

Using Keyword Mnemonics to Improve Students Retention of English Vocabulary and Concepts among Grade 9 Students

Kristhen A. Gonzaga., Genelyn R. Baluyos., & Cheryl C. Magbanua

Misamis University, Ozamiz City, Philippines

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ABSTRACT

Enhancing students' retention of vocabulary and concepts is crucial for improving their comprehension and performance in English language learning. The study aims to determine the level of retention before and after the implementation of keyword mnemonics, assess any significant differences, and evaluate the effectiveness of this strategy. The research employed a single group pretest-posttest design, with 28 purposively selected Grade 9 students as the respondents. Data were gathered using a researcher-made vocabulary test and lesson plans that integrated keyword mnemonics. The statistical tools used for data analysis were frequency and percentage, mean and standard deviation, and paired t-test. The findings revealed that students showed low retention before the intervention and significant improvement afterward, with all students achieving an "Outstanding" performance level post-intervention. The study revealed a highly significant difference in the students' retention of English vocabulary and concepts before and after the implementation of the keyword mnemonic strategy. Keyword mnemonics significantly enhances students' retention of English vocabulary and concepts. English teachers should incorporate keyword mnemonic strategies into daily vocabulary instruction to improve student retention and comprehension.

Keywords: education, Grade 9 students, keyword mnemonics, retention, English vocabulary, classroom-based, Philippines

INTRODUCTION

Vocabulary is one of the very essential aspects of language learning. It is the foundation of all language skills including listening, speaking, reading, and writing. Effective vocabulary acquisition is important for the academic success and communication abilities of the students. Students with a strong vocabulary skills tend to perform better academically and are more confident in their language use (Auliya, 2023). In contrast, a lack of vocabulary significantly hinders students' language development and limits their achievements academically. This problem is even more evident in non-native English speakers, where difficulties in vocabulary acquisition can affect their ability to interact effectively in English (Saeidnia & Keshavarz, 2024).

Students often face challenges in retaining new vocabulary, which negatively affects their ability to understand reading materials, participate in discussions, and express themselves clearly. Despite the importance of vocabulary in language proficiency, many students struggle with retention and memorization, even after repeated exposure. One of the main reasons for poor retention is students' reliance on rote memorization, which is not always effective for long-term memory. Traditional methods frequently fail to engage students effectively and support long-term retention (Yuldashevna, 2023).

To include engaging techniques that make vocabulary more memorable and applicable in various contexts, vocabulary learning needs to go beyond rote memorization (Munusamy et al., 2022). To address vocabulary difficulties, several traditional methods such as rote memorization, word lists, and flashcards have been employed. While these methods help students acquire words, they do not always guarantee retention. Vocabulary learning requires more engaging and meaningful strategies to ensure long-term retention (Petallana et al., 2021).

Alternative methods like context-based learning and word association techniques have been studied, but these approaches often require more time and focused effort from students (Turgunpulatovna, 2024). Additionally, the use of digital tools and games to reinforce vocabulary has gained attention, but studies indicate that without a systematic approach, these tools can be less effective than hands-on, personalized techniques (González et al., 2021).

Students often experience challenges in recalling English vocabulary, which directly affects their ability to write essays, understand reading passages, and engage in oral communication. Despite using various vocabulary-building methods, the lack of effective retention strategies results in weak vocabulary recall and limited understanding, especially in more complex texts. This issue may be attributed to the fact that students often fail to create meaningful connections with new vocabulary, leading to difficulties in recalling and applying these words in different contexts (Turgunpulatovna, 2024). When students do not actively engage with vocabulary in meaningful contexts, the retention rate drops significantly (Munusamy et al., 2022).

Research has highlighted the effectiveness of mnemonic techniques in improving vocabulary retention. Keyword mnemonics, which involve associating new words with familiar ones, have been found to significantly boost memory retention. This technique helps learners build stronger mental connections with vocabulary, making recall easier (Saeidnia & Keshavarz, 2024). Additionally, using graphic organizers, in combination with mnemonic strategies, has been shown to improve understanding and retention by visually mapping out word associations and meanings (Turgunpulatovna, 2024). These strategies engage both cognitive and visual learning styles, making them particularly effective for secondary school students. Incorporating mnemonic devices with classroom activities and real-life contexts improves vocabulary retention even further (González et al., 2021).

