THE CORRELATION BETWEEN STUDENTS LEARNING STRATEGIES AND ENGLISH VOCABULARY MASTERY AT ELEVENTH GRADE OF SMAN 2 GEDONG TATAAN

(Undergraduate Thesis)

By

Triana Nur Imani

2253042013

ENGLISH EDUCATION STUDY PROGRAM

DEPARTEMENT OF LANGUANGE AND ARTS EDUCATION

FACULTY OF TEACHER TRAINING AND EDUCATION

UNIVERSITY OF LAMPUNG

2026

ABSTRACT

THE CORRELATION BETWEEN STUDENTS' LEARNING STRATEGIES AND ENGLISH VOCABULARY MASTERY AT ELEVENTH GRADE OF SMAN 2 GEDONG TATAAN

By:

Triana Nur Imani

This research aims to find the correlation between students' learning strategies and their English vocabulary mastery, as well as to determine the extent to which learning strategies influence students' vocabulary acquisition. This study employs a quantitative approach with a correlational method. The sample is selected using purposive sampling and consists of 32 students of class XI IPA 1 at SMAN 2 Gedong Tataan. The research instruments include a learning strategies questionnaire adapted from Oxford's Strategy Inventory for Language Learning (SILL) (1990), consisting of 30 items, and a 50-item multiple-choice vocabulary test covering the 2000–3000-word level based on Nation's (2001) theory. The results show a positive and significant correlation between students' learning strategies and their vocabulary mastery. The correlation coefficient (r) is 0.751, which is higher than the critical r-table value (0.349) at the 5% significance level, indicating that the alternative hypothesis is accepted. Thus, the better the learning strategies applied by students, the higher their vocabulary mastery tends to be. These findings confirm that the use of effective learning strategies such as repetition, note-taking, contextual practice, and self-evaluation can significantly enhance students' English vocabulary mastery.

Keywords: correlation, learning strategies, vocabulary mastery

THE CORRELATION BETWEEN STUDENTS' LEARNING STRATEGIES AND ENGLISH VOCABULARY MASTERY AT ELEVENTH GRADE OF SMAN 2 GEDONG TATAAN

By

Triana Nur Imani

Undergraduate Thesis

Submitted in a Partial Fulfillment of

The Requirements for S-1 Degree

In

The Language and Arts Education Department of

The Faculty of Teacher Training and Education

ENGLISH EDUCATION STUDY PROGRAM
DEPARTMENT OF LANGUAGE AND ARTS EDUCATION
FACULTY OF TEACHER TRAINING AND EDUCATION
UNIVERSITY OF LAMPUNG
2026

Research Title : **THE CORRELATION BETWEEN STUDENTS' LEARNING STRATEGIES AND ENGLISH VOCABULARY MASTERY AT ELEVENTH GRADE OF SMAN 2 GEDONG TATAAN**
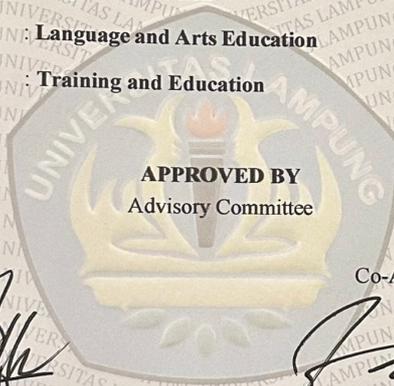
Student's Name : *Triana Nur Imani*

Student's Number : **2253042013**

Study Program : **English Education**

Department : **Language and Arts Education**

Faculty : **Training and Education**

APPROVED BY
Advisory Committee

Advisor

Prof. Dr. Cucu Sutarsyah, M.A.
NIP 19570406 198603 1 002

Co-Advisor

Anwar Fadila, S. Pd., M. TESOL.
NIP 19910210202406 1001

The Chairperson of
The Department of Language and Arts Education

Dr. Sumarti, S. Pd., M.Hum.
NIP 19700318 199403 2 002

iii

ADMITTED BY

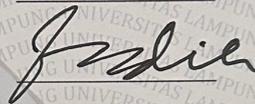1. Examination Committee

Chairperson   : Prof. Dr. Cucu Sutarsyah, M.A.

Examiner   : Prof. Dr. Muhammad Sukirlan, M.A.

Secretary   : Anwar Fadila, S.Pd., M. TESOL.

2. The Acting Dean of Teacher Training and Education Faculty

Dr. Albet Maydiantoro, S. Pd., M.Pd.
NIP 19870504 201404 1 001

Graduated on: Februari 3rd , 2026

LEMBAR PERNYATAAN

Saya yang bertandatangan di bawah ini:

Nama	: Triana Nur Imani
NPM	: 2253042013
Program Studi	: Pendidikan Bahasa Inggris
Jurusan	: Pendidikan Bahasa dan Seni
Fakultas	: Keguruan dan Ilmu Pendidikan
Judul Skripsi	: THE CORRELATION BETWEEN STUDENTS'
	LEARNING STRATEGIES AND ENGLISH
	VOCABULARY MASTERY AT ELEVENTH GRADE OF
	SMAN 2 GEDONG TATAAN

Menyatakan bahwa skripsi ini adalah karya dari pelaksanaan penelitian 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, 3 Februari 2026

Yang Membuat Pernyataan

Triana Nur Imani

NPM 2253042013

v

CURRICULUM VITAE

Triana Nur Imani, the youngest of three children of Syaharudin and Roziana, was born on December 21, 2004 in Negeri Sakti, Pesawaran. She has two older brothers, Haris Sukmajaya as the first child and Hardian Natayudha as the second child.

She began her education at TK Diniyyah Putri Lampung and graduated in 2010. She then continued her studies at SDN 3 Sumberejo and graduated in 2016. After that, she pursued her education at SMPN 14 Bandar Lampung and graduated in 2019. She later attended SMAN 3 Bandar Lampung, where she completed her education in 2022. In the same year, she was accepted into the English Education Study Program, Faculty of Teacher Training and Education, University of Lampung.

During her studies at the University of Lampung, she was involved in student organizations, serving as a member of the Finance Division of the English Education Student Association (SEEDS) in 2023, where she gained new experiences, developed her communication skills, and acquired insights into financial management.

MOTTO

Allah does not promise that life will always be easy, but Allah promises twice:
"Indeed, with hardship comes ease."

(QS. Al-Insyirah 94:5–6)

My heart is at peace knowing that what has passed me by was never meant for me,
and what is meant for me will never pass me by.

- Umar ibn Al-Khattab -

DEDICATION

All praise and thanks are due to Allah SWT. This script is dedicated to:

My beloved parents, Syaharudin and Roziana, whose prostrations and prayers continually reach the heavens. Thank you for always being my strongest support and my foremost protectors. Papa, Bunda, this dedication is for you.

My dearest brothers, Haris Sukmajaya and Hardian Natayudha, for their constant love and support.

My alma mater, the University of Lampung.

ACKNOWLEDGEMENTS

May this friendship remain strong, no matter how far our paths may lead us.

14. To my fellow companions in this journey, Sakha Angel, Dian Harisa, Silvi, Ayu, andDian Arli. Thank you for the togetherness and support you have always given in every situation.

15. Last but not least, to the youngest child and the only daughter in the family yes, to myself. Thank you, *Nana*, for taking responsibility to finish what you have started. Thank you for choosing to keep going, for surviving until this point, and for never giving up no matter how difficult the journey has been. Thank you for being a strong woman who remains sincere in facing a life that has not always gone according to plan. Whatever life brings you in the future, may you always find happiness. With all your strengths and imperfections, please continue to celebrate yourself. May every small step you take be surrounded by kindness and good people, and may your dreams be answered one by one. Amen.

Finally, the writer believes that the research is still far from perfection. There are weaknesses in this research. Therefore, comments, criticisms, and suggestions are very open for better research.

