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USING MNEMONICS TO IMPROVE MEMORY

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Abstract

Mnemonics are learning techniques aimed at improving memory functions by better organizing and processing learning through effective encoding and retrieval processes. Currently, mnemonic techniques and methods increasingly attract attention as effective tools in educational and clinical practices due to their high effectiveness in improving short- and long-term memory functions in people of various age brackets. Recent studies clearly show that acronyms, the method of loci, musical mnemonic methods, serious games-based mnemonic training tools, and those based on virtual reality increase learning effectiveness and memory functions by a significant factor. In addition to learning and memory functions, research studies point to the importance of mnemonic techniques and methods in treating seniors and people with memory-related problems by improving connectivity and functional memory functions. This paper examines the theoretical aspects of mnemonic learning techniques and their effectiveness from recent research and practical ways of application in educational and learning practices related to their functions and effectiveness. The results show that the application of systematic mnemonic methods not only enhances memory functions but also motivates learners significantly. Using mnemonic techniques and methods within educational practices shows effectiveness in improving memory functions and overall efficiency in learning and memory processes.

Key words: Mnemonics, Memory improvement, Learning strategies, Method of loci, Acronym mnemonics, Musical mnemonics, Cognitive training, Long-term memory, Educational psychology.

Аннотация

Мнемоника представляет собой совокупность когнитивных стратегий, направленных на улучшение памяти за счёт более эффективной организации, кодирования и извлечения информации. В последние годы мнемонические методы привлекают всё больше внимания в образовательной и клинической сферах благодаря их доказанной эффективности в развитии кратковременной и долговременной памяти у представителей разных возрастных групп. Исследования показывают, что такие методы, как акронимы, метод локусов, музыкальная мнемоника, обучающие игры и программы мнемонической тренировки на основе виртуальной реальности, значительно повышают учебные результаты, удержание лексики и когнитивную продуктивность. Кроме того, научные данные подтверждают, что мнемонические стратегии способствуют поддержке пожилых людей и лиц с нарушениями памяти, улучшая функциональные показатели памяти и нейронную связанность. В данной статье рассматриваются теоретические основы мнемонических методов, анализируются современные исследования их эффективности, а также обсуждаются практические возможности применения мнемоники в образовательной деятельности и программах когнитивной тренировки. Полученные результаты подчеркивают, что систематическое использование мнемонических стратегий не только улучшает показатели памяти, но и повышает мотивацию и вовлечённость обучающихся. Таким образом, интеграция мнемонических методов в процесс обучения является эффективным средством повышения качества усвоения знаний и общей когнитивной эффективности.

Ключевые слова: мнемоника, улучшение памяти, стратегии обучения, метод локусов, акронимы, музыкальная мнемоника, когнитивная тренировка, долговременная память, образовательная психология.

INTRODUCTION

Memory forms a core function in learning, as it helps individuals to store, retain, and retrieve information for a period of time. Most traditional approaches to learning rely on repetition and rote memorization, which are poor, inefficient ways of learning and cognitively burdensome. Because of this, researchers and educators have increasingly focused on mnemonic strategies as viable instruments for improving memory performance and learning efficiency. Mnemonics are structured memory aids that help learners encode information by means of an association, imagery, organization, or meaningful pattern. According to Kozmus & Kozmus, mnemonics are a systematic method of memory that supports learning more efficiently by minimizing cognitive overload and bringing about increased recall. Mnemonic techniques such as the method of loci date back to ancient times; although some of their contemporary applications are extended with the help of digital technologies, music, and immersive environments. Recent studies underscore that mnemonic strategies are effective across diverse populations, including school students, university learners, and older adults in cognitive decline. Bugti (2024) presented evidence that acronym-based mnemonics significantly improve English vocabulary retention, whereas Siagian (2023) reported positive effects of mnemonic devices on long-term memory in primary school pupils. In clinical and cognitive neuroscience contexts, mnemonic strategy training has also been related to improved brain connectivity and memory-related neural functioning. Hampstead et al. (2025). This article reviews recent studies in empirical research regarding mnemonic strategies and discusses their practical use in education and in cognitive training. The paper also outlines challenges and further directions in using mnemonic techniques. The study has a qualitative

literature review design, analyzing scholarly articles published between 2023 and 2025, investigating mnemonic strategies and memory improvement. The focus of the selected studies is on educational settings, cognitive training programs, and clinical populations. The key mnemonic approaches reviewed include acronym mnemonics, musical mnemonics, serious games, virtual reality-based memory training, and the method of loci. Research shows consistently that mnemonic strategies significantly enhance learning and retention. Bugti (2024) found that when acronym mnemonics were used by students, vocabulary retention significantly increased compared to using traditional methods of memorization. Similarly, Siagian (2023) reports that mnemonic devices improve the longterm memory of primary school learners by making learning more engaging and structured.Zhang (2025) echoes this, adding that mnemonics perform even better in complex material like anatomy, as their systematic associations and visual imagery yield greater retention of large information loads. This corroborates that mnemonics are most effective in abstract and/or information-heavy materials. Several of these studies pinpoint the importance of mnemonic strategies for aging populations. Hampstead et al. (2025) showed that mnemonic strategy training increased memory and functional brain connectivity in older adults. Lin et al. (2025) add weight to this when they reiterate that mnemonic strategy combinations result in greater gains in mnemonic function. Novel interventions, such as those featuring virtual reality-based memory training, are also beginning to produce positive results. Buele et al. (2023) and Moll et al. (2023) noted that immersive virtual environments promote engagement and facilitate the method of loci, providing users with spatial cues that enhance memory encoding. Musical mnemonics have gained merit for improving memory in both healthy and memory-impaired individuals. A systematic review by Derks-Dijkman et al. (2024) suggests that rhythm and melody promote recall by activating multiple neural pathways. Mnemonic serious games also up the ante in motivational and learning outcomes by incorporating game elements, especially fun, with

structured mnemonic strategies. Fung & Oyibo, 2024 Despite the efficacy of mnemonic strategies, appropriate training and modifications of these strategies according to learners' individual cognitive capabilities should be considered. Some learners may find a number of mnemonic systems complicated or hard to master at the beginning. Moreover, not all mnemonic techniques have equal power in all types of contents. Further, Andrej (2025) confirmed that the efficiency of the method of loci depends on the implementation of guided practice and on individual differences in spatial ability.

CONCLUSION

The reviewed study clearly shows that using mnemonics is an effective strategy for enhancing memory. The application of acronyms, musical mnemonics, serious games, virtual reality-based training methods, and the use of the method of loci has been shown to significantly boost memory techniques. Including mnemonics within the classroom curriculum for cognitive training purposes could help create a positive experience for enhanced knowledge and memory performance. However, to make this experience even better for educators and trainees, appropriate training should be provided for the effective use of mnemonics within a training context. The application of mnemonics has been shown to contribute significantly to overall memory performance.

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