While mnemonic strategies have been well-documented in terms of vocabulary acquisition, there is a gap in research regarding their long-term effectiveness for Grade 9 students in the context of English learning. Most studies focus on younger learners or higher education students, leaving a gap in understanding how mnemonic devices function at the secondary school level. Additionally, there is a need for research that evaluates the real-world applicability of mnemonic techniques and their impact on students' overall language proficiency (Saeidnia & Keshavarz, 2024).

This study aims to explore the effectiveness of keyword mnemonics in enhancing vocabulary retention and comprehension among Grade 9 students. Specifically, the study seeks to determine whether this method can help students retain vocabulary more effectively than traditional teaching techniques. This study was conducted in a public secondary school in Ozamiz City, focusing on Grade 9 students. The study examines the use of mnemonic strategies over a short period and measure students' vocabulary retention through pre- and post-assessment tests. The research is limited to one academic quarter and doesn't include a longitudinal follow-up to assess long-term retention.

The significance of this research lies in its potential to introduce an effective strategy for improving vocabulary retention among secondary school students. If keyword mnemonics prove to be successful, this method could be implemented more widely in classrooms, offering a more engaging and effective alternative to traditional vocabulary learning techniques. By improving vocabulary retention, students can enhance their overall language skills, thereby contributing to their academic success and communication abilities.

This action research aimed to improve Grade 9 students' retention of English vocabulary and concepts through the use of Keyword Mnemonics in one of the public secondary schools in Ozamiz City. Specifically, it answered the following questions:

1. What is the level of students' retention of English vocabulary and concepts before the implementation of keyword mnemonic?
2. What is the level of students' retention of English vocabulary and concepts after the implementation of keyword mnemonic?
3. Is there a significant difference in students' retention of English vocabulary and concepts before and after the implementation of keyword mnemonic?

Null Hypothesis

H₀₁: There is no significant difference in students' retention of English vocabulary and concepts before and after the implementation of keyword mnemonic.

Strategy

The keyword mnemonic technique is a memory-enhancing strategy that involves creating an acoustic or imagery link between new vocabulary and familiar concepts. By associating new terms with keywords that sound similar, learners can better recall and apply the information in various contexts (Ismail et al., 2023). This is a cognitive technique recognized for its ability to improve foreign language vocabulary acquisition (Miyatsu & McDaniel, 2019). This strategy is effective in linking new vocabulary to prior knowledge by creating acoustic and visual associations through a keyword that sounds similar (Lee & Lan, 2023).

Research underscores the effectiveness of mnemonic strategies in improving vocabulary retention. For instance, a study found that 98.2% of students believed mnemonics enhanced knowledge retention, with a significant improvement in test performance compared to traditional methods (Munusamy et al., 2022). Another study demonstrates that when participants used the keyword method to learn new words, they performed better compared to those who merely repeated the words. The results showed that they were able to memorize more words, according to the statistics (O'rganishda, 2022).

Similarly, the use of keyword mnemonics has been shown to enhance vocabulary recall among secondary students, with positive impacts on their critical thinking and confidence levels (Thảo, 2022). In the local context, studies reveal that mnemonic techniques significantly improve vocabulary mastery, leading to better engagement and higher achievement in language learning (Auliya, 2023). Using mnemonic techniques is effective in boosting English language learning by enhancing memory retention and increasing motivation to learn (Haryadi & Sunarsi, 2024). Mnemonics serve as a helpful strategy for students to learn English vocabulary and strengthen their ability to memorize the material (Zaalishvili, 2023).

While effective, keyword mnemonics may have limitations in delayed recall, as students might struggle to retrieve the learned information over extended periods without continuous practice (González et al., 2021). Additionally, the method requires careful design and teacher support to ensure its consistent application and relevance to students' contexts (Wyra, 2019). Researchers advocate for the integration of mnemonics into classroom practices, emphasizing its potential to make learning enjoyable and engaging (Thảo, 2022). They highlight that student-generated mnemonics often yield better results than teacher-provided ones, as learners actively construct their own associations (Setiawan & Hakim, 2023).

