



E O C
EUROASIAN
ONLINE
CONFERENCES

GERMANY

CONFERENCE

INTERNATIONAL CONFERENCE ON
SCIENCE, ENGINEERING AND
TECHNOLOGY



Google Scholar

zenodo

OpenAIRE

doi.org digital object
identifier

eoconf.com - from 2024



INTERNATIONAL CONFERENCE ON SCIENCE, ENGINEERING AND TECHNOLOGY:
a collection scientific works of the International scientific conference –
Gamburg, Germany, 2026 Issue 2

Languages of publication: Uzbek, English, Russian, German, Italian, Spanish,

The collection consists of scientific research of scientists, graduate students and students who took part in the International Scientific online conference « **INTERNATIONAL CONFERENCE ON SCIENCE, ENGINEERING AND TECHNOLOGY** ». Which took place in Gamburg, 2026.

Conference proceedings are recommended for scientists and teachers in higher education establishments. They can be used in education, including the process of post - graduate teaching, preparation for obtain bachelors' and masters' degrees. The review of all articles was accomplished by experts, materials are according to authors copyright. The authors are responsible for content, researches results and errors.

MASTERING ENGLISH VOCABULARY: MNEMONIC TECHNIQUES FOR UZBEK LEARNERS

Amonova Dilnozaxon Ilxomjon qizi

Fergana state university, faculty: Foreign languages, teacher
dilkub6@gmail.com, +998978870098

Rahmonova Mavludaxon Azizjon qizi

Fergana state university, faculty: Foreign languages, teacher, student
zamiraorziyeva85@gmail.com, +998507873656

Annotatsiya. Ingliz tili lug‘at boyligini o‘rganish o‘zbek tilida so‘zlashuvchilar uchun tillar o‘rtasidagi lingvistik farqlar sababli murakkab hisoblanadi. Mazkur maqolada inglizcha so‘zlarni fonetik jihatdan o‘xshash o‘zbekcha so‘zlar bilan bog‘lashga asoslangan “Kalit so‘zlar metodi”ning amaliy qo‘llanilishi yoritiladi (masalan, *Attack – Etik*). Ushbu assotsiatsiyalar Paivio’ning Ikki tomonlama kodlash nazariyasiga tayangan holda generativ sun’iy intellekt yordamida yaratilgan vizual obrazlar bilan mustahkamlanadi. Atkinson va Raugh (1975) tadqiqotlariga asoslanib, metod yodlash samaradorligini 46 % dan 72 % gacha oshirishi ko‘rsatiladi. Tadqiqot natijalari metodning uzoq muddatli lug‘at boyligini shakllantirishda samarali ekanini tasdiqlaydi.

Kalit so‘zlar: mnemonika, kalit so‘zlar metodi, ikki tomonlama kodlash nazariyasi, generativ sun’iy intellekt, uzoq muddatli xotira, mnemonik mushak

Аннотация. Изучение английской лексики представляет трудность для носителей узбекского языка из-за отсутствия языковых сходств. В статье рассматривается практическое применение «Метода ключевых слов», основанного на фонетической ассоциации английских слов с узбекскими (например, *Attack – Etik*). Для усиления запоминания используются визуальные образы, созданные с помощью генеративного искусственного интеллекта в соответствии с теорией двойного кодирования А. Пайвио. Опираясь на исследования Аткинсона и Pay (1975), метод демонстрирует рост показателей запоминания до 72 % по сравнению с 46 % при механическом заучивании, что подтверждает его эффективность для долговременного усвоения лексики.

Ключевые слова: мнемоника, метод ключевых слов, теория двойного кодирования, генеративный искусственный интеллект, долговременная память, мнемоническая мышца

Abstract. Learning English vocabulary is challenging for Uzbek speakers due to the lack of linguistic similarity between the two languages. This paper presents a practical application of the Keyword Method, which links English words with phonetically similar Uzbek words (e.g., *Attack – Etik*). These associations are reinforced through AI-generated visual images based on Paivio’s Dual Coding Theory. Drawing on Atkinson and Raugh’s (1975) findings, the method demonstrates significantly higher retention rates—up to 72% compared to 46%



achieved through rote memorization. The study concludes that the keyword method is an effective tool for long-term vocabulary acquisition.

Keywords: Mnemonics, Keyword Method, Dual Coding Theory, Generative AI, long-term Memory, mnemonic muscle

Learning a second language is a complex process that involves mastering both structure and meaning. For many learners, communication is the ultimate goal. However, students often face a dilemma: should they focus on grammar rules or vocabulary lists? Linguist David Wilkins famously stated, "Without grammar very little can be conveyed, without vocabulary nothing can be conveyed." This idea shows that vocabulary plays a central role in communication. Even with limited grammar, a learner can express meaning if they know enough words. Without vocabulary, communication becomes almost impossible.