Bandar Lampung, 28 January 2026
The Writer,

Triana Nur Imani
NPM 2253042013

TABLE OF CONTENTS

TABLES

APPENDICES

I. INTRODUCTION

This chapter will discuss the introduction of the research, which deals with several points, which are the background of the research, research question, objective of the research, the scope of the research, and definition of the terms.

1.1 Background of the Research

In the context of English language learning, students' learning strategies and vocabulary mastery are two crucial variables (Oxford, 1990). Learning strategies encompass the methods and techniques students use in the learning process, while vocabulary mastery refers to students' ability to understand and use words in English (Schmitt, 2000). According to Oxford (1990), the use of effective learning strategies can improve student learning outcomes, including vocabulary acquisition. This is highly relevant in the teaching of English as a foreign language (TEFL), where good vocabulary mastery is one of the key indicators of students' communicative competence.

Vocabulary is the foundation of language proficiency. Without sufficient vocabulary knowledge, students will struggle to understand texts, listen, speak, and write in English. Therefore, it is important to understand how the learning strategies employed by students can influence their vocabulary acquisition (Oxford, 1990).

Several international studies have examined the relationship between learning strategies and vocabulary mastery in English as a Foreign Language (EFL) learning. Oxford (1990) investigated the use of language learning strategies among second and foreign language learners and found that cognitive, metacognitive, social, and affective strategies had a significant relationship with

overall language learning success, including vocabulary mastery. This study was conducted in learning contexts where students had relatively high exposure to English.

Similarly, Gu and Johnson (1996) examined vocabulary learning strategies among EFL learners in China and found that cognitive and metacognitive strategies contributed significantly to students' vocabulary mastery. A comparable study was conducted by Schmitt (1997) in Japan, which explored the vocabulary learning strategies used by EFL learners. The findings revealed that strategies such as guessing word meanings from context, repetition, and dictionary use were among the most frequently employed strategies to support vocabulary acquisition.

Despite the substantial evidence from international studies indicating a positive relationship between learning strategies and vocabulary mastery, only a limited number of studies have specifically investigated this relationship within the context of Indonesian senior high school students. For instance, Rahmawati (2021) reported that students who applied a variety of learning strategies tended to demonstrate better vocabulary mastery. However, the study did not identify which specific learning strategies were the most influential in improving students' vocabulary mastery. This limitation indicates a gap in the existing literature regarding the effectiveness of particular learning strategies among Indonesian senior high school students.

Although international studies have shown that learning strategies significantly influence vocabulary mastery, differences in educational contexts may affect the applicability of their findings. Variations in student characteristics, learning culture, curriculum, and levels of exposure to English suggest that results from international studies may not be fully generalizable to the Indonesian senior high school context. Therefore, further research is necessary to examine the relationship between learning strategies and vocabulary mastery in the local Indonesian context, particularly at the senior high school level.

This research aims to provide valuable insights for teachers and educators regarding the importance of teaching appropriate learning strategies to enhance

students' vocabulary acquisition. By understanding this relationship, it is expected that more effective approaches can be developed to improve the quality of English instruction at the senior high school level and better prepare students to face increasingly competitive global challenges. Furthermore, the findings of this study are expected to serve as a reference for future research related to learning strategies and language acquisition.

1.2 Research Questions

The research questions that can be formulated based on the explanation above are as follows:

1. Is there a positive correlation between students' learning strategies and English vocabulary mastery?

2. To what extent do student learning strategies affect their mastery of English vocabulary?

1.3. Objectives of the Research

Based on the research questions above, the objective of this research to investigate whether there is a positive correlation between students' learning strategies and their English vocabulary mastery, as well as to determine the extent to which students' learning strategies affect their mastery of English vocabulary. The findings of this study are expected to provide insights into the role of effective learning strategies in enhancing students' vocabulary acquisition and to serve as a reference for teachers in designing more strategic and effective vocabulary instruction.

1.4 The Uses of the Research

The researchers expect the result of this research can give benefits in many aspects as follows:

1. Theoretically, this research will contribute to a deeper understanding of the importance of learning strategies in the context of vocabulary acquisition.

2. Practically, it can be advantageous for English teachers to determine student learning strategies and help students master their English vocabulary.

1.5 Scope of the Research

The scope of this research was focused on eleventh-grade students at SMAN 2 Gedong Tataan. This study included an analysis of various learning strategies used by the students, as well as their vocabulary mastery. In this case, the research employed a quantitative method to measure the relationship between these two variables.

In terms of depth, this study explored various factors that might influence students' learning strategies, including individual learning styles, motivation, and learning environment. Additionally, it also considered aspects that affected vocabulary acquisition, such as the frequency of vocabulary use in different contexts. Thus, this research not only examined the relationship between learning strategies and vocabulary mastery but also other contributing factors that impacted student learning outcomes.

1.6 Definitions of Terms

Some terms are defined to give a primary understanding that can guide the readers. Some definitions are provided below:

1. Correlation

    In the context of this study, correlation refers to the relationship between two variables, namely learning strategies and vocabulary mastery. The correlation can be positive, negative, or non-existent, and is measured using statistical methods.

2. Learning Strategies

These refer to the methods or techniques used by students to study and master learning materials. According to Oxford (1990), learning strategies include various approaches that help students understand and remember information, including cognitive, metacognitive, and affective strategies.

3. Vocabulary Mastery

This refers to students' ability to understand and use English vocabulary accurately. It includes the ability to recognize, comprehend meanings, and use vocabulary appropriately in context (Nation, 2001).

This chapter has explained background of the research, question of the research, objectives of the research, the uses of the research, scope of the research, and definitions of terms that will help in achieving the researcher's goal.

II. LITERATURE REVIEW

This chapter discusses theories that support this research. It consists of learning strategies, vocabulary, words of classification the relationship between learning strategies and vocabulary mastery, previous studies, theoretical assumptions, and hypothesis.

2.1 Learning Strategies

Learning strategies refer to conscious actions employed by learners to help them understand, learn, and retain new information more effectively. In the context of language learning, learning strategies play a crucial role because language acquisition does not rely solely on exposure to input, but also on how learners manage and regulate their own learning processes. Oxford (1990) defines learning strategies as specific actions taken by learners to make learning easier, faster, more enjoyable, more self-directed, and more effective. Therefore, the use of learning strategies enables students to take an active role and greater responsibility for their own learning success.

In vocabulary learning, the appropriate use of learning strategies has been proven to significantly enhance students' vocabulary mastery. Learners who consciously apply various learning strategies tend to demonstrate better ability in remembering, understanding, and using vocabulary than those who do not employ specific strategies. Nation (2001) and Schmitt (2000), in their respective study emphasize that strategic vocabulary learning facilitates deeper processing and long-term retention of lexical items. These perspectives indicate that learning strategies function not only as learning aids but also as essential factors influencing overall language learning success. Consequently, understanding the concept of learning strategies serves as an important theoretical foundation for

studies examining the relationship between students' learning strategies and vocabulary mastery.

2.1.1 Definition of Learning Strategies

Weinstein and Mayer (1986) state that learning strategies are behaviors and thought processes used by learners during learning activities to influence the processing of information. This definition places greater emphasis on cognitive aspects, particularly on how learners process, encode, and retain the information they learn. Thus, learning strategies are viewed as mental techniques that support comprehension and retention of learning materials.

However, this definition proposed by Weinstein and Mayer (1986) is considered limited because mainly emphasize the cognitive dimension of learning. In contrast, Oxford (1990) offers a more comprehensive view by including cognitive, metacognitive, social and affective aspect. Oxford defines learning strategies are one of the important factors contributing to success in language learning, particularly in the mastery of English vocabulary. He further defines learning strategies as specific actions or steps taken by learners to make the learning process easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new learning situations. This definition emphasizes that learning strategies are conscious actions actively used by students to control and enhance their learning process. In language learning, learning strategies help students understand, store, and use the language more effectively.