Steps in Using Keyword Mnemonic Strategy

The steps in using key mnemonics to improve students' retention of English concepts begin with the teacher identifying challenging concepts or vocabulary from the lesson and creating corresponding keyword mnemonics. During the lesson, the teacher introduces the mnemonic alongside the concept, explaining its meaning and connection. Students then practice using the mnemonics in various activities, such as identification test, fill-in-the-blanks, or word association tasks, to strengthen their understanding. The keyword mnemonics are integrated into interactive games or quizzes to enhance engagement and retention. Finally, the teacher revisits the keyword mnemonics in reviews and assessments to ensure long-term retention and consistent application across lessons.

Action Research Methods

A. Research Design

This action research used a Single Group Pretest-Posttest Design. This research method was employed to assess the effectiveness of using keyword mnemonics in improving retention of English vocabulary and concepts among Grade 9 students. The design involved administering a pretest to measure students' knowledge before the intervention, followed by the implementation of keyword mnemonics as a learning strategy, and concluded with a posttest to assess any changes in their retention of the English vocabulary and concepts. This

design was deemed appropriate for the study, as it allowed for a clear evaluation of Grade 9 students' retention of English vocabulary and concepts through the use of mnemonics.

B. Site

The research was conducted at one of the public secondary schools in Ozamiz City. This school caters to students from Grade 7 to Grade 12, providing a diverse and dynamic learning environment. The specific focus was on a Grade 9 class, where challenges in retaining English vocabulary and concepts have been observed. This setting offered an ideal opportunity to explore the effectiveness of using keyword mnemonics as a teaching strategy to improve student retention and comprehension. The classroom environment, with its existing learning needs, served as the primary context for implementing and assessing the impact of mnemonics on student outcomes.

C. Participants

The participants of this study consisted of 28 Grade 9 students from a single section at one of the public secondary schools in Ozamiz City. These students were selected using purposive sampling to ensure they met specific criteria relevant to the research objectives. The criteria for selection included: students who were enrolled as Grade 9 students for the school year 2024–2025; students who were observed to have a need for improvement in retention of English vocabulary and concepts; and students who were willing to participate in the study. The purposive selection ensured that the sample was representative of students who were most likely to benefit from the use of mnemonics. Other sections within the same grade level were not included in the study to maintain focus and consistency in the data collection and analysis process.

D. Instruments

These following instruments were used in this study:

- a) **Vocabulary Test (VT).** It was a researcher-designed test integrated within the teacher's lesson plan to measure Grade 9 students' understanding and retention of key English vocabulary concepts over multiple instructional sessions during the 4th grading period. Each session included a pretest to determine baseline knowledge, a teacher-led lesson incorporating keyword mnemonics, and a posttest to evaluate improvements in vocabulary retention and comprehension. This 40-item test assessed essential language concepts aligned with the curriculum, including word meaning, context usage, and critical thinking in evaluating vocabulary. It also covered topics such as evaluating the soundness of reasoning, identifying logical fallacies and assessing presentation effectiveness. The test consisted of multiple-choice questions to measure comprehension and application, along with key-list items that required recall and matching of terms with their definitions or examples. To ensure validity and reliability, the test underwent expert review and was pilot-tested with selected students who were not part of the study. Test items were carefully reviewed to align with curriculum standards, and the instrument was validated through student and educator feedback to confirm its clarity and effectiveness.

In determining the students' performance in the Vocabulary Test, the following scale will be used:

Score	Grade Equivalence	Interpretation
34-40	90-100	Outstanding
31-33	85-89	Very Satisfactory
28-30	80-84	Satisfactory
24-27	75-79	Fairly Satisfactory
1-23	74 & below	Did Not Meet Expectations

- b) **Lesson Plan (LP).** A lesson plan designed to enhance students' retention of English vocabulary and concepts through keyword mnemonics was developed and evaluated by the cooperating teacher. The plan was implemented with Grade 9 students during the academic year 2024–2025 at a public secondary school in Ozamiz City. Each session incorporated culturally relatable yet English-based

mnemonic strategies to reinforce key concepts. The effectiveness of the approach was assessed through pretests and posttests, measuring students' improvement in vocabulary retention and comprehension over the intervention period.

