Shapiro-Wilk) will be conducted prior to the t-test to ensure that the data meets the assumptions required for parametric testing. The statistical analysis aims to determine whether the implementation of semantic mapping (X) leads to a statistically significant improvement in the students' vocabulary mastery (Y).

3.3 Data Sources

According to (Fraenkel, 2016) data sources refers to the group that the researcher is interested in and to whom they would like to apply the findings of the study.

3.3.1 Population

The subject of this research involved 30 student at the sixth year grade of SD Muhammadiyah 1 Bandar Lampung in academic year 2024/2025.

3.3.2 Sample

The research focuses on sixth-year students, Class of Arrabi from SD Muhammadiyah 1 Bandar Lampung, a primary school located in Bandar Lampung, Indonesia. This school serves as the setting for the study due to its diverse student population and commitment to innovative teaching methods. The target population comprises all sixth-year students enrolled at SD Muhammadiyah 1 Bandar Lampung, estimated to be around 26 students in one class. These young students, who are usually between the ages of eleven and twelve, serve as a perfect group to study the impact of semantic mapping in vocabulary training because of their developmental stage and receptivity to varied teaching methods.

3.4 Instruments

In this study, the primary instruments used to collect data are pre-tests and post-tests designed to measure vocabulary knowledge and retention among first-year students at SD Muhammadiyah 1 Bandar Lampung. Ensuring the validity and reliability of these instruments is crucial for obtaining accurate and consistent results.

3.4.1 Validity

Relevance determines validity. This indicates that the test captures the required data. According to Hughes (1989:22), there are three different kinds of validity: face, construct, and content validity. The researcher examined the test from the perspectives of construct validity and content validity in order to determine whether or not it has high validity.

a. Face validity

Allen, Robson, dan Iliescu (2023), stated that face validity is a legitimate form of validity that is reflected in the clarity, relevance, difficulty, and sensitivity of a measure to its intended audience. This means that face validity should not be seen as a superficial or unimportant type of validity. Instead, it plays a critical role in ensuring that the assessment tool is perceived as appropriate and understandable by the people who are actually taking the test.

Before being used in the actual study, a small group of students also took the vocabulary exam in this research. The try-out was designed to assess the test's face validity by determining whether it seemed appropriate and acceptable for the target population. The test form, which included multiple-choice questions and pictures, was tested to make sure it was understandable and appropriate for sixth-grade students. This stage assisted in verifying that the test seemed to measure vocabulary knowledge as intended from the students' point of view.

b. Content validity

A test's content validity refers to how effectively it captures a representative sample of the subject matter it represents. The relevance of the sample and the test's appearance are the main concerns of content validity. In designing the English final test, content validity is reflected in how well the test items are structured according to the established curriculum (Setiyadi, 2018). The learning and test were acquired from a book titled “Grow with English” for sixth grade which using *Kurikulum 13* as the reference. The learning mainly focused on one topic “Goldilocks and the Three Bears”. The test focuses on important words—nouns, verbs, adjectives, and adverbs. The test's primary focus is vocabulary meaning, which measures students' comprehension of words in context. Content validity is utilized to evaluate whether the

material included in the instruments of this study corresponds with the intended measurement of vocabulary achievement.

c. Construct validity

A test possesses construct validity if it shows a relationship between the test scores and the prediction of a theoretical trait (Ginty, 2013). Construct validity involves ensuring that the research instruments accurately measure the intended constructs or theoretical concepts. In the context of this research, it assesses whether the instruments effectively measure vocabulary achievement and include items or questions that are conceptually relevant.

The validity in this study is used to ensure that the research instruments accurately gauge the constructs and concepts of interest. Utilizing content validity ensures that the questions in both the pre-test and post-test align with the intended measurement of vocabulary achievement and language learning objectives. Additionally, implementing construct validity evaluates the instruments' ability to accurately measure vocabulary achievement and the effectiveness of semantic mapping as an instructional technique for young learners. In this study, the vocabulary test consists of 50 questions include an underlined word within a sentence, and students are asked to choose the closest meaning from the options (a, b, c, d). This format ensures that students demonstrate their ability to recognize and interpret word meanings in context. The test measures students' comprehension and ability to apply vocabulary in relevant contexts by asking them to choose the word that best matches their meaning.