Based on these definitions, this study adopts Oxford's (1990) definition of learning strategies as its theoretical foundation. Oxford's definition is selected because it is more comprehensive and appropriate for the context of English as a Foreign Language (EFL) learning. Moreover, the classification of learning strategies proposed by Oxford provides a clear and systematic framework for identifying and analyzing students' learning strategies. Therefore, Oxford's theory is considered the most relevant for explaining the relationship between learning strategies and vocabulary mastery in this study.

2.1.2 Types of Learning Strategies

Oxford (1990) classifies learning strategies into two broad categories, namely direct strategies and indirect strategies, each of which consists of several sub-categories that support different aspects of the learning process. These strategies are designed to help learners process information more effectively and develop greater autonomy in their language learning.

Direct strategies are strategies that involve the mental processing of the language itself. These include memory strategies, cognitive strategies, and compensation strategies. Memory strategies help learners store and retrieve new information, such as using associations, grouping, or imagery to remember vocabulary. Cognitive strategies involve the manipulation or transformation of the language, such as practicing, analyzing, summarizing, or making inferences. Meanwhile, compensation strategies help learners overcome gaps in their knowledge, for example by guessing the meaning of unfamiliar words or using synonyms when they cannot recall specific vocabulary.

On the other hand, indirect strategies support language learning without directly involving the use of the language. These include metacognitive strategies, affective strategies, and social strategies. Metacognitive strategies involve planning, monitoring, and evaluating learning, enabling learners to manage their study more efficiently. Affective strategies help learners regulate their emotions, motivation, and attitudes during the learning process, such as using relaxation techniques or positive self-talk to reduce anxiety. Social strategies involve interacting with others to facilitate learning, including asking questions, cooperating with peers, or seeking clarification in communication.

Overall, the combination of direct and indirect strategies provides learners with a comprehensive toolkit to enhance their language learning. By understanding and applying these various types of strategies, students can develop better vocabulary mastery and improve their overall language proficiency. If needed, teachers can also guide learners in selecting appropriate strategies based on their individual learning needs.

2.1.3 Importance of Learning Strategies in Language Learning

The importance of learning strategies in language learning cannot be underestimated. According to Chamot (2004), using appropriate learning strategies can significantly enhance the effectiveness of language learning, including vocabulary acquisition. Students who are aware of the strategies they use tend to be better able to overcome the difficulties they face in learning. For instance, if a student struggles to remember new vocabulary, they can use repetition or mnemonic strategies to help them.

Statistics show that students who are skilled in using learning strategies tend to achieve better academic results. A study by Green & Oxford (1995) found that students who actively used a variety of learning strategies scored higher on vocabulary tests than those who did not use such strategies. This demonstrates that vocabulary mastery depends not only on the number of words learned but also on how students process and retain that vocabulary.

Another relevant example is research conducted by Oxford and Crookall (1989), which showed that students who used a range of learning strategies such as cognitive and social strategies had better vocabulary mastery. This reinforces the idea that the right combination of strategies can significantly enhance students' language abilities. Moreover, it is important to involve students in the process of selecting strategies that match their learning styles, as this can increase their motivation and engagement in learning.

In the context of education in Indonesia, the implementation of effective learning strategies is crucial to improving students' vocabulary mastery. With the increasing demand for English language skills in the era of globalization, students need to be equipped with suitable strategies to support their learning. Therefore, high school teachers should take an active role in teaching and facilitating the use of effective learning strategies in the classroom.

2.2 Vocabulary

Vocabulary is one of the essential aspects of language learning, including English. It encompasses all the words known and used by an individual in communication. According to Nation (2001), vocabulary can be divided into two main categories: active vocabulary, which consists of words actively used in speaking and writing, and passive vocabulary, which includes words that are understood but not used directly. A good understanding of vocabulary is crucial for students, especially in the context of learning a foreign language, as a rich vocabulary can enhance their ability to communicate and comprehend texts.

Vocabulary is a fundamental component of language learning, particularly in the context of senior high school education, where students are expected to expand their linguistic repertoire. Understanding the different types of vocabulary is essential for both educators and learners to facilitate effective communication and enhance language acquisition. Vocabulary can be broadly categorized into two main types: content words and function words. Each type plays a distinct role in language use and comprehension, and recognizing these differences is crucial for mastering vocabulary.

2.2.1 Definition of Vocabulary Mastery

Vocabulary mastery is one of the essential components in language learning. According to Nation (2001), vocabulary mastery can be defined as an individual's ability to recognize, understand, and use words in various contexts. Schmitt (2000) adds that vocabulary mastery not only includes knowledge of word meanings but also how those words are used in sentences. This indicates that vocabulary mastery is a multidimensional aspect involving various linguistic skills.

In the educational context, vocabulary mastery is crucial for students, especially at the senior high school level. Research conducted by Zhang (2018) shows that students with good vocabulary mastery tend to have higher academic achievement, particularly in English subjects. This research suggests a positive relationship

between vocabulary mastery and academic ability, further strengthening the importance of focusing on vocabulary instruction in secondary education.

For example, in learning English, students are expected not only to memorize new words but also to understand how they are used in different sentences. This includes understanding synonyms, antonyms, and the proper context of usage. Therefore, vocabulary mastery becomes a vital foundation for students' language skills.

Understanding the different types of vocabulary is essential for both educators and learners to facilitate effective communication and enhance language acquisition. Vocabulary can be broadly categorized into two main types: content words and function words. Each type plays a distinct role in language use and comprehension, and recognizing these differences is crucial for mastering vocabulary.

a. Content Words

Content words are the building blocks of meaning in a language. They include nouns, verbs, adjectives, and adverbs, each contributing to the richness and specificity of expression. Content words are particularly important in academic contexts, where precise language is necessary for articulating complex ideas.

1. Nouns

Nouns serve as the primary carriers of meaning in sentences, representing people, places, things, and ideas. For example, in a study conducted by Schmitt (2000), it was found that high school students who engaged in extensive reading demonstrated a significant increase in their noun vocabulary. This increase was attributed to the context in which nouns were encountered, allowing students to infer meanings and usages more effectively. Furthermore, the use of graphic organisers as a learning strategy has been shown to help students categorise and

retain noun vocabulary, thereby enhancing their understanding and recall (Baker, 2014).

2. Verbs

Verbs are crucial for expressing actions, occurrences, and states of being. They form the backbone of sentences and are essential for constructing meaningful discourse. A study by Laufer and Nation (1995) highlighted that students who actively practiced verb forms through targeted exercises and real-life application exhibited superior mastery of verb vocabulary. This suggests that implementing dynamic learning strategies, such as role-playing and interactive activities, can significantly enhance students' understanding of verb usage in various contexts.

3. Adjectives

Adjectives enrich language by providing descriptive detail, thus allowing for more vivid communication. The ability to use adjectives effectively can greatly enhance a student's writing and speaking skills. A survey conducted by Hinkel (2005) indicated that students who utilised adjectives in their writing scored higher in assessments of coherence and cohesion. Moreover, teaching strategies that involve comparative and superlative forms of adjectives can further aid students in grasping nuances in meaning, which is critical for advanced language use.

4. Adverbs

Adverbs modify verbs, adjectives, or other adverbs, providing additional context such as manner, degree, and frequency. Their correct usage can significantly alter the meaning of a sentence. Research by Thornbury (2002) suggests that students often struggle with adverb placement and usage, which can lead to ambiguity in communication. Effective learning strategies, such as sentence transformation exercises and peer feedback sessions, can help students develop a more nuanced understanding of adverbial functions, thus improving their overall vocabulary mastery.

b. Function Words

Function words, while often overlooked, are essential for the grammatical structure of sentences. They include prepositions, conjunctions, articles, and pronouns, and their correct usage is vital for fluency and coherence in language. Understanding how to effectively use function words can greatly enhance a student's ability to construct grammatically correct sentences and convey meaning clearly.