E. Data Gathering Methods

Pre-Implementation Phase

The researcher first sought permission from the Schools Division Superintendent, the principal, and the participating teacher to conduct the study. Once approval was obtained, consent forms were sent to the parents of the students, and assent forms were collected from the students themselves. After securing all necessary permissions and forms, a pretest was administered to assess the students' baseline knowledge of the English vocabulary and concepts targeted in the study. The researcher also prepared the lesson plans and relevant materials based on the integration of keyword mnemonics into the teaching strategy.

Implementation Phase

The researcher implemented the keyword mnemonic intervention in the classroom over the course of one month. During this phase, the researcher introduced and integrated keyword mnemonics into the lesson plans to improve students' retention of English vocabulary and concepts. The researcher ensured that students understood the purpose and method of using keyword mnemonics through clear instructions.

Post-Implementation Phase

After the one-month intervention, a posttest was administered to evaluate improvements in students' retention of the vocabulary and concepts. Data were analyzed by tallying the pretest and posttest results, and the researcher interpreted the data to assess the effectiveness of the keyword mnemonic strategy. The findings were compiled into a report and shared with the school administration, the participating teacher, and other relevant stakeholders. Conclusions were drawn, and recommendations for future research or practice were included.

F. Ethical Considerations

The researchers adhered to ethical standards by following the criteria outlined in the 1979 Belmont Report for research involving human participants. The study placed a strong emphasis on respect for persons, which underscored the importance of recognizing each individual's autonomy and treating them with dignity. Before any data collection began, all respondents were provided with comprehensive explanations regarding the study's objectives, procedures, and significance. They were also assured that their participation was entirely voluntary. Informed consent was obtained from each participant, ensuring they were aware of their right to withdraw from the study at any time without any repercussions. Furthermore, the provisions of Republic Act No. 10173 were strictly observed to guarantee the privacy and security of the respondents' data. All collected data were securely stored to maintain confidentiality and data integrity. Respondents were assured that their participation would not compromise their well-being in any way and that all information they provided would be handled with the utmost confidentiality and care.

G. Data Analysis

With the aid of Minitab statistical software, the following statistical methods were used to analyze the data in this study:

Frequency and Percentage. Frequency and percentage were used to describe the distribution of students' scores and responses, providing a clear picture of how many students demonstrated specific levels of retention or performance before and after the implementation of mnemonic strategies.

Mean and Standard Deviation. The mean and standard deviation were used to assess the level of students' retention of English vocabulary and concepts before and after the implementation of mnemonic strategies. The mean score provided the average retention level, while the standard deviation indicated the variation in students' performance.

T-test. A paired t-test was used to compare the pre-test and post-test results to determine if there was a statistically significant difference in students' retention of English vocabulary and concepts before and after the implementation of mnemonic strategies. This helped assess the effectiveness of the mnemonic strategies in enhancing retention.

RESULTS AND DISCUSSION

A. Level of Students' Retention of English Vocabulary and Concepts Before the Implementation of Keyword Mnemonic

Table 1: Level of Students' Retention of English Vocabulary and Concepts Before the Implementation of Keyword Mnemonic

<i>Performance</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Outstanding</i>	-	-
<i>Very Satisfactory</i>	-	-
<i>Satisfactory</i>	-	-
<i>Fairly Satisfactory</i>	-	-
<i>Did Not Meet Expectations</i>	28	100
<i>Overall Performance</i>	<i>12.50 – Did not Meet Expectation</i>	

Table 1 presents the performance of students before the implementation of the keyword mnemonic strategy. The overall findings indicate that all students did not meet expectations. Specifically, 28 students (100%) were categorized as not meeting expectations ($M = 12.50$; $SD = 4.10$).

The data clearly reveals that prior to using the keyword mnemonic strategy, students' retention of English vocabulary and concepts was significantly below the expected level. With all participants falling into the "Did Not Meet Expectations" category, this indicates a widespread issue with retaining and recalling essential English concepts. The severity of this learning gap is highlighted through the mean score ($M=12.50$), which is far below the satisfactory threshold ($M=31$). On the other hand, while the majority of students struggled which can be shown in the standard deviation ($SD = 4.10$), there was still some variation in the degree of underperformance which suggests that a few students may have been closer to meeting the expectations than others.