Table 1. Spesification of Number Test Items

No	Types of Content words	Number of items	Percentage	Items Numbers
1.	Noun	11	22%	1, 2, 4, 5, 6, 8, 9, 10, 11, 17, 25
2.	Verb	10	20%	3, 12, 15, 16, 19, 20, 21, 22, 23, 26
3.	Adjective	21	42%	7, 13, 18, 24, 27, 28, 29, 30, 31, 32, 34, 35, 36, 37, 39, 41, 43, 45, 46, 48, 50
4.	Adverb	8	16%	14, 33, 38, 40, 42, 44, 47, 49
Total		50 Questions	100%	

As indicated in Table 1, there were fifty items in the vocabulary test. Nineteen items were rejected due to the product's failure to fulfill the discrimination power and level difficulty requirements in Appendix 5.

Table 2. Spesification of Pretest Items

No	Types of Content words	Number of items	Percentage	Items Numbers
1.	Noun	11	27.5%	1, 2, 4, 5, 6, 8, 9, 10, 11, 15, 20
2.	Verb	8	20%	3, 12, 13, 14, 17, 18, 19, 21
3.	Adjective	15	37.5%	7, 16, 22, 23, 24, 25, 27, 29, 31, 33, 34, 35, 36, 38, 40
4.	Adverb	6	15%	26, 28, 30, 32, 37, 39

Total	40 Questions	100%	

Table 2 presents the specification of the pretest items used in this study, which consisted of 40 multiple-choice questions covering four types of content words: nouns, verbs, adjectives, and adverbs. These items were carefully selected based on the item analysis results presented in Appendix 5, which assessed both the level of difficulty (LD) and the discrimination power (DP) of each item.

From the initial pool of 50 items, only those that met acceptable criteria in both LD and DP were retained. Items that were classified as “Poor” in discrimination power or identified as "Bad Items" were dropped. This process ensured that only valid, reliable, and discriminative items were included in the final pretest and posttest instruments.

3.4.2 Reliability

Reliability is a measure meant of accuracy, consistency, dependability or fairness of scores resulting from administration of particular examination. Reliability of the test is determined by using the odd and event in order to estimate the reliability of the test. To measure how reliable the scoring was, this study used Pearson Product Moment with the formula that can be described as follows:

$$r_1 = \frac{\sum xy}{\sqrt{\sum x^2)(\sum y^2)}}$$

Descriptions:

x and y represent the scores from the two halves of the test.

$\sum xy$ = the sum of the product of paired scores.

$\sum x^2$ = Sum differences between each pair of ranks

$\sum y^2$ = Number of students

(Sugiyono, 2006:228)

In this case, the coefficient of rank correlation was analyzed with the standard of reliability as follows:

1. 0.80000 – 1.0000 : very high reliability
2. 0.60000 – 0.7900 : high reliability
3. 0.40000 – 0.5900 : medium reliability
4. 0.20000 – 0.3900 : low reliability
5. 0.00000 – 0.1900 : very low reliability

(Arikunto, 2005)

This study used the Pearson Product Moment formula, where the sum of the cross products (Σxy) was 656, the sum of squared x (Σx^2) was 719.87, and the sum of squared y (Σy^2) was 888. The correlation calculated in this study using Pearson Product Moment was 0.821. This value indicated that the test instrument used in this research had a high reliability. This approach involves splitting the test items into odd and even numbers and then correlating the scores obtained from each set (Data in Appendix 4).

The result of the calculation showed that the correlation coefficient between odd and even scores (r_1) was 0.821. This value was then adjusted using the Spearman-Brown prophecy formula, producing a reliability coefficient (r_k) of 0.902, indicating a high level of consistency.

3.4.3 Level of Difficulty

The level of difficulty refers to how easy or challenging a task is for participants to complete. Understanding the level of difficulty is critical in evaluations because it ensures that items are not too simple or too complex for the target audience. This can be quantified using a specific formula as follows :

$$LD = \frac{U + L}{N}$$

Description:

LD : Level of Difficulty

U : Number of upper group who answers correctly

L : Number of lower group who answers correctly

N : Number of items (students)

Table 3. Difficulty Level of Test Items

No	**Number Item Test**	**Computation**	**Criteria**
1.	-	< 0.30	Difficult
2.	1, 2, 3, 4, 6, 7, 8, 10, 15, 16, 18, 20, 21, 24, 27, 29, 30, 31, 32, 33, 35, 36, 38, 39, 40, 41, 42, 43, 44, 46, 48,	0.30-0.70	Average
3.	5, 9, 11, 12, 13, 14, 17, 19, 22, 23, 25, 26, 28, 34, 37, 45, 47, 49, 50	>0.70	Easy

The item is classified into three categories where items with a computation value that less that 0.30 are considered difficult, meaning few students answered these items correctly. Meanwhile items with computation values greater than 0.70 are considered easy, and the items between both of those values, considered as average. Computing difficulty level helps researcher to determine the items whether they should be administered or dropped.

