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STRATEGIES TO OPTIMISE LONG-TERM MEMORY IN LEARNING VOCABULARY

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ABSTRACT
Optimizing long-term memory in vocabulary is a significant challenge for many university students. The author explores various strategies which include: (1) spaced repetition, (2) use of mnemonic devices, (3) contextual learning, (4) active use, (5) visual aids and mind mapping, (6) self-testing with mobile apps, and (7) associative learning. Each strategy is discussed in depth in current research. The findings show that a combination of several strategies, such as spaced repetition with memory practice, the use of verbal mnemonics, contextualized learning, and visual aids, can significantly improve vocabulary retention and language comprehension.

Keywords:
Long-term Memory, Vocabulary, Learning Strategies, Spaced Repetition, Contextualized Learning, Visual Aids, Mobile Apps, Associative Learning

INTRODUCTION

Optimizing long-term memory in learning vocabulary remains a significant challenge for many university students. Often, these students struggle with retaining the vocabulary they have memorized, leading to frequent forgetting. Several factors contribute to this issue, including a lack of motivation to remember foreign language vocabulary, especially English. This lack of motivation results in a reluctance to repeatedly practice and use new words, which is crucial for long-term retention. Additionally, the learning environment plays a critical role. In non-English-speaking countries, the environment is often less conducive to practicing and improving English vocabulary since it is not the student's mother tongue. This absence of regular exposure and use of the language hinders their ability to embed the vocabulary into their long-term memory. Therefore, to tackle these challenges, it is essential to implement specific strategies that can enhance motivation, encourage regular practice, and create a more supportive learning environment for vocabulary acquisition.

The above description needs to be given a solution because optimizing long-term memory in learning vocabulary will significantly increase the retention of new words, which in turn enhances the ability to recall and use these words effectively. This improvement in vocabulary retention not only bolsters foreign language skills but also provides a solid foundation for achieving greater proficiency. When learners can remember and use a larger set of vocabulary over the long term, they are better equipped to engage in more complex and meaningful communication, leading to a higher chance of academic and professional success. Furthermore, strong long-term memory skills facilitate continuous learning, allowing students to build upon their existing knowledge base more efficiently. Thus, implementing strategies that focus on long-term memory optimization is crucial for anyone aiming to master a new language and achieve their goals. Therefore, in this article, the writer would like to answer the following question: How to strategize to optimize long-term memory in learning vocabulary?

METHOD

The study on optimizing long-term memory in learning vocabulary involved the exploration of various strategies that can enhance vocabulary retention among university students. Key methods included:

1. Spaced Repetition: Utilized digital tools like Anki to implement spaced repetition, encouraging students to review vocabulary at increasing intervals. This method combined memory practice with spaced repetition to improve long-term retention.

2. Contextual Learning: Implemented learning activities that involved vocabulary in context, such as sentences, stories, and gamified learning. Authentic materials like podcasts and extensive reading were used to expose students to vocabulary in various contexts.

3. Visual Aids: Integrated visual aids such as diagrams, illustrations, and videos to enhance vocabulary learning. Mind mapping techniques were employed to create visual representations of vocabulary related to key concepts.

4. Mobile Apps: Utilized mobile applications for quizzes, flashcards, and vocabulary games to make review sessions interactive. Students were allowed to create their own flashcards for personalized self-testing.

5. Associative Learning: Encouraged linking new vocabulary with existing knowledge to create a network of related terms. Associative learning techniques were applied to enhance recall through familiar concepts.

RESULTS

The findings from the study indicated that a combination of strategies, particularly spaced repetition with memory practice, verbal mnemonics, contextualized learning, and visual aids, significantly improved vocabulary retention and language comprehension. Students who engaged in active usage of vocabulary demonstrated better understanding and retention of new words. The use of visual aids and mind mapping facilitated deeper semantic processing and made learning more engaging. Self-testing through mobile apps not only strengthened memory but also helped identify areas needing more focus, enabling targeted learning. Associative learning techniques proved effective in expanding vocabulary acquisition by linking new words to familiar concepts, enhancing recall. Overall, the implementation of these strategies led to increased motivation and engagement among students, resulting in better vocabulary mastery and long-term retention.

DISCUSSIONS

Optimizing long-term memory for vocabulary retention is a significant challenge for many university students, and mastering vocabulary is an important aspect of language. Various researchers have explored strategies and techniques to improve vocabulary acquisition and retention. There are several strategies for mastering vocabulary and optimizing long-term memory, including:

1. Spaced Repetition

According to Siowai, Lo. (2024), in his study found that immediate repetition is more effective than spaced repetition in the context of vocabulary learning through dual-subtitled videos. However, this result differs from cognitive research that usually supports the superiority of spaced repetition for long-term retention. Spaced repetition is a highly effective technique that involves reviewing vocabulary at increasing intervals over time. This method leverages the psychological spacing effect, which suggests that information is more easily recalled if it is studied a few times spaced over a long time rather than repeatedly in a

short period. Meanwhile, according to Brian, Strong. (2023), his research has shown that a combination of memory practice and spaced repetition significantly improves long-term retention of vocabulary. Digital tools like Anki utilize these principles by encouraging students to actively recall information and review it at set intervals. This method has been shown to improve memory retention and facilitate deeper vocabulary learning, especially in the context of language learning.

