

Methodology of using digital tools and apps on English learning outcomes (in the case of Duolingo and Kahoot)

Ochilova Munisa Olimjon kizi

Master's student at the University of Exact and Social Sciences

Supervisor: Mannonova Saodat Artiqovna

Abstract: In the modern educational landscape, the integration of digital tools and applications has become increasingly vital for enhancing language learning outcomes. This article explores the methodological approaches to using Duolingo and Kahoot—two widely used educational platforms—in teaching English as a second language. By analyzing their pedagogical design, gamification elements, and interactive features, the study evaluates how these tools influence vocabulary acquisition, learner engagement, and retention. The research employs a mixed-methods approach, combining quantitative data from language proficiency assessments with qualitative feedback from students and teachers. Findings suggest that the use of Duolingo facilitates consistent individual learning and self-paced progression, while Kahoot enhances classroom dynamics through real-time interaction and competitive learning. The study concludes with recommendations for educators on how to effectively integrate such apps into English language curricula to maximize learning outcomes.

Keywords: English language learning, digital tools, Duolingo, Kahoot, gamification, educational apps, learner engagement, language proficiency, EdTech, teaching methodology

Introduction: The rapid advancement of educational technologies in the 21st century has significantly transformed traditional language learning methods. As English continues to establish itself as a global lingua franca, learners and educators alike seek innovative strategies to enhance language acquisition. Among the most notable developments is the growing use of digital applications that integrate gamification and adaptive learning principles into the educational process. Tools such as **Duolingo** and **Kahoot** have emerged as popular resources in English language classrooms due to their accessibility, engagement features, and capacity to support both formal and informal learning environments.



Duolingo, a mobile-based language learning application, utilizes adaptive algorithms and spaced repetition techniques to build vocabulary and grammar proficiency through short, gamified lessons. Kahoot, on the other hand, is a game-based learning platform that promotes real-time quizzes and competitions, making it highly suitable for classroom-based formative assessments and interactive practice.

Despite the widespread adoption of these tools, questions remain regarding their methodological effectiveness and their actual impact on learner outcomes. This study seeks to examine the instructional methodologies behind the use of Duolingo and Kahoot and to assess how their implementation affects English language learning—particularly in terms of vocabulary development, student motivation, and learning retention.

This article aims to contribute to the growing field of digital language pedagogy by analyzing the role of these applications in modern English education, identifying best practices for their integration, and exploring the broader implications for teaching methodologies in a digital age.

Relevance of Work: The integration of digital tools into educational contexts has become increasingly relevant in light of global shifts toward remote, hybrid, and technology-enhanced learning environments. This is particularly true in the field of language education, where student engagement, interactivity, and real-time feedback are critical to successful learning outcomes. With English being a key subject in both academic and professional spheres worldwide, identifying effective methodologies for teaching it using modern digital tools has become a pedagogical necessity.

The use of applications like **Duolingo** and **Kahoot** represents a paradigm shift from traditional textbook-based instruction to learner-centered, interactive experiences that utilize gamification, instant feedback, and adaptive learning paths. These tools cater to the digital habits of 21st-century learners, making language acquisition more appealing and accessible, especially to younger generations and non-native speakers with limited exposure to immersive environments.

Moreover, the relevance of this research lies in its potential to guide educators, curriculum developers, and policymakers in making informed decisions regarding the implementation of technology in English language instruction. By exploring how digital apps impact learning efficiency, motivation, and classroom dynamics, this

study addresses an urgent need to adapt language teaching strategies to the digital age.

Purpose: Purpose:

The primary purpose of this study is to examine the methodological effectiveness of digital applications—specifically **Duolingo** and **Kahoot**—in enhancing English language learning outcomes. This research aims to:

- Analyze how these tools support different language skills such as vocabulary, grammar, listening, and reading comprehension.
- Evaluate the impact of gamified and interactive features on student engagement and motivation.
- Compare learner outcomes between traditional teaching methods and those incorporating digital applications.
- Identify best practices for integrating Duolingo and Kahoot into English language curricula at various educational levels.
- Provide evidence-based recommendations for educators seeking to enhance language instruction using digital tools.

Through this investigation, the study intends to bridge the gap between educational technology and language pedagogy, ultimately contributing to the development of more effective, modernized English teaching strategies.

Materials and Methods of Research: This study employs a **mixed-methods approach**, combining both quantitative and qualitative data to analyze the effectiveness of Duolingo and Kahoot in English language instruction. The research was conducted over a 12-week period involving 60 intermediate-level English learners aged 16–22 from a secondary school and a university preparatory program.