3.4.4 Discrimination Power

Discriminating power of a test item refers to the extent to which passing or failing a test item demonstrated (Boopathiraj, 2013). In terms of the function or ability it measures, it establishes the degree to which the provided item discriminates among examinees. The following table shows the result of the discrimination power of the test item.

Table 4. Discrimination Power of Test Items

No	Number Item Test	Computation	Criteria
1.	13, 14, 23, 24, 29, 31,	0.00-0.19	Poor
2.	9, 12, 17, 22, 27, 28, 33, 37	0.20-0.39	Satisfactory
3.	1, 2, 5, 6, 8, 10, 11, 18, 19, 20, 21, 25, 26, 32, 34, 35, 36, 38, 39, 40, 41, 43, 44, 45, 46, 47, 48, 49, 50	0.40-0.69	Good
4.	3, 4, 7, 15, 16, 42	0.70-1.00	Excellent
5.	30	- (negative)	Bad items

As the result that shows in the table, the criteria categorized on the discrimination values which the items with higher positive values are considered as “Good” or “Excellent”, while items with low or negative values are labeled “Poor” or “Bad”. This indicates how well the item performs in seperating the upper group and lower group students. (See Appendix 5)

3.5 Scoring System

Scoring system is conducted as a structured method to evaluate and quantify performance, quality, or achievement moreover for assessment in education field. This system help researcher to conduct consistent and fair evaluation among students in order to providing clear and objective feedback. Different types of scoring systems exist with each type designed to suit spesific assessment needs and context. The researcher used formula below:

$$s = \frac{R}{N} \times 100$$

Description:

S : Score of the test

R : Total of correct answers

N : Total items

In order to determine the test score, the formula utilized in this scoring method considers both the quantity of right answers and the quantity of incorrect things in relation to the total number of test items. Through the use of this formula, researchers may produce a standardized score that accounts for both accuracy and error frequency, providing a more accurate and fairer evaluation of student performance.

3.6 Procedure of Data Collection Technique

In this research, the data collection technique involves three key steps: administering a pre-test, providing a treatment, and administering a post-test. These steps are designed to measure the effectiveness of semantic mapping on vocabulary acquisition and retention among sixth-year students at SD Muhammadiyah 1 Bandar Lampung.

1. Administering the Pre-test

   The first step in the data collection process is to administer a pre-test to all participants. This pre-test is intended to assess student's initial vocabulary knowledge before any instructional intervention occurs. The pre-test will consist of a variety of vocabulary items related to the curriculum and suited for first-year students.

2. Treatment

   The researcher used semantic map as a treatment that would be applied in this research. The experimental group will receive vocabulary instruction using semantic mapping techniques. These sessions will involve creating visual maps that connect new vocabulary words with related concepts and words, helping students to organize and integrate new information. During this phase, the researcher will also observe and document student engagement and participation levels.

3. Administering the Post-test

After the treatment period, a post-test will be administered to all participants. The post-test will be similar in format to the pre-test and will assess the same vocabulary items. The purpose of the post-test is to measure the students' vocabulary knowledge after the instructional interventions have been completed. By comparing the pre-test and post-test scores, the researcher can evaluate the effectiveness of semantic mapping in enhancing vocabulary learning.

These three steps in the data collection process will enable the researcher to systematically measure and analyze the effectiveness of semantic mapping as a vocabulary instruction technique for young learners.

3.7 Data Analysis

For analyze the data, the researcher examined the experimental group's pre- and post-test outcomes. Whether the post-test scores are higher than the pre-test levels, it indicates that students' performance has improved. In contrast, if the pre-test scores are higher than the post-test scores, it indicates that students achievement has not improved. In addition, the researcher used SPSS to perform a statistical analysis of the probability findings.