2. The Use of Mnemonic Devices

Mnemonics are memory aids that help learners associate new vocabulary with familiar concepts. Techniques such as creating vivid mental images, using acronyms, or developing stories around new words can make learning more interesting and memorable. According to Moody et al. (2018), this article in "Education Science" provides a critical analysis of the theory and practice of vocabulary teaching, highlighting various mnemonic techniques used to enhance vocabulary learning. The study emphasizes the effectiveness of vivid mental imagery, acronyms, and storytelling as mnemonic devices to make vocabulary acquisition more interesting and memorable. According to Hyunwoo, Kim. (2020), mnemonic devices can support learners with different working memory capacities by providing structured ways to encode and retrieve vocabulary. Meanwhile, according to Linck et al. (2014), different mnemonics interact with working memory tasks to assist L2 vocabulary learning. The findings support the use of verbal mnemonics, such as acronyms and keyword methods, to improve vocabulary retention and comprehension.

3. Contextual Learning

According to Bruna, F. T. M et al. (2019), the effect of retrieval in an educational context is effective in improving learning achievement in the classroom. Learning vocabulary in context rather than in isolation can significantly improve memory. Finding words in sentences, stories, or in gameplay. According to Mina, Samortin. (2020), examined the use of gamified learning activities to improve English vocabulary retention in junior high school students. Gamification, which involves using games for educational purposes, was found to be effective in motivating students and increasing their engagement in the learning process. Activities such as puzzles, fun games, and memory games are used to reinforce students' vocabulary through collaborative and task-based learning approaches. can help students

understand and remember them better. Meanwhile, according to Christine CM, Goh et al. (2021), the use of podcasts as a learning tool. Listening to authentic materials such as podcasts can help students improve their listening skills as well as expand vocabulary and understanding of the target language context. Extensive reading in the target language, listening to podcasts, and watching videos can expose students to vocabulary in various contexts, thus strengthening their understanding and memory.

4. Active Usage

According to Norbert, S. (2014), vocabulary acquisition is not only about knowing many words but also understanding the context of use and deep meaning. This suggests that active use of vocabulary in various contexts can strengthen comprehension and retention. Using new vocabulary actively in speaking and writing activities is essential for retaining memories. According to Paul, D Toth et. al. (2016), the language learning process not only involves individual cognitive aspects but is also influenced by social factors and interactions. Meanwhile, according to S Loewen et. al. (2018), interaction or conversation between teacher-student and student-student can facilitate language acquisition. Engaging in conversations, writing essays, or even keeping a daily journal in the target language encourages students to apply what they have learned, thus strengthening their memory.

5. Visual Aids and Mind Mapping

According to Nicolae, B. (2018) The benefits of using visuals in teaching are enormous, ranging from attracting and retaining attention to motivating students to engage with certain topics and helping students remember information. to engage with a particular topic and help students remember information. Experts and teachers agree on the important role of visuals that can improve the learning of students who belong to a generation familiar with multimedia visual interfaces and internet technologies. Visual aids such as illustrations, diagrams, graphs, photos, and YouTube movies can be used to develop students' speaking or writing skills in conveying oral messages. in conveying oral or written messages and can help students organize and visualize relationships between words. These visual tools make abstract words more concrete and interconnected.

According to Rui, Feng et. al. (2023), mind mapping can facilitate vocabulary learning and increase motivation and willingness to communicate through visual representations of concepts. Mind mapping, in particular, allows students to create visual representations of vocabulary related to key concepts, which can aid comprehension and recall. Meanwhile, according to Ahmad, Ali H et. al. (2015), the benefits of mind mapping include facilitating in-depth semantic processing, utilizing visual power, involving more parts of the brain, helping to store in long-term memory, showing semantic relationships between words, and making mind mapping more effective. Semantic relationships between words, and making learning more fun.

6. Self-Testing with Use Mobile App

Consistent Self-Testing with the use of a Mobile App is essential for long-term retention. Quizzes, flashcards, and vocabulary games can make review sessions more interactive and less monotonous. According to Reima, A. (2022), by using a Mobile App that has a customization feature students can create their own flashcards or vocabulary quizzes for their self-testing, so they can provide assessments to motivate their self-testing with the Mobile App. Mobile Appl can be utilized by students to practice, test, and improve their English vocabulary independently through mobile applications on smartphones/tablets. Regular self-testing not only strengthens memory but also identifies areas that need more focus, thus enabling targeted learning.

7. Associative Learning

According to Jamal, Z. (2014), associative learning is proven to be effective in expanding learners' vocabulary acquisition and can be applied as a vocabulary learning technique. Meanwhile, according to Juan, L. (2019), vocabulary has a network that has small-world and scale-free characteristics that increase as the vocabulary increases. This indicates that the process of learning associations between words is more efficient. Associative learning involves linking new vocabulary with existing knowledge. By creating associations between new words and familiar concepts, students can create a network of related terms that enhance recall. For example, learning the word "photosynthesis" can be linked with prior knowledge of plants and their functions, making the new term easier to remember.

CONCLUSIONS

Optimize long-term memory in learning vocabulary. Strategies discussed include spaced repetition, use of mnemonic aids, contextualized learning, active use, visual aids and mind mapping, self-testing with mobile apps, and associative learning. The importance of combining several strategies such as spaced repetition with memory practice, use of verbal mnemonics, contextualized learning, and visual aids to significantly improve vocabulary retention and language comprehension. In the author's opinion, these strategies not only help remember vocabulary in the short term but also strengthen deeper associations and understanding to ensure optimal long-term retention. So, it can be concluded that by applying the right combination of strategies, students can be more motivated, more engaged in the learning process, and ultimately achieve better vocabulary mastery.

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