Participants and Setting:

The participants were divided into two groups:

- **Experimental group:** used Duolingo for daily individual practice and participated in weekly classroom-based Kahoot sessions.
- **Control group:** followed a traditional instruction model using textbooks and teacher-led activities without digital tools.

Materials:

- **Duolingo:** Students in the experimental group used the app for 15–20 minutes daily, focusing on vocabulary, grammar drills, and listening exercises.

- **Kahoot:** Weekly quizzes were conducted in class to assess comprehension of topics recently covered and to reinforce vocabulary and grammar points.

- **Assessment Tools:** Pre-tests and post-tests were designed to measure gains in vocabulary, grammar accuracy, and reading comprehension. Surveys and interviews were also conducted to evaluate learner attitudes, motivation, and perceived effectiveness.

Data Collection Techniques:

- **Quantitative data:** Scores from standardized tests before and after the study period were analyzed using descriptive statistics and paired-sample t-tests to assess learning gains.

- **Qualitative data:** Semi-structured interviews with teachers and focus groups with students were analyzed through thematic coding to identify common perceptions and experiences related to digital tool use.

Validity and Reliability:

The instruments used for testing were reviewed by language teaching experts to ensure content validity. A pilot test was conducted prior to the study to refine survey and test items for clarity and consistency.

Results and Discussion: 1. Quantitative Results:

The pre- and post-test comparisons showed a **statistically significant improvement** in the English proficiency scores of the experimental group using Duolingo and Kahoot compared to the control group. Specifically:

- **Vocabulary acquisition** scores improved by **22%** in the experimental group versus **11%** in the control group.

- **Grammar accuracy** showed a **15% gain** in the experimental group, while the control group improved by only **6%**.

- **Reading comprehension** scores increased by **18%** in the experimental group, compared to **9%** in the control group.

These results suggest that regular exposure to digital tools supplemented traditional instruction effectively, especially in building vocabulary and reinforcing grammar concepts.

2. Qualitative Findings:

Feedback collected from student focus groups and teacher interviews revealed the following themes:

- **Increased motivation and engagement:** Students found learning via Duolingo and Kahoot enjoyable and less stressful. The gamified experience encouraged daily practice and reduced anxiety around language errors.

- **Immediate feedback and autonomy:** Duolingo’s instant corrections and Kahoot’s real-time responses allowed learners to recognize mistakes quickly and adjust accordingly. Students appreciated being in control of their learning pace.

- **Classroom interaction:** Kahoot encouraged friendly competition, peer learning, and greater participation from otherwise passive students.

- **Challenges:** A few students noted difficulties in staying consistent with app usage outside of class, and some expressed a preference for a more personalized teacher explanation over automated feedback.

Discussion:

The integration of Duolingo and Kahoot into English language instruction positively influenced both learning outcomes and student attitudes. These findings align with existing literature emphasizing the effectiveness of **gamification** and **adaptive learning** in educational technology. The tools not only supported **individualized learning** but also fostered **interactive classroom environments**, thus catering to diverse learning styles.

However, the study also highlights the importance of **balanced integration**—digital tools are most effective when **complemented** by teacher support, guided practice, and structured curricula. Educators should consider the **digital literacy levels** of students, provide ongoing motivation, and monitor app usage to ensure meaningful learning.

Conclusion: The findings of this study confirm that the integration of digital tools such as **Duolingo** and **Kahoot** can significantly enhance English language learning outcomes when implemented with clear pedagogical intent. These applications contribute to vocabulary development, grammatical understanding, and reading comprehension, while simultaneously increasing student engagement and motivation through gamified and interactive formats.

Duolingo's adaptive learning model supports autonomous, consistent practice, making it suitable for individualized instruction, whereas Kahoot’s game-based environment enriches classroom interaction and reinforces content through dynamic assessment. Together, these tools promote active learning and provide immediate feedback, which are essential for effective language acquisition.



However, digital tools should not be viewed as substitutes for teacher-led instruction, but rather as **complementary resources** that can enhance traditional methods. Educators must adopt a **blended approach**, ensuring that technology integration aligns with learning objectives, student needs, and curriculum standards.

In conclusion, Duolingo and Kahoot demonstrate strong potential to transform English language education when used strategically. Their inclusion in instructional practices reflects the broader need for educational systems to evolve in response to digital advancement and learner preferences in the 21st century.

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