3.7.1 Calculating the mean

According to Sugiyono (2009), The mean is the most common measure of central tendency employed in research. The mean is the average value, and the following formula that employed:

$$x = \frac{\sum xy}{N}$$

Description:

X : Mean score

∑xy : Sum of individual score

N : Number of sample (students)

3.7.2 T-score

The researcher utilized the t-score to determine if there was a significant difference between the pre-test and post-test results.

$$t - score = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\left(\frac{SD_1^2}{n_1}\right) + \left(\frac{SD_2^2}{n_2}\right)}}$$

Where:
- t : *T*-Score
- $\bar{x}_1$: Mean of the Post-test
- $\bar{x}_2$: Mean of the Pre-test
- SD_1 : Standard Deviation of Post-test
- SD_2 : Standard Deviation of Pre-test
- N : Total students

3.8 Hypothesis Testing

After collecting the data, the researcher analyzed them in order to find out whether there was an improvement in the students' vocabulary knowledge and retention or not after the treatment. The researcher used repeated measure T-test, spesifically the Pearson Product Moment Correlation through the Statistical Package for Social Science (SPSS) to find out the improvement of the treatment effect. The criteria can be seen as follow:

H1 = Sig. <0.05

Description:

- If the Sig. two-tailed is lower than 0.05, therefore H0 is rejected and H1 is accepted.
- If the Sig. two-tailed is higher than 0.05, therefore H0 is accepted and H1 is rejected.

H_0 : There is no significant improvement of the students' vocabulary knowledge after given treatment by using semantic mapping technique.

H_1 : There is significant imrpovement of the students' vocabulary knowledge after given treatment by using semantic mapping technique.

In summary, this chapter provides a comprehensive overview of the essential components involved in the research process. which are concerned with research design, population and sample, data collecting technique, research procedures, research instruments, validity and reliability. Furthermore, the chapter elaborates on the data analysis methods employed to interpret the collected data, culminating in the process of hypothesis testing to determine the significance of the results.

V. CONCLUSION AND SUGGESTION

This chapter outlines the findings from the data collected for the study along with suggestions for future researchers and teachers who intend to use semantic mapping in the teaching of vocabulary in particularly.

5.1 Conclusion

Align with the findings and discussion, the researcher has breakdown the following conclusions from the result of this research.

1. The study indicates that using semantic mapping as a treatment significantly improved the vocabulary achievement of sixth grade students at SD Muhammadiyah 1 Bandar Lampung, demonstrating the efficacy of this instructional strategy. According to the pre-test and post-test analysis results clearly indicate that the use of semantic mapping as a treatment improved the vocabulary achievement of sixth-grade students at SD Muhammadiyah 1 Bandar Lampung. The improvement in students' scores shows both statistical significance and actual progress in their vocabulary recognition, recall, and application across a range of contexts. This confirms the effectiveness of semantic mapping as an instructional strategy, making it a valuable approach for similar teaching situations.
2. The findings further reveal that semantic mapping contributed to substantial gains in both the breadth and depth of students' vocabulary knowledge. Students expanded the number of words they could understand and use (breadth) while also developing richer lexical knowledge, including meaning, usage, and contextual relevance (depth). This aligns with Nation's (2001) vocabulary framework, suggesting that students not only knew more words but

also understood them more precisely and could apply them more appropriately in communication.

3. The improvement observed in this study highlights the importance of an interactive and student-centered learning environment when implementing semantic mapping. Active engagement in constructing and discussing vocabulary maps, combined with peer collaboration and teacher guidance, played a crucial role in the improved outcomes. The strategy enabled students to make meaningful connections between new vocabulary and their prior knowledge, which in turn strengthened retention and application.

5.2 Suggestion

From the results of this research, researchers would like to provide several suggestions:

5.2.1 Teacher

Integrate semantic mapping into their vocabulary instruction, encourages students to actively engage with new words by visually organizing and connecting them to prior knowledge, which supports deeper understanding and retention. Teachers should able to create semantic mapping techniques to various vocabulary categories such as nouns, verbs, adjectives, and adverbs, aligning them with the lesson content to maximize learning outcomes. Teachers should create an interactive and supportive classroom environment where students feel comfortable collaborating and sharing their ideas while constructing semantic maps.

Based on the study's classroom teaching experiences, it was found that students responded more enthusiastically to collaborative and hands-on mapping activities. This increased enthusiasm can be attributed to several key factors. First, semantic mapping allowed students to physically interact with the learning materials — such as drawing connections between words,

coloring, and arranging vocabulary into categories — which made the process more engaging and enjoyable compared to traditional paper-and-pencil tasks. And second the group-based format of the activity encouraged peer interaction, which many students found motivating. Working with friends reduced the pressure of making mistakes and increased confidence, as they could discuss and negotiate word meanings together.