The finding emphasizes the importance of implementing strategic interventions in English instruction to enhance students' vocabulary retention in English. It suggests that prior or current teaching strategies may not have been as successful in assisting students in meaningfully internalizing and recalling English vocabulary and concepts. It suggests that learners may not be benefiting from traditional approaches that rely heavily on rote memorization or isolated word lists without context or memory support mechanisms.

Vocabulary knowledge is an essential aspect of language learning and teaching, along with the development of language teaching methodologies and approaches. Perhaps, the greatest tool that can be given to students not only in their education but also in their life is an extended and rich vocabulary (Chekhav et al.,2016). Furthermore, the use of the keyword mnemonic has been shown to substantially increase learning speed and immediate recall of 2nd-language vocabulary words in comparison with other learning strategies (Wang et al., 1992).

To address these gaps, English teachers are strongly encouraged to adopt the keyword mnemonic technique as a core part of their vocabulary instruction. This strategy can help students form mental associations between unfamiliar terms and easily remembered keywords, making it easier to recall and apply vocabulary in context. School administrators and department heads may also consider organizing professional development workshops that focus on memory-enhancing instructional strategies. By adopting these student-centered, memory-based techniques, the performance and vocabulary retention of learners are expected to improve significantly in the succeeding assessments.

B. Level of Students' Retention of English Vocabulary and Concepts After the Implementation of Keyword Mnemonic

Table 2: Level of Students' Retention of English Vocabulary and Concepts After the Implementation of Keyword Mnemonic

Performance	Frequency	Percentage
Outstanding	28	100
Overall Performance	37.46 – Outstanding	

Scale: 34-40 (Outstanding); 31-33 (Very Satisfactory); 28-30 (Satisfactory); 24-27 (Fairly Satisfactory); 1-23 (Did Not Meet Expectations)

Table 2 presents students' performance after the implementation of the keyword mnemonic strategy. The overall findings reveal a remarkable improvement, as all 28 students (100%) were classified under the "Outstanding" performance level ($M = 37.46$; $SD = 1.35$).

This result strongly shows how effective the keyword mnemonic strategy was in helping students remember English vocabulary and concepts. With an average score of ($M=37.46$), all students reached the "Outstanding" level which is a big leap from their previous performance, where none of them met expectations. The low standard deviation ($SD=1.35$) means that their scores were not only high but also very close to each other, reflecting both personal improvement and consistent success across the entire group.

The clear difference between students' performance before and after the intervention highlights just how effective the keyword mnemonic strategy was when used in teaching. By helping students link new vocabulary to familiar ideas, the strategy made it easier for them to remember and truly understand what they were learning. The consistent performance among all students implies that the intervention was effective across various learner levels and styles.

The mnemonic keyword method is more effective than the verbal technique in retaining students' vocabulary. The students who experienced the keyword method could memorize more vocabulary than the students who did not experience it (Syuhada, 2019). In addition, participants in the keyword group outperformed the memorization group significantly in both their learning and retention of the vocabulary items. This support the effectiveness of the establishment of mental links and images, through the use of mnemonic strategies, for the vocabulary learning and retention (Taheri & Davoudi, 2016).

These findings have important implications for English instruction. Teachers should be encouraged to regularly use mnemonic techniques in vocabulary lessons, especially to support students who find learning new words difficult. School leaders and curriculum developers can also play a role by including these strategies in teaching guides and training programs. To keep students performing at this level, it's helpful to use follow-up activities like word games, peer teaching, visual aids, and reflective tasks that build on the memory links formed during lessons. By sticking with student-centered memory tools, schools can help students not only retain more vocabulary but also perform better overall in English.

C. Difference in Students' Retention of English Vocabulary and Concepts Before and After the Implementation of Keyword Mnemonic

Table 3 Difference: Between the Level of Effectiveness of Senior High School Program When Grouped According to Profile

Variables	M	SD	T-value	P-value
Students' Retention of English Vocabulary and Concepts Before Implementation of Keyword Mnemonic	12.50	4.11	-33.22	0.000
Students' Retention of English Vocabulary and Concepts After Implementation of Keyword Mnemonic	37.36	1.35		

Ho: There is no significant difference in students' retention of English vocabulary and concepts before and after the implementation of keyword mnemonic.