1. Prepositions

Prepositions indicate relationships between different elements within a sentence, such as time, place, and direction. A study by Celce-Murcia and Larsen-Freeman (1999) found that students who focused on prepositional phrases in their learning strategies demonstrated improved sentence complexity and variety. This highlights the importance of integrating prepositional usage into vocabulary instruction, as it not only aids in grammatical accuracy but also enhances overall communicative competence.

2. Conjunctions

Conjunctions are pivotal in linking words, phrases, and clauses, thus facilitating the flow of ideas. Research by Biber et al. (1999) indicates that students who actively practice using conjunctions in their writing exhibit greater coherence in their arguments. Teaching strategies that encourage the use of coordinating and subordinating conjunctions can help students develop more complex sentence structures, which is essential for academic writing.

 3. Articles

Articles define nouns as specific or unspecific, playing a crucial role in clarity and precision. A study by Master (1997) emphasised that non-native English speakers

often struggle with article usage, which can lead to misunderstandings. Therefore, targeted instructional strategies focusing on the rules governing article use can significantly improve students' grammatical accuracy and their overall confidence in using English.

4. Pronouns

Pronouns replace nouns in sentences, helping to avoid repetition and maintain clarity. Understanding the different types of pronouns personal, possessive, reflexive, and demonstrative is essential for effective communication. Research by VanPatten (2004) suggests that students who engage in exercises that emphasise pronoun antecedents and agreement are more likely to achieve mastery in their use. Incorporating interactive activities that require students to identify and use pronouns correctly can enhance their grammatical competence and fluency.

However, this study focuses primarily on content words rather than function words. This is because content words which include nouns, verbs, adjectives, and adverbs play a crucial role in conveying the main meaning in language communication.

2.2.2 Aspects of Vocabulary Knowledge

Vocabulary knowledge consists of several essential aspects that students must understand. First is the form aspect, which includes spelling and pronunciation. According to Thornbury (2002), students' ability to spell and pronounce words correctly greatly influences their understanding of the vocabulary. For instance, the word "lead" can be pronounced as /liːd/ (to guide) or /lɛd/ (a metal), and misunderstanding can lead to communication errors.

Second is the meaning aspect, which includes denotation, connotation, synonyms, and antonyms. Sutarsyah (2021) explains that understanding the meaning of words involves not only literal definitions but also the nuances contained within them. Students need to learn to distinguish between synonyms and antonyms to enrich their vocabulary usage in various contexts.

Third is the use aspect, which includes collocation, grammatical functions, and constraints. According to Lewis (2000), collocation refers to word combinations that commonly occur together, such as "make a decision" or "take a break." Understanding collocations helps students use vocabulary more naturally and contextually. Additionally, students need to understand the grammatical functions of these words so that they can use them correctly in sentences.

2.2.3 The Importance of Vocabulary in Language Learning

Vocabulary plays a vital role in language skills, including reading, writing, speaking, and listening. In reading skills, good vocabulary mastery enables students to better understand texts. According to research by Nagy and Scott (2000), students with a broad vocabulary can comprehend more words in reading materials, which in turn enhances their overall comprehension of the content.

In writing skills, a rich vocabulary allows students to express their ideas more clearly and accurately. Research by Graham and Perin (2007) shows that students with good vocabulary mastery tend to produce more complex and varied writing. This demonstrates that vocabulary mastery influences not only oral language skills but also written communication.

In speaking skills, a broad vocabulary gives students confidence to communicate more effectively. Students with good vocabulary can participate in discussions and presentations more fluently. Meanwhile, in listening skills, understanding the vocabulary used by speakers helps students follow conversations and grasp the information conveyed.

2.2.4 Teaching Vocabulary in Senior High Schools

Teaching vocabulary to senior high school students necessitates the use of strategic and efficient methods. One widely used technique is context-based instruction, where new words are introduced within meaningful sentences or situations. Hattie (2009) suggests that this method helps students better grasp word meanings and their usage. In addition, integrating technology into vocabulary

instruction has shown promising results. Tools such as educational apps and digital platforms are effective in strengthening students' vocabulary skills. Stockwell (2010) found that vocabulary-learning apps can boost student engagement and speed up the learning process.

Nevertheless, vocabulary teaching comes with its own set of challenges, particularly students' low interest in learning new words. Dörnyei (2001) emphasizes that motivation plays a key role in academic achievement. Hence, teachers must design interactive and enjoyable learning experiences to foster greater enthusiasm for vocabulary learning. Overall, teaching vocabulary in high school calls for diverse and innovative strategies to address obstacles and effectively improve students' vocabulary knowledge.

2.3 The Relationship between Learning Strategies and Vocabulary Mastery

The relationship between learning strategies and vocabulary mastery is an important area in educational research, especially in the context of language learning. Effective learning strategies can help students acquire vocabulary more efficiently, which in turn can improve their language proficiency. According to Oxford (1990), learning strategies are the steps used by students to facilitate the learning process. In the context of vocabulary mastery, these strategies may include mnemonic techniques, contextual usage, or speaking and writing practice.

The research by Schmitt (2000) showed that students who used vocabulary-focused learning strategies, such as repetition and association, tended to have better vocabulary mastery than those who did not use such strategies. Data showed that students actively engaged in the learning process such as through discussion and collaboration with classmates had a higher ability to remember and use new vocabulary. This indicates that social interaction in learning also contributes to vocabulary mastery.

A case study at a senior high school in Jakarta showed that students who participated in project-based learning programs, where they were required to use new vocabulary in real-life contexts, experienced significant improvement in their

vocabulary mastery. This study involved 100 students and used pre-tests and post-tests to measure their vocabulary knowledge. The results showed an average vocabulary score increase of 30% after participating in the program.

Statistics also show that the use of varied learning strategies, such as technology-based learning, can enhance vocabulary mastery. For instance, students who used language learning applications like Duolingo or Memrise showed significant improvement in vocabulary mastery compared to those who learned only from textbooks (Wang, 2016). This indicates that integrating technology into learning can positively impact students' vocabulary acquisition. Thus, it can be concluded that there is a significant relationship between the learning strategies used by students and their vocabulary mastery. Students who apply diverse and active learning strategies tend to have better vocabulary acquisition. Further research is needed to explore which strategies are most effective in different contexts.

2.4 Previous Studies

In this research, it is important to review relevant previous research to provide context and a foundation for the current investigation. Several studies have been conducted to explore the correlation between students' learning strategies and vocabulary mastery, particularly at the senior high school level. These studies offer valuable insights into how different learning strategies can influence students' ability to master English vocabulary.

One relevant study was conducted by Rahmawati (2020)**,** who examined the influence of learning strategies on vocabulary mastery among senior high school students in Yogyakarta. In her research, Rahmawati found that students who applied active learning strategies such as group discussions and the use of flashcards demonstrated better vocabulary mastery compared to those who relied solely on passive learning methods. Data collected from 100 students showed that 75% of those who used active strategies scored above average in the vocabulary test, while only 45% of students using passive strategies achieved similar results. These findings indicate a positive relationship between active learning strategies and vocabulary mastery.

In addition, the research by Sari (2019) also provided interesting insights. In her research, Sari investigated the effect of using technology in learning strategies on vocabulary mastery among senior high school students in Jakarta. The results showed that students who used language learning apps and social media to learn vocabulary experienced significant improvements in their vocabulary mastery. Around 80% of the respondents reported that they could remember new vocabulary more easily when using learning applications compared to traditional methods. This suggests that integrating technology into learning strategies can enhance vocabulary acquisition.

Another study by Prasetyo (2021) highlighted the importance of metacognitive learning strategies in vocabulary mastery. In his study, Prasetyo found that students who actively planned, monitored, and evaluated their own learning process had better vocabulary skills. Data from 120 students revealed that 70% of those who employed metacognitive strategies achieved high scores on the vocabulary test. This research emphasizes that students' awareness of their own learning strategies can contribute to better vocabulary mastery.