Using vibrant graphics, well-known situations, and group projects can help teachers increase student involvement in the classroom. These strategies not only strengthen understanding but also foster peer support. Clear instructions and defined group roles can be given during mapping sessions to ensure focus and appropriate participation, maintaining classroom order while encouraging creativity. Furthermore, adding interactive or movement-based components (such team challenges or vocabulary races) can keep young students engaged and focused on their studies.

Furthermore, teacher training programs should include workshops or professional development sessions focused on the effective use of semantic mapping techniques. Equipping educators with practical skills and knowledge about this strategy will enhance its implementation and maximize its benefits for students. Additionally, curriculum developers and educational policymakers should consider incorporating semantic mapping and other interactive vocabulary learning strategies into the official language curriculum to promote more meaningful and effective vocabulary acquisition across schools.

5.2.2 Future Research

For future research, it is suggested to explore the long-term effects of semantic mapping on vocabulary retention and language proficiency. Studies could also investigate how semantic mapping compares with other vocabulary teaching methods or how it can be adapted for different age groups, language levels, and learning contexts. Moreover, qualitative

research focusing on students' attitudes and experiences with semantic mapping would provide valuable insights into its motivational and cognitive impacts.

The lack of data supporting the test instrument's construct and content validity is a significant weakness of the current investigation. The gap implies that in order to guarantee the precision and reliability of the findings, future studies should use tests that have gone through content and construct validation. Addressing this limitation will allow future studies to present stronger and more reliable conclusions about the true impact of semantic mapping on vocabulary learning.

Another issue observed in this study is that, although the vocabulary for semantic mapping was intended to come from the story used in instruction, students often gave greater attention to free words or unrelated vocabulary, rather than prioritizing the words embedded in the narrative. This tendency weakened the connection between the story context and the vocabulary being learned. Future studies should place stronger emphasis on selecting target words directly from the instructional text, ensuring that the vocabulary is both relevant and contextually tied to the material.

Furthermore, future research could examine the recurrence of specific word classes—particularly verbs—within instructional texts and explore why certain grammatical categories result in greater vocabulary gains. In this study, verbs showed the largest improvement, which may be linked to their frequent appearance in storytelling, their functional role in conveying action, and their prominence in driving the narrative forward. Understanding how repetition, semantic importance, and grammatical function contribute to vocabulary learning could provide richer insights for instructional design.

By implementing semantic mapping and addressing particular problems, teachers may create a more engaging and productive learning environment that encourages greater vocabulary comprehension and language growth in general. By extending

the use of semantic mapping, analyzing differential improvements, and improving instructional methodologies, researchers can help to further improve vocabulary teaching techniques in the meantime.

BIBLIOGRAPHY

Allen, M. S., Robson, D. A., & Iliescu, D. (2023). Face validity: A critical but ignored component of scale construction in psychological assessment. *European Journal of Psychological Assessment, 39*(3), 153–156.

Andini, U., Sutarsyah, C., & Sudirman, S. (2019). The Use of Realia to Improve Students' Vocabulary Mastery at First Grade. *U-Jet*, *8*(4), 274-282.

Ankawi, A. (2022). Academic Vocabulary Acquisition Difficulties for Saudi Postgraduate Students in New Zealand Universities. *English Language Teaching*, *15*(9), 138-150.

Boopathiraj, C., & Chellamani, K. (2013). Analysis of test items on difficulty level and discrimination index in the test for research in education. *International journal of social science & interdisciplinary research*, *2*(2), 189-193.

Brawn, J. R. (2010). Teaching Pronunciation Gets a Bad…. RAP a Framework for Teaching Pronunciation. *The journal*, *113*, 122.

Budiastuti, A. D. (2016). *The Effectiveness of Scrabble Game to Teach Vocabulary for 7th Grade Students'at SMP N 3 Kalibagor* (Doctoral dissertation, Universitas Muhammadiyah Purwokerto).

Cambridge Advanced Learner's Dictionary. (2008). *Cambridge Advanced Learner's Dictionary* (3rd ed.). Cambridge University Press.

Cameron, L. (2001). *Teaching Language to Young Learners*. UK: Cambridge University Press. http://dx.doi.org/10.1017/CBO9780511733109

Coady, J., & Huckin, T. (1997). *Second language vocabulary acquisition: A rationale for pedagogy*. Cambridge University Press.

Craik, F. I., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of verbal learning and verbal behavior*, *11*(6), 671-684.

