

THE ROLE OF MOBILE APPLICATIONS IN LANGUAGE LEARNING (MALL) AND THE INTEGRATION OF ARTIFICIAL INTELLIGENCE

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Abstract: This article analyzes Mobile-Assisted Language Learning (MALL) and the role of artificial intelligence in modern language education. It also examines how mobile applications contribute to the development of learners' vocabulary, pronunciation, communication skills, and motivation. The study highlights both the advantages and the technical and pedagogical limitations of MALL systems. This research is based on the works of Alnufaie (2020), Klimova & Al-Obaydi (2023), Shohor & Hashim (2024), Karimova (2025) and Reyimbayev (2024).

Keywords: Mobile-Assisted Language Learning, artificial intelligence, personalization, learner engagement, digital education, vocabulary development.

Annotatsiya: Ushbu maqolada mobil ilovalar orqali til o'rganish (MALL) va sun'iy intellekt texnologiyalarining zamonaviy til ta'limidagi o'rni tahlil qilinadi. Shuningdek, mobil ilovalar o'quvchilarning so'z boyligi, talaffuzi, muloqot ko'nikmalari va motivatsiyasini rivojlantirishdagi ahamiyati ko'rib chiqiladi. Tadqiqotda MALL tizimlarining afzalliklari hamda texnik va pedagogik cheklovlari yoritiladi. Ushbu tadqiqot Alnufaie (2020), Klimova & Al-Obaydi (2023), Shohor & Hashim (2024), Karimova (2025) va Reyimbayev (2024) ishlari asosida tahlil qilingan.

Kalit so'zlar: mobil ilovalar, sun'iy intellekt, individuallashtirish, o'quvchi faolligi, so'z boyligi, raqamli ta'lim.

Аннотация: В данной статье анализируются мобильное обучение (MALL) и роль искусственного интеллекта в современном языковом образовании. Также рассматривается влияние мобильных приложений на развитие словарного запаса, произношения, коммуникативных навыков и мотивации обучающихся. В исследовании подчеркиваются как преимущества, так и технические и педагогические ограничения систем MALL. Данное исследование основано на работах Alnufaie (2020), Klimova & Al-Obaydi (2023), Shohor & Hashim (2024), Karimova (2025) и Reyimbayev (2024).

Ключевые слова: мобильное обучение, искусственный интеллект, персонализация, вовлеченность обучающихся, словарный запас, цифровое образование.

Introduction

In contemporary education, the learning process without digital devices has become increasingly difficult to imagine. The widespread availability of smartphones has enabled the integration of mobile applications into language learning contexts,

providing learners with greater flexibility and access to educational content anytime and anywhere (Klimova & Al-Obaydi, 2023).

The role of smartphones in education has significantly increased in recent years, particularly after the COVID-19 pandemic, which accelerated the shift toward digital learning. This development has influenced approaches to language acquisition by emphasizing portability and accessibility. Traditionally, language learning has been limited by time and place and often perceived as less engaging. However, Mobile-Assisted Language Learning (MALL) has introduced more interactive and learner-centered environments.

Applications such as Duolingo and Memrise contribute to this trend by offering personalized and multilingual learning opportunities. Therefore, this study aims to examine the role of mobile applications in language learning, particularly their impact on learner engagement and effectiveness.

Main Body

In contemporary education, traditional teacher-centered approaches are no longer sufficient for modern learners, who require multimedia and interactive resources to support comprehension. Mobile-Assisted Language Learning (MALL) provides such features by integrating images, videos, and audio materials, making language learning more engaging and effective (Shohor & Hashim, 2024). This development demonstrates the effectiveness of mobile technologies in supporting the learning process and highlights the importance of integrating them into language instruction.

In addition, mobile applications contribute to more flexible and personalized learning experiences, allowing learners to study at their own pace and according to their individual needs. Karimova (2025) emphasizes that mobile applications enhance language learning by supporting flexible access and improving vocabulary, pronunciation, and communication skills through interactive tools. This indicates that mobile applications serve as an important supplementary tool in language education, particularly when integrated effectively into pedagogical practice.

Despite these advantages, several challenges limit the effectiveness of MALL in practice. Alnufaie (2020) identifies issues such as distractions from non-educational applications, technical problems, and dependence on internet connectivity, as well as the need for adequate teacher training and pedagogical planning. Similarly, Klimova and Al-Obaydi (2023) highlight limitations including the lack of strong theoretical foundations in some applications, paid access restrictions, data privacy concerns, and excessive screen time among learners. These factors indicate that mobile learning tools do not always guarantee consistent engagement or effective learning outcomes without proper instructional design and institutional support.

In light of these limitations, recent developments have focused on integrating artificial intelligence (AI) into MALL to enhance adaptability and learner engagement. Shohor and Hashim (2024) state that AI-driven mobile learning systems provide personalized learning pathways, adapt tasks according to learner progress, and offer immediate feedback, which improves efficiency and motivation. Such systems also combine interactive content with adaptive assessment tools, sustaining learner interest and participation.

These findings indicate that AI-integrated MALL represents a shift toward more individualized learning environments compared to earlier mobile learning models, which often followed standardized structures with limited personalization. From this

perspective, AI-based tools enhance learner autonomy and engagement by transforming learners into active participants rather than passive recipients of knowledge. This development is further supported by Uzbek research, which highlights the positive impact of AI-supported mobile learning on learner autonomy and language skill development in EFL contexts (Reyimbayev, 2024).

Conclusion

Mobile-Assisted Language Learning (MALL) has significantly transformed language education by providing flexible, interactive, and learner-centered opportunities. It enhances access to language input and supports the development of essential skills such as vocabulary acquisition, pronunciation, and communication, while also increasing learner motivation and engagement.

Recent advancements in artificial intelligence have further improved MALL by enabling adaptive and personalized learning experiences that better respond to individual learner needs. However, the effectiveness of MALL depends on consistent pedagogical integration, teacher training, and clear instructional design. As emphasized by Shohor and Hashim (2024), successful implementation requires alignment with well-defined educational objectives.

Therefore, while MALL and AI-enhanced tools offer strong potential for improving language learning, their success relies on thoughtful integration, institutional support, and effective teaching strategies.

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