In a broader context, Hidayati (2022) examined the differences in vocabulary mastery between students who used individual and collaborative learning strategies. The findings showed that students who learned collaboratively, such as through study groups, had better vocabulary mastery compared to those who studied individually. About 65% of students involved in study groups reported improvements in their vocabulary, whereas only 40% of individual learners experienced similar progress. These findings suggest that social interaction during learning can enhance vocabulary mastery.

Overall, previous studies show a significant correlation between the learning strategies applied by students and their vocabulary mastery. Various approaches from active strategies, the use of technology, to metacognitive strategies all contribute to the improvement of students' vocabulary skills. This study will continue to explore this topic by focusing on the local context and the factors that influence students' learning strategies at the senior high school level.

2.5 Theoretical Assumption

This study is based on the assumption that students' learning strategies significantly influence their vocabulary mastery. Oxford (1990) categorizes learning strategies into two types: direct strategies such as flashcards and repetition and indirect strategies, like fostering a supportive learning environment. Schmitt (2000) emphasizes that employing a variety of strategies is positively associated with improved vocabulary acquisition.

Given that English proficiency in Indonesia remains low (BPS, 2021), it is crucial for senior high school students to adopt effective learning strategies. Research by Nurhayati (2019) indicates that active learning methods, such as group discussions and project-based learning, substantially enhance vocabulary mastery.

Piaget's (1973) cognitive theory reinforces this assumption by highlighting the role of learning strategies in developing and connecting new mental schemas. Similarly, Anderson and Freebody (1981) argue that interactive and collaborative learning approaches contribute positively to vocabulary development. Accordingly, this research seeks to examine the correlation between learning strategies and vocabulary mastery among senior high school students, with the goal of informing more effective English teaching practices.

2.6 Hypothesis

Based on the background of the study, theoretical review, and previous findings, the hypothesis of this research is formulated as follows:

: There is a positive correlation between student learning strategies and English vocabulary mastery in senior high school.

: There is no positive correlation between student learning strategies and English vocabulary mastery in senior high school.

III. METHOD

This chapter discusses related research design, variables, population and sample, data collecting technique, research procedures, research instruments, validity and reliability, data analysis, and hypothesis testing.

3.1 Design

This quantitative research aims to examine the correlation between students' learning strategies and their vocabulary mastery. Vocabulary mastery is the dependent variable, assumed to be influenced by students' learning strategies as the independent variable. The data were collected through a 60-item vocabulary test (2000–3000 word level) and a 30-item questionnaire on students' learning strategies in learning English. Pearson Product-Moment Correlation is used to analyze whether higher learning strategies corresponds to higher vocabulary scores, indicating a positive relationship between the two variables. So that, this research was use correlation study.

$$X \qquad Y$$

Where:

X : Questionnaire Students Learning Strategies

Y: Vocabulary Mastery

3.2 Variables

In this research, two main variables are examined, namely student learning strategies as the independent variable and vocabulary mastery as the dependent variable. The independent variable, student learning strategies, refers to various approaches, methods, or techniques used by students in the learning process to understand and master learning materials, particularly in English. These strategies may include cognitive strategies such as memorizing and note-taking, metacognitive strategies such as planning and evaluating learning, social strategies such as collaborating with peers, and affective strategies related to managing emotions and learning motivation.

Meanwhile, the dependent variable in this study is vocabulary mastery, which refers to the level of vocabulary acquisition possessed by students. Vocabulary mastery includes students' ability to recognize, understand, and use English vocabulary appropriately, both in spoken and written forms. This involves understanding word meanings, using words in sentence contexts, recognizing synonyms and antonyms, and the ability to choose words that are suitable for specific communication situations. Good vocabulary mastery is one of the key indicators of success in learning English as a foreign language.

3.3 Population and Sample

The population in this study includes all 11th-grade students at SMA Negeri 2 Gedong Tataan, totaling 180 students divided into five classes. The selection of 11th-grade students is based on the consideration that students at this level have acquired a better understanding and acceptance of vocabulary due to their learning experiences in high school. In this study, the researcher did not use the entire population but instead selected a portion of the students as a sample, namely class XI IPA 1. This was done because the learning outcomes of the sample are considered representative of the entire population and relevant to be applied to the research subject in general. Class XI IPA 1 was considered representative of the population because the students had similar characteristics to other 11th-grade students in curriculum, learning experiences, and academic environment. In

addition, the researcher received a recommendation from the English teacher to use class XI IPA 1 as the research sample in order to examine the correlation between learning strategies and vocabulary mastery.

3.4 Research Instrument

In this research, the instruments used to measure the relationship between students' learning strategies and their English vocabulary mastery in senior high school consist of two main parts: a questionnaire and a vocabulary test. The questionnaire is designed to collect data on the learning strategies used by the students, while the vocabulary test is used to assess the students' level of English vocabulary mastery.

3.4.1 Learning Strategies Questionnaire

The learning strategies questionnaire is adapted from Oxford's Strategy Inventory for Language Learning (SILL) which is commonly used to investigate students' language learning strategies. It consisted of 30 items, each offering four response options ranging from "Strongly Disagree" to "Strongly Agree." The items were designed to measure various types of language learning strategies used by students, including cognitive, metacognitive, memory, compensation, affective, and social strategies. Students were expected to respond truthfully based on their real experiences. Their responses helped the researcher identify the types and frequency of strategies used, allowing for comparison between students with higher and lower English vocabulary mastery.

The response scale was as follows:

1 = Strongly Disagree
2 = Disagree
3 = Agree
4 = Strongly Agree

    a. **Content Validity**

        The content validity of the learning strategy questionnaire is crucial to ensure that the items truly reflect the concept being measured, namely

students' learning strategies. According to Hatch and Farady (1982), content validity refers to the extent to which the content of a measurement instrument covers all relevant aspects of the construct being studied. In this context, the questionnaire is designed to include various strategies used by students in the process of learning English, such as memory, cognitive, compensation, metacognitive, affective and social strategies.

In developing this questionnaire, the researcher conducted a literature review to identify the most effective and relevant learning strategies. A preliminary trial was also conducted by involving a group of students to obtain feedback on the clarity and relevance of the items. The results of this trial showed that most students understood the questions and were able to respond based on their experiences. This indicates that the questionnaire has good content validity.

Tabel 3.1 Specification of Learning Strategies Questionnaires

Indicators	Total Number	Items Number	Percentage
Memory Strategies	5	1,2,3,4,5	16.67%
Cognitive Strategies	5	6,7,8,9,10	16.67%
Compensation Strategies	5	11,12,13,14,15	16.67%
Metacognitive Strategies	5	16,17,18,19,20	16.67%
Affective Strategies	5	21,22,23,24,25	16.67%
Social Strategies	5	26,27,28,29,3	16.67%
Total	**30**	**30**	**100%**

b. **Construct Validity**

Construct validity refers to how well a questionnaire measures what it is supposed to measure in this case, students' learning strategies. According to Syamsudin (2004), construct validity can be tested using factor analysis,

which helps determine whether the items in the questionnaire can be grouped into categories based on the underlying theory. In this study, factor analysis was used to check if the items fit into relevant categories such as memory, cognitive, compensation, metacognitive, affective and social strategies. The results showed that the items grouped into three main factors that match the theory of learning strategies. This means the questionnaire is not only valid in content but also in measuring the intended concept. Therefore, it can be confidently used to study the relationship between learning strategies and vocabulary mastery among eleventh-grade students. Besides validity, it is also important to ensure the questionnaire is reliable. Reliability was tested using Cronbach's Alpha, which measures the internal consistency of the items. The result showed a Cronbach's Alpha score above 0.70, indicating the questionnaire is reliable and suitable for further research.

In conclusion, the validity and reliability of this learning strategy questionnaire provide a strong foundation for the study. It allows the researcher to draw accurate conclusions about the connection between learning strategies and vocabulary mastery. The study is expected to contribute to the improvement of English teaching methods in high schools and help teachers understand the importance of using effective learning strategies to enhance students' vocabulary skills.