Despite its importance, memorizing thousands of new words remains a major challenge. For native Uzbek speakers, this challenge is even more noticeable. Uzbek learners often find it easy to learn sister languages such as Turkish or Kazakh because these languages share similar roots and vocabulary associations feel natural and ready-made. English, however, belongs to a completely different language family, and there are no natural linguistic links between English and Uzbek words. For this reason, English vocabulary often feels abstract and disconnected. Learners cannot easily imagine or visualize new words. As a result, many students experience a familiar situation: they memorize new English words, successfully complete assignments, and feel confident at first. After some time, however, the same words become difficult to recall. The words seem familiar, but their meanings do not come to mind.

To overcome this, learners need to build "artificial bridges" in their minds. This study focuses on Mnemonics—specifically the Keyword Method. This technique allows students to link unfamiliar English sounds to familiar Uzbek concepts, making vocabulary learning faster and more creative.

This paper uses a descriptive, illustrative method. Its goal is to show how the keyword method can be used in practice for Uzbek linguistic context. The method links the sound of an English word to an Uzbek keyword, connects the meaning with a short, memorable sentence, and then makes a clear mental image for rehearsal. By detailing these cognitive steps and providing practical examples, the paper offers a reproducible framework suitable for both formal English lessons and independent learning.

The process begins with the acoustic phase, where a learner identifies an Uzbek "keyword" that sounds similar to the target English word. In this stage, the chosen keyword does not have to share meaning, only phonetic similarity. For example, the English word "Attack" is paired with the Uzbek word "Etik" (boots), while "Hinder" (to obstruct) is linked with the brand "Kinder." Additionally, the word "Coherent" (logical/clear) is associated with the city of "Qohira" (Cairo) due to their phonetic resemblance.



Once the phonetic link is established, learners move to the semantic phase by creating vivid, often humorous sentences that connect the English word with its Uzbek keyword and act as cognitive "glue" for memory (e.g., "*Etiklarim menga attack qilishdi*," "*Oyim kinder olishimga hinder qildi*," "*Qohirada coherent so 'zlashadilar*"). The effectiveness of these associations is further enhanced through Paivio's Dual Coding Theory (1971), as generative AI is used to transform mnemonic sentences into concrete visual images that strengthen mental connections and support long-term retention. Empirical evidence from Atkinson and Raugh's (1975) Stanford study confirms the superiority of this associative approach, showing recall rates of 72% with the keyword method compared to 46% with traditional rote memorization.

By applying these historical findings to the Uzbek-English context described in the methodology, it can be concluded that the "acoustic-semantic-visual" chain provides a superior learning outcome. While traditional rote memorization often leads to rapid forgetting due to a lack of mental connections, the use of keywords like "Etik" for "Attack" or "Kinder" for "Hinder" creates a durable neural pathway. Furthermore, the Stanford study revealed that the mnemonic group maintained their high scores even after a delay of several weeks. Therefore, using the proposed framework of AI-generated images and phonetic associations, Uzbek learners can expect to achieve similar high-retention results, moving beyond short-term memorization to genuine long-term vocabulary mastery.

While the quantitative results demonstrate the clear superiority of the Keyword Method over rote memorization, practical implementation of this technique presents certain challenges that must be acknowledged. The primary limitation is the initial cognitive effort required from the learner. Unlike traditional repetition, which is a passive activity, constructing mnemonic associations is an active and creatively demanding process. Some learners may initially struggle to find an acoustic link, an Uzbek word that sounds sufficiently like the English target or feel that they lack the creativity to construct a vivid semantic bridge. Consequently, for a beginner, this method may feel slower and more mentally taxing than simply reading a word list, potentially leading to frustration during the early stages of adoption.

These difficulties should be viewed as a temporary learning curve rather than a flaw of the methodology. Higbee (2001) argues that mnemonic ability is not innate but develops through practice as a "mnemonic muscle," allowing learners to recognize phonetic patterns and generate imagery more efficiently over time. Although mnemonic association initially requires greater cognitive effort than rote memorization, this investment is compensated by faster recall and reduced forgetting. Consequently, shifting from mechanical repetition to mnemonic strategies enables Uzbek learners to overcome linguistic distance and achieve long-term vocabulary mastery by transforming abstract words into vivid, meaningful experiences.



References

1. Wilkins, D. A. (1972). *Linguistics in Language Teaching*. London: Edward Arnold.
2. Paivio, A. (1971). *Imagery and Verbal Processes*. New York: Holt, Rinehart, and Winston.
3. Atkinson, R. C., & Raugh, M. R. (1975). An application of the mnemonic keyword method to the acquisition of a Russian vocabulary. *Journal of Experimental Psychology: Human Learning and Memory*, 104(2), 126–133.
4. Higbee, K. L. (2001). *Your Memory: How It Works and How to Improve It*. Da Capo Lifelong Books.