Craik. F., &Tulving. E. (1975). Depth of processing and retention of words in episodic memory. J. Exp. Psychol. Gen. 104: 268-294

Dilek, Y., & Yürük, N. (2013). Using Semantic Mapping Technique in Vocabulary Teaching at Pre-Intermediate Level. *Procedia - Social and Behavioral Sciences, 70*, 1531–1544. https://doi.org/10.1016/j.sbspro.2013.01.221

Georgakopoulos, T. (2019). Semantic maps. *Oxford Bibliographies in Linguistics*. https://doi.org/10.1093/obo/9780199772810-0229

Harmer, J. (1998). *How to Teach English: An Introduction to the Practice of English Language Teaching*. Longman.

Hatch, E., & Brown, C. (1995). *Vocabulary, semantics, and language education*. Cambridge University Press.

Heimlich, J. E., & Pittelman, S. D. (1986). *Semantic Mapping: Classroom Applications.* International Reading Association.

Hiebert, E. H., & Kamil, M. L. (2005). *Teaching and learning vocabulary: Bringing research to practice*. Routledge.

Johnson, D. D., Pittelman, S. D., & Heimlich, J. E. (1986). Semantic mapping. *The reading teacher*, *39*(8), 778-783.

Lelawati, S., Dhiya, S., & Mailani, P. N. (2018). The teaching of English vocabulary to young learners. *PROJECT (Professional Journal of English Education)*, *1*(2), 95-100.

Lelawati, S., Dhiya, S., & Mailani, P. N. (2018). The teaching of English vocabulary to young learners. *PROJECT (Professional Journal of English Education)*, *1*(2), 95-100.

Mouchrif, H, Mokhtari, N, & Benzehaf, B (2023). The Impact of Semantic Mapping on Reading Comprehension Among Moroccan EFL Students. *International Journal of Linguistics and Translation Studies*, ijlts.org.

Nattinger, J. (2014). Some current trends in vocabulary teaching. In *Vocabulary and language teaching* (pp. 62-82). Routledge.

Nicholas, H., & Lightbown, P. M. (2008). Defining child second language acquisition, defining roles for L2 instruction. In *Second language acquisition and the younger learner: Child's play?* (pp. 27-51). John Benjamins Publishing Company.

Nordlund, M, & Norberg, C (2020). Vocabulary in EFL teaching materials for young learners. *International Journal of Language Studies*, diva-portal.org,

Paivio, A. (1990). *Mental representations: A dual coding approach*. Oxford university press.

Palma, JL (2023). Semantic mapping and its effect on vocabulary skill development of grade 10 students. *International Journal of Advanced Multidisciplinary Studies, III (3)*, ijams-bbp.net.

Pinter, A. (2012). Teaching young learners. *The Cambridge guide to pedagogy and practice in second language teaching*, *103*.

Pourhossein Gilakjani, A. (2016). English pronunciation instruction: A literature review. *International Journal of Research in English Education*, *1*(1), 1-6.

Pourhossein Gilakjani, A. (2016). English pronunciation instruction: A literature review. *International Journal of Research in English Education*, *1*(1), 1-6.

Sabbah, S. S. (2020). The Effect of Semantic Mapping and Question Generation Teaching Strategies on English as a Second Language Tertiary Students' Reading achievement. *Arab World English Journal*, 11(1), 138-153. DOI: https://dx.doi.org/10.24093/awej/vol11no1.12

Setiyadi, AG. (2018). Metode Penelitian untuk Pengajaran Bahasa Asing (Pendekatan Kualitatif dan Kuantitatif) Edisi 2.

Sutarsyah, C. (2015). A Survey of English Vocabulary Size In Senior High Schools In Bandar Lampung. *Proceeding The Eighth International Conference on Applied Linguistics.* (p. 89).

Tasyarawati, D. A. (2019). *Teachers'strategies Of Managing English Classes* (Doctoral dissertation, Universitas Muhammadiyah Purwokerto).

Thornbury, S. (2002). *How to Teach Vocabulary*. Pearson Education.

Wahyuningsih, D. (2018). Second Language Acquisition for Children. *Al-Ishlah: Jurnal Pendidikan*, *10*(2), 208-215.

Zahedi, Y., & Abdi, M. (2012). The effect of semantic mapping strategy on EFL learners' vocabulary learning. *Procedia-Social and Behavioral Sciences*, *69*, 2273-2280.

Zamrizal, T, & Darini, R (2022). The Comparative Study on the Effect of Using Vocabulary Self-collection and Semantic Mapping Strategies on Students' Reading Comprehension: The Vocabulary Self-collection and Semantic Mapping Strategies on Students' Reading Comprehension. *Bedelau: Journal of Education and learning*, ejournal.anotero.org,