Tabel 3.2 Specification of Construct Validity of The Questionnaire

Indicators	Descriptions	Relevant	
		Yes	No
Memory Strategies	Connecting, recalling, grouping vocabulary	✔	
Cognitive Strategies	Processing language, practicing, creating examples, analyzing	✔	

Compensation Strategies	Guessing meaning, using synonyms, using gestures	✔	
Metacognitive Strategies	Planning, monitoring, evaluating learning	✔	
Affective Strategies	Managing emotions, motivation, reducing stress	✔	
Social Strategies	Cooperating, asking questions, discussing	✔	

c. Reliability of the Questionnaire

To assess the reliability of the questionnaire, the researcher employed the Statistical Package for the Social Sciences (SPSS) version 26. The reliability of the questionnaire items was evaluated using a reliability coefficient test, specifically the Cronbach's Alpha analysis. The degree of reliability is indicated by a coefficient value ranging from 0 to 1. A Cronbach's Alpha value closer to 1 signifies a higher level of reliability. The researcher used Cronbach's Alpha formula as follows:

$$\alpha = \frac{k}{k-1}\left(1 - \frac{\sum S_i^2}{S_T^2}\right)$$

$$\alpha = \frac{30}{29}\left(1 - \frac{18,28}{231,29}\right)$$

$$\alpha = 1,0345 \times (1 - 0,079)$$

$$\alpha = 1,0345 \times 0,921$$

$$\alpha = 0,953$$

Where:

$\quad$: the reliability of the questionnaire/test
k $\quad$: total of questions
$\sum\alpha$ $\quad$: total of score items
$\quad$: total of variants

The classification of reliability levels is based on the following criteria:
0.00 – 0.19 $\quad$: Very low
0.20 – 0.39 $\quad$: Low
0.40 – 0.59 $\quad$: Average reliability
0.60 – 0.79 $\quad$: High reliability

According to (Nunnallying Ghozali, 2005), The standard of reliability of the instrument is >0.60. Meanwhile, if the value is <0.60, the questionnaire is considered unreliable or not consistent. The questionnaire in this study has been tested for reliability using Cronbach's Alpha analysis reliability, and the results have been obtained 0.953. (See appendix 6). Based on the reliability test results, it can be concluded that the questionnaire used in this research is reliable and consistent.

3.4.2 Vocabulary Test

To assess students' vocabulary test, the researcher used a vocabulary test based on vocabulary levels developed by Nation (1983; 1990). According to the core and basic competencies outlined in the curriculum, high school students are expected to master between 2,000 and 3,000 words. This aligns with the Senior High School English Curriculum Guidelines (1996), which state that students are expected to acquire approximately 2,800 words during their study. Therefore, this research focused on the first 2,000 to 3,000 high-frequency word levels as the scope for the vocabulary test.

The vocabulary test used a multiple-choice format. This format was chosen for several reasons. First, if constructed properly, each item has only one correct answer. Second, it is efficient and practical for scoring. Third, multiple-choice questions (MCQs) can be used to assess different levels of language knowledge, from basic to advanced. Lastly, this format is already familiar to most students (Coombe, 2011), which helps reduce test anxiety. The test focused specifically on synonym recognition where students are required to select the synonym of a target word from a set of options. This approach is appropriate for evaluating vocabulary mastery, as it tests students' ability to understand word meanings and identify their equivalents. A total of 50 multiple-choice items were constructed for this vocabulary test. Each item consisted of one target word and four answer choices (a–d), with only one correct synonym among them. The example of an item is presented below.

He decided to postpone the meeting until next week.
a. Cancel
b. Delay
c. Start
d. Finish

In this example, the correct answer is (b) Delay, which is the synonym of the word postpone.

In scoring students' results of the test, a Percentage Score was used. The ideal highest score was 100. The score of vocabulary size calculated as follow:

S = the score of the test
R = the total of right answer
N = the total of the test items

a.   **Content Validity**

Content validity refers to the extent to which the test content covers all relevant aspects of vocabulary mastery. In this study, the vocabulary test was designed based on the current junior high school curriculum and references from commonly used textbooks. This aligns with Alderson (2005), who states that content validity is essential to ensure that a test truly measures what it is intended to measure.

Tabel 3.3 Specification of Vocabulary Test

Content Words	Total Number	Items Numbers	Percentage
Nouns	12	1,2,3,4,5,6,7,8,9,10,43,47	24%
Verbs	13	11,12,13,14,15,16,17,18,19,20,42,46,48,	26%
Adjectives	13	21,22,23,24,25,26,27,28,29,30,41,45,50	26%
Adverbs	12	31,32,33,34,35,36,37,38,39,40,44,49	24%
Total	**50**	**50**	**100%**

b. Construct Validity

Construct validity focuses on whether the test genuinely measures the intended construct. In this context, the vocabulary test must accurately measure students' vocabulary mastery. To ensure this, factor analysis was conducted on the test results to determine whether the items contribute to a unified measurement. Read (2000) said, "vocabulary makes an estimate of a student's vocabulary size using a graded sample of words covering numerous frequency levels". This test was made based on a 2000-3000 report list level by Nation (2012), which was adjusted by the words that have been taught to students in the eleventh-grade student handbook of SMA N 2 Gedong Tataan. The test is also based on Senior High School English Curriculum Guidelines (1996) that senior high school students are expected to learn 2,800 words.

The researcher randomly choose vocabulary items listed in the the eleventh-grade student handbook of SMA Negeri 2 Gedong Tataan, ensuring that the words fall within the 2000–3000 frequency level as categorized by Nation (2012). In this case, the researcher used a receptive vocabulary test, making the selection appropriate because these words have already been encountered by the students during the learning process. Based on theory and the word list above, Setiyadi (2018) states, "If a measuring instrument only assesses one aspect, such as vocabulary, then construct validity can be evaluated by reviewing all the items." The researcher focused solely on the 2000–3000 word level and the student handbook when constructing the vocabulary test items. Further supporting this, Setiyadi also states, "If all items measure vocabulary mastery, then the instrument has fulfilled the aspect of construct validity." In the construction of the vocabulary test consisting of 50 items, all items referred to vocabulary test. Therefore, the vocabulary test in this study meets the criteria for construct validity.

Tabel 3.4 Specification of Construct Validity Vocabulary Test

Content Words	Descriptions	Relevant	
		Yes	No
Nouns	Measures mastery of nouns vocabulary	✔	
Verbs	Measures mastery of verbs vocabulary	✔	
Adjectives	Measures mastery of adjectives vocabulary	✔	
Adverbs	Measures mastery of adverbs vocabulary	✔	

c. Reliability of the Vocabulary Test

To measure students' vocabulary test, a vocabulary test was used in this research. The vocabulary test was developed based on the word family list of vocabulary test by Nation (2012), which was adjusted to the vocabulary taught to students in the eleventh-grade student handbook of SMA Negeri 2 Gedong Tataan. Before conducting the research, the researcher tested the reliability of the vocabulary test by administering it to the students of class XI IPA 1. If the test was proven to be reliable, the researcher would use it in the study and revise any items that did not show a good level of reliability. To examine the reliability of the vocabulary test, a reliability alpha analysis was conducted using SPSS version 26. The researcher used Cronbach's Alpha formula as follows:

$$\alpha = \frac{k}{k-1}\left(1 - \frac{\sum S_i^2}{S_T^2}\right)$$

$$\alpha = \frac{50}{49}\left(1 - \frac{42,09}{483,81}\right)$$

$$\alpha = 1,0204 \times (1 - 0,087)$$

$$\alpha = 1,0204 \times 0,913$$

$$\alpha = 0,932$$

Where:
 : the reliability of the questionnaire/test
k   : total of questions
$\sum \alpha$: total of score items
                 : total of variants

If the Cronbach's Alpha value approached 1, the multiple-choice questions would be considered reliable. The reliability analysis results showed a value of 0.932 with a total of 50 items, indicating that the test was reliable. Therefore, it can be concluded that the vocabulary test used in this research was reliable and consistent. (See appendix 7).