Note: Probability Value Scale: ** $p < 0.01$ (Highly Significant); * $p < 0.05$ (Significant); $p > 0.05$ (Not Significant)

Table 3 presents an analysis of the significant difference in students' retention of English vocabulary and concepts before and after the implementation of the keyword mnemonic strategy. The results show that before the intervention, students had a mean score of 12.50 (SD = 4.11), while after the intervention, the mean score increased to 37.36 (SD = 1.35). The statistical test reveals a highly significant difference between the two sets of scores ($t = -33.22$, $p = 0.000$).

The statistical result clearly rejects the null hypothesis, which states that there is no significant difference in students' retention before and after the use of keyword mnemonics. The highly significant p-value ($p < 0.01$) confirms that the observed improvement in performance is not due to chance but rather due to the intervention. The large t-value further supports the magnitude of this difference, highlighting the powerful impact of the keyword mnemonic technique in improving vocabulary retention.

This sharp increase in mean scores, supported by highly significant statistical results, demonstrates the effectiveness of keyword mnemonics as a powerful learning tool in English instruction. The strategy helped students encode, store, and retrieve vocabulary more effectively by associating unfamiliar terms with meaningful and memorable cues.

Learning vocabulary plays an important role in language learning, for it is the foundation of language. To enhance students' ability to remember or acquire new words, vocabulary learning strategies should be taught; according to the results of prior research, mnemonics is one of the most efficient strategies to assist students in remembering new vocabulary (Petallana et al., 2021). Furthermore, a significant difference was found between the performance of the keyword group and traditional group in delay recall posttest. It is illustrated that the use of the keyword method can largely reduce learners' problems in the acquisition and retention of L2 words (Davoudi & Yousefi, 2016).

The implications of these findings are substantial for educators and school administrators. English teachers are strongly encouraged to integrate keyword mnemonics as a regular part of vocabulary instruction. Training sessions or workshops should be provided to equip teachers with practical techniques in applying mnemonic strategies across lessons. Curriculum developers also consider embedding memory-based learning approaches in instructional materials and assessments. Furthermore, to reinforce retention and maximize learning gains, schools can implement follow-up activities such as creative vocabulary notebooks, classroom mnemonics contests, peer teaching demonstrations, and weekly word reviews. By institutionalizing these practices, schools can sustain high retention levels and ensure long-term learning success among students.

CONCLUSION

Findings

The following were the key findings of the study:

1. All of the students' performance before the implementation of the keyword mnemonic strategy did not meet expectations, indicating low retention of English vocabulary and concepts.
2. After the use of the keyword mnemonic strategy, all students significantly improved, with their performance falling under the "Outstanding" level.
3. The study revealed a highly significant difference in the students' retention of English vocabulary and concepts before and after the implementation of the keyword mnemonic strategy.

Conclusion

Based on the findings, the following conclusions are drawn:

1. Traditional vocabulary instruction methods appear to be insufficient in helping students retain English vocabulary and concepts, leading to poor performance and a lack of meaningful learning.
2. The use of the keyword mnemonic strategy significantly enhances students' retention of English vocabulary and concepts by enabling better memory association and recall.

3. The keyword mnemonic strategy proves to be an effective and impactful instructional tool for improving vocabulary retention and overall English performance among learners.

RECOMMENDATIONS

Based on the findings and conclusions, it is recommended that:

1. English teachers reevaluate the use of traditional vocabulary instruction methods and incorporate more engaging, memory-based strategies like keyword mnemonics to address students' difficulties in understanding and retaining English vocabulary.
2. Teachers integrate keyword mnemonic strategies into daily vocabulary instruction and guide students in creating their own associations to support long-term retention and active recall of English concepts.
3. School administrators and curriculum developers support the regular use of mnemonic-based strategies by providing training and resources to teachers, ensuring these tools are institutionalized as part of effective vocabulary instruction.
4. Students be encouraged to actively participate in applying mnemonic strategies and share their learning experiences to strengthen engagement and deepen understanding.
5. Future researchers explore the application and effectiveness of keyword mnemonic strategies in other language learning areas or subjects beyond vocabulary retention.

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