3.5 Level of Difficulty

Heaton (1975) states that index of difficulty of an item simply shows how easy or difficult the particular items provide in the test. To find out the level of difficulty of the test, the researcher will use the following formula:

That formula can be clarified as follows:

LD : level of difficulty
U : the total of correct answer of the upper group
L : the total of correct answer of the lower group
N : the total of students following the test

The criterion are as follows:

1) Less than 0.30 = difficult
2) 0.30-0.70 = moderate (good item)
3) More than 0.70-1.00 = easy

(Heaton, 1985;75)

Tabel 3.5 Percentage of Level Difficulty

Criteria	Amount	Percentage
Difficult	3	5%
Moderate	50	12%
Easy	7	83%

The result showed that 3 numbers were difficult, 50 numbers were moderate, and 7 numbers were easy. In the difficult and easy categories, researcher may take these questions.

3.6 Discrimination Power of the Test

Discrimination power refers to "the extent to which the item differentiates between high and how level students on that test. A good item which is according to this criterion is one in which good students did well, and bad students failed (Shohamy, 1985:81).

To see the discrimination index, the researcher will use the following formula:

$$DP =$$

DP = discrimination power
Upper = proportion of "high group" students getting the item correct
Lower = proportion of "low group" students getting the item correct
N = total number of students

The criteria are follows:
LD = Negative = rejected
LD = 0.00 - 0.20 = poor
LD = 0.21 - 0.40 = fair
LD = 0.41 - 0.70 = good
LD = 0.71 - 1.00 = Very good

(Heaton, 1975)

Tabel 3.6 Percentage Discrimination Power

Criteria	Amount	Percentage
Rejected	0	0%
Poor	0	0%
Fair	9	15%
Good	45	10%
Very Good	6	75%

The result showed that 9 numbers were fair items, 45 numbers were good items, and 6 numbers were good items .In the fair items category, the researcher did not take these questions because they were not able to discriminate students' performance effectively. Overall, there were 60 questions tested, and 10 questions were deleted, leaving 50 questions that were appropriate to be administered.

3.7 Research Procedures

To ensure that the research results are obtained through a systematic and accurate process, this study was conducted through several steps as follows:

a. Formulating the Research Problem

The researcher first formulated the problem to be studied. The main focus of this research is to determine whether there is a correlation between students' learning strategies and their English vocabulary mastery.

b. Determining Population and Sample

This research employed purposive sampling to select the sample. The population consisted of seven classes of eleventh-grade students at SMAN 2 Gedong Tataan. However, only one class was chosen as the sample. This study is non-experimental, so no special treatment was given. The data were collected from the results of the learning strategy questionnaire and the English vocabulary test.

c. Preparing the Research Instruments

After determining the sample, the researcher prepared two main instruments: a student learning strategy questionnaire and an English vocabulary mastery test.

d. Conducting the Instrument Try-Out

Before the main instruments were used on the sample class, the researcher conducted a try-out on a different class. The vocabulary test was given to students to evaluate the validity and reliability of the instrument.

e. Analyzing Try-Out Results

The try-out results were used to analyze the validity and reliability of the instrument, as well as the difficulty level and discriminating power of each item, to ensure the instrument was appropriate for actual data collection.

f. Distributing the Questionnaire

The learning strategy questionnaire was then distributed to the students in the sample class. The aim was to gather information about the learning strategies students use in learning English.

g. Administering the English Vocabulary Test

After collecting the questionnaire responses, the researcher conducted the English vocabulary mastery test. This test consisted of multiple-choice questions and was administered without any prior treatment or training.

h. Analyzing and Concluding the Data

All the data collected from the learning strategy questionnaire and the vocabulary test were thoroughly analyzed to determine whether there is a correlation between students' learning strategies and their English vocabulary mastery.

3.8 Data Collecting Technique

The data in this study were collected using both a vocabulary test and a questionnaire. To assess students' learning strategies, a questionnaire was employed. Meanwhile, to measure vocabulary size, the researcher conducted a

vocabulary test, which served as the instrument for evaluating students' vocabulary knowledge. Both the vocabulary test and the learning strategies questionnaire were administered via Google Forms.

a. Learning Strategies Questionnaire

The learning strategies examined in this study include the following categories: Memory Strategies, Cognitive Strategies, Compensation Strategies, Metacognitive Strategies, Affective Strategies, and Social Strategies. After determining the sample population, the researcher distributed the learning strategies questionnaire to the students. This questionnaire aimed to identify the extent of students' use of learning strategies and how it correlates with their vocabulary size. The questionnaire included several items related to the students' English learning strategies, and students were asked to choose answers that best represented their actual experiences. Their responses were expected to reflect factual or near-factual information about themselves, based on four given answer choices. In total, 30 questions related to students' learning strategies were used in this study.

b. Vocabulary Test

The vocabulary test in this study was designed to measure the extent of students' vocabulary mastery using an approach based on the word family list developed by Nation (1983; 1990). The instrument was in a multiple-choice format, where each item provided four answer options (a, b, c, d), consisting of one correct answer and three distractors. The test aimed to assess students' knowledge of vocabulary commonly used in learning contexts. A total of 50 items were constructed with varying levels of difficulty to provide a comprehensive overview of the students' vocabulary test.

3.9 Data Analysis

This particular study, a questionnaire was used to gather data. Subsequent to data collection, the Statistical Package for Social Science, or SPSS with Pearson Product Moment Correlation, software has been used for data analysis.

Descriptive statistical methods were applied by the researcher to examine the evidence, looking for levels (low mean rank, medium mean rank, and high mean rank) as well as averages (mean). The low mean appertains to low agreement.

3.10 Hypothesis Testing

The researcher employed quantitative analysis for the descriptive testing of the hypothesis, and serial correlation was used to correlate the data in order to determine whether or not there was a correlation. According to Pearson the formula for this type of correlation is as follows:

$$r_{xy} = \frac{n \sum XY - (\sum X)(\sum Y)}{\sqrt{[n \sum X^2 - (\sum X)^2][n \sum Y^2 - (\sum Y)^2]}}$$

$$r = \frac{(32)(181884) - (2662)(2090)}{\sqrt{[32(228848) - (2662)^2][32(151908) - (2090)^2]}}$$

$$= \frac{5.820.288 - 5.563.580}{\sqrt{[32(228848) - 7.086.244][32(151908) - 4.368.100]}}$$

$$= \frac{256.708}{\sqrt{[7.323.136 - 7.086.244][4.861.056 - 4.368.100]}}$$

$$= \frac{256.708}{\sqrt{236.892 \times 492.956}}$$

$$= \frac{256.708}{\sqrt{116.776.022.352}}$$

$$= \frac{256.708}{341.724}$$

$$r = 0,751$$

rxy	: coefficient of correlation between X variable and Y variable
N	: number of pairs of scores
x	: variable x learning strategies
y	: variable y vocabulary mastery
$\sum XY$	: the sum of multiplying of x and y score
$\sum X$	: the sum of x scores
$\sum Y$	: the sum of y scores
$\sum$	: the sum of x scores square
$\sum$	: the sum of y scores square

Sugiyono (2010) stated that the researcher should use diagram of correlation, there are:

A very low range from 0.00 to 0.199
A low range from 0.20 to 0.399
An average range from 0.40 to 0.599
A high range from 0.60 to 0.799
A very high range from 0.800 to 1.00.

According to the problem and the assumption, the researcher proposed the hypotheses testing as follows:

1. (H0): There is no positive correlation between students' learning strategies and vocabulary mastery at SMA Negeri 2 Gedong Tataan.

2. (HA1): There is a positive correlation between students' learning strategies and vocabulary mastery at SMA Negeri 2 Gedong Tataan.

V. CONCLUSION AND SUGGESTIONS

5.1 Conclusion

The findings of this research revealed a positive and significant correlation between students' learning strategies and their vocabulary mastery. Students who apply effective learning strategies tend to achieve higher vocabulary proficiency than those who do not. The correlation coefficient of 0.751, which exceeds the r-table value of 0.349 at the 5% significance level, confirms the strength of this relationship. Strategies such as note-taking, repetition, contextual practice, and self-evaluation are more enable students the learning process to retain new words more effectively. In summary, the success of vocabulary learning largely depends on the quality of learning strategies used by students. Therefore, teachers should encourage the development of appropriate and consistent learning strategies to enhance students' English vocabulary mastery.

5.2 Suggestions

Based on the findings of this study, English teachers are encouraged to help students apply effective learning strategies to improve their vocabulary mastery. Teachers should also provide guidance and motivation so that students can use strategies such as note-taking, repetition, contextual practice, and self-evaluation during the learning process. In addition, students are encouraged to use learning strategies independently, such as reviewing vocabulary regularly and practicing it in context. Schools are also expected to support the learning process by providing learning resources and activities that can enhance students' motivation in learning English.

For future research, it is suggested to employ more diverse instruments, such as vocabulary tests integrated with other language skills like reading and listening. This approach can provide a more comprehensive understanding of students' vocabulary ability. Moreover, the number of participants should be increased to obtain more representative and accurate results. For example, if this study involved 32 respondents, future research could include 50 participants or more so that the findings can be better generalized.

REFERENCES

Anderson, R. C., & Freebody, P. (1981). *Vocabulary knowledge*. In J. T. Guthrie (Ed.), *Comprehension and teaching: Research reviews* (pp. 77–117). International Reading Association.

Baker, S. (2014). The effect of graphic organisers on vocabulary retention. *Journal of Educational Psychology, 106*(2), 345–356.

Biber, D., Conrad, S., & Reppen, R. (1999). *Corpus linguistics: Investigating language structure and use*. Cambridge University Press.

BPS (Badan Pusat Statistik). (2021). *Statistik pendidikan Indonesia*. https://www.bps.go.id

Brown, H. D. (2007). Principles of language learning and teaching (5th ed.). Pearson Education.

Celce-Murcia, M., & Larsen-Freeman, D. (1999). *The grammar book: An ESL/EFL teacher's course* (2nd ed.). Heinle & Heinle.

Chamot, A. U. (2004). Issues in language learning strategy research and teaching. *Electronic Journal of Foreign Language Teaching, 1*(1), 14–26.

Cohen, A. D. (1998). *Strategies in learning and using a second language*. Longman.

Coombe, C. (2011). *Assessing vocabulary in the language classroom*. TESOL Arabia.

Dörnyei, Z. (2001). *Teaching and researching motivation*. Longman.

Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition*. Lawrence Erlbaum Associates.

Graham, S., & Perin, D. (2007). *Writing next: Effective strategies to improve writing of adolescents in middle and high schools*. Alliance for Excellent Education.

Ghozali, I. (2005). *Aplikasi analisis multivariate dengan program SPSS*. Semarang: Badan Penerbit Universitas Diponegoro.

Ghozali, I. (2018). *Aplikasi analisis multivariate dengan program IBM SPSS 25*. Semarang: Badan Penerbit Universitas Diponegoro.

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

Hatch, E., & Farhady, H. (1982). *Research design and statistics for applied linguistics*. Newbury House.

Hidayati, N. (2022). Collaborative vs individual vocabulary learning strategies. *Journal of Language and Linguistic Studies, 18*(1), 24–35.

Heaton, J. B. (1975). *Writing English language tests*. London: Longman.

Hinkel, E. (2005). *Teaching academic ESL writing: Practical techniques in vocabulary and grammar*. Routledge.

Kintsch, W. (1998). Comprehension: A paradigm for cognition. *Annual Review of Psychology, 49*, 1–29.

Laufer, B., & Nation, I. S. P. (1995). Vocabulary size and use: Lexical richness in L2 written production. *Applied Linguistics, 16*(3), 307–322.

Lewis, M. (2000). *Teaching collocation: Further developments in the lexical approach*. Language Teaching Publications.

Master, P. (1997). The English article system: Acquisition, function, and pedagogy. *TESOL Quarterly, 31*(4), 731–739.

McCarthy, M. (1990). *Vocabulary*. Oxford University Press.

Miller, G. A. (2003). WordNet: A lexical database for English. *Communications of the ACM, 46*(3), 39–41.

Nation, I. S. P. (1983). *Learning vocabulary*. Newbury House.

Nation, I. S. P. (1990). *Teaching and learning vocabulary*. Heinle & Heinle.

Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge University Press.

Nation, I. S. P. (2012). *The BNC/COCA word family lists*. Victoria University of Wellington.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.

Nurhayati, S. (2019). The impact of group discussion in improving students' vocabulary achievement. *Journal of English Language Teaching and Linguistics, 4*(2), 185–193.

O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition.* Cambridge University Press.

Oxford, R. L. (1990). *Language learning strategies: What every teacher should know*. Newbury House.

Oxford, R. L. (2011). *Teaching and researching language learning strategies.* Pearson.

Oxford, R. L. (2017). *Teaching and researching language learning strategies*: Self-regulation in context (2nd ed.). Routledge.

Oxford, R. L., & Crookall, D. (1989). Research on language learning strategies: Methods, findings, and instructional issues. *The Modern Language Journal, 73*(4), 404–419.

Piaget, J. (1973). *To understand is to invent: The future of education*. Grossman.

Prasetyo, A. (2021). Metacognitive strategies and vocabulary learning: A case study in Indonesian senior high schools. *Indonesian Journal of Applied Linguistics, 11*(1), 88–97.

Rahmawati, N. (2021). The impact of learning strategies on vocabulary mastery among high school students. *Journal of English Language Teaching, 10*(2), 123–135.

Read, J. (2000). *Assessing vocabulary*. Cambridge University Press.

Sari, R. (2019). The effect of using mobile apps in vocabulary learning. *Language Circle: Journal of Language and Literature, 13*(2), 113–122.

Schmitt, N. (1997). Vocabulary learning strategies. In N. Schmitt & M. McCarthy (Eds.), *Vocabulary: Description, acquisition and pedagogy* (pp. 199–227). Cambridge University Press.

Schmitt, N. (2000). *Vocabulary in language teaching*. Cambridge University Press.

Setiyadi, B. (2018). *Metode penelitian untuk pengajaran bahasa asing: Pendekatan kuantitatif dan kualitatif*. Graha Ilmu.

Stockwell, G. (2010). Using mobile phones for vocabulary activities: Examining the effect of platform. *Language Learning & Technology, 14*(2), 95–110.

Sugiyono. (2017). *Metode penelitian pendidikan: Pendekatan kuantitatif, kualitatif, dan R&D*. Alfabeta.

Sugiyono. (2019). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Bandung: Alfabeta.

Sutarsyah, C. (2021). *Vocabulary in language research*. Yogyakarta: Textium.

Thornbury, S. (2002). *How to teach vocabulary*. Pearson Education.

Teng, M. F., & Zhang, L. J. (2021). *Development of children's metacognitive knowledge, reading, and writing in English as a foreign language: Evidence from longitudinal data using multilevel models*. **British Journal of Educational Psychology, 91**(4), 1202–1230. https://doi.org/10.1111/bjep.12413

VanPatten, B. (2004). *Processing instruction: Theory, research, and commentary*. Routledge.

Wang, Y. (2016). Using mobile applications for vocabulary learning. *International Journal of Emerging Technologies in Learning, 11*(2), 35–38.

Wenden, A. (1991). *Learner strategies for learner autonomy*. Prentice Hall.

Zhang, Y. (2018). The relationship between vocabulary knowledge and reading comprehension. *English Language Teaching, 11*(5), 111–121.