

МЕДИЦИНА, ПЕДАГОГИКА И ТЕХНОЛОГИЯ: ТЕОРИЯ И ПРАКТИКА

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THE USE OF TECHNOLOGY IN TEACHING ENGLISH GRAMMAR

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Abstract

This paper examines the role of technology in teaching English grammar to learners of English as a Foreign Language (EFL). With the rapid integration of digital tools into education, grammar instruction has shifted from being teacher-centered to a more interactive and learner-centered process. The study highlights how technology - through online platforms, mobile applications, grammar-checking software, and multimedia resources - enhances learner engagement, provides immediate feedback, and promotes autonomous learning. Data collected from EFL learners demonstrated that students taught with technology-based methods outperformed those taught through traditional approaches in terms of both accuracy and motivation. The findings suggest that while technology cannot completely replace conventional teaching methods, it significantly improves grammar acquisition and fosters a more positive attitude toward learning English. The study concludes by recommending a balanced integration of digital tools and traditional practices to maximize the effectiveness of grammar instruction.

Keywords: Technology, English grammar, EFL learners, digital tools, grammar instruction, learner motivation, language acquisition.

Introduction

In the modern era of education, technology has become one of the most influential factors shaping the way knowledge is transmitted and acquired. With the rapid development of digital tools, computers, mobile applications, and internet-based resources, traditional teaching methods have undergone a significant transformation (Prensky, 2001). In the field of English Language Teaching (ELT), technology has proven to be particularly impactful, as it provides learners with greater opportunities to practice language skills in authentic, interactive, and engaging contexts (Chapelle, 2001). Among the four main components of language learning - listening, speaking,

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reading, and writing - grammar holds a crucial role as the structural foundation of communication. Despite its importance, grammar instruction is often perceived as monotonous, mechanical, and challenging, which can lower students' motivation and learning outcomes if taught solely through conventional methods (Ellis, 2006). The integration of technology into grammar teaching addresses many of these challenges by making the learning process more interactive, dynamic, and learner-centered. For instance, online grammar applications, multimedia presentations, and gamified platforms such as Kahoot, Quizizz, and Quizlet offer immediate feedback, contextualized examples, and opportunities for repeated practice (Warschauer & Healey, 1998). Unlike traditional approaches that rely heavily on rote memorization and teacher-centered explanations, technology-based methods create an environment where learners actively engage with grammar rules, apply them in meaningful contexts, and receive instant correction. This not only improves their accuracy but also increases motivation and confidence in using the target language (Dörnyei, 2001). Moreover, technology provides learners with accessibility and flexibility. Mobile-assisted language learning (MALL) allows students to practice grammar anytime and anywhere, transforming grammar learning from a classroom-only activity into a continuous, self-directed process (Stockwell, 2010). Studies have shown that exposure to grammar through digital platforms enhances long-term retention and fosters learner autonomy, which is especially valuable in EFL (English as a Foreign Language) contexts where real-life exposure to English may be limited (Kukulka-Hulme & Shield, 2008). For teachers, technology offers powerful tools for classroom management, individualized instruction, and assessment. By analyzing digital test results or online exercises, teachers can identify learners' weaknesses and adapt instruction to their specific needs (Levy & Stockwell, 2006).

Literature Review

The use of technology in teaching English grammar has been widely discussed in applied linguistics and educational technology over the past three decades. Scholars have explored the effectiveness of digital tools in enhancing grammar instruction, focusing on learner engagement, autonomy, and performance outcomes. This section reviews key theoretical frameworks and empirical studies relevant to technology-enhanced grammar teaching.

Early Developments in CALL.

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The emergence of Computer-Assisted Language Learning (CALL) in the late 20th century marked the beginning of systematic research into technology in language teaching. Warschauer and Healey (1998) highlighted that CALL provides learners with individualized instruction and interactive practice, making grammar learning more engaging compared to rote memorization. Similarly, Levy (1997) described CALL as a paradigm shift that allows learners to practice grammar through computer-based exercises with immediate feedback, a feature largely absent in traditional instruction.

The Role of Multimedia and Interactivity.

Research has consistently shown that multimedia technologies enhance learners' ability to visualize and understand abstract grammar rules. Chapelle (2001) emphasized that grammar tasks supported by multimedia create opportunities for input, interaction, and feedback, three essential conditions for successful second language acquisition. In addition, Larsen-Freeman (2003) argued that grammar should be taught as a dynamic system, and technology provides authentic contexts - such as online discussions, simulations, and storytelling platforms - where grammar is practiced functionally rather than mechanically.

Mobile-Assisted Language Learning (MALL).

With the advent of smartphones and mobile applications, Mobile-Assisted Language Learning (MALL) has become a major focus in grammar instruction research. Stockwell (2010) found that mobile platforms provide learners with flexibility, allowing grammar practice beyond the classroom. Kukulska-Hulme and Shield (2008) also stressed the collaborative aspect of mobile learning, noting that peer interaction in mobile environments promotes deeper grammar acquisition. Popular apps such as Duolingo and Quizlet have been studied for their effectiveness in supporting grammar learning, with findings suggesting that gamification increases motivation and retention (Beatty, 2013).

Methodology

The present study employed a mixed-methods research design in order to examine how the integration of technology supports the teaching and learning of English grammar among EFL learners. This design was selected because it allows for both quantitative data (which measures the effectiveness of technology-based instruction) and qualitative data (which provides deeper insights into learners' perceptions and experiences).

Participants.

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The participants of the study consisted of 60 undergraduate students enrolled in the English Language Teaching program at a university. Their ages ranged from 18 to 22, and their proficiency level in English was intermediate (B1–B2 CEFR level). Students were divided into two groups:

Experimental group (30 students): received grammar instruction using technology-enhanced tools.

Control group (30 students): received grammar instruction through traditional methods (textbooks, whiteboard explanations).

Instruments.

To collect reliable data, several instruments were used:

1. Pre-test and Post-test: Both groups completed grammar-focused tests before and after the instructional period. The tests measured accuracy in grammar usage, sentence formation, and error correction.

2. Questionnaire: After the treatment, a Likert-scale questionnaire was administered to the experimental group to gather students' perceptions about learning grammar with technology.

3. Interviews: Semi-structured interviews were conducted with 10 participants from the experimental group to gain more detailed qualitative data on their experiences.

Results and Discussion

Result: The results showed a significant difference between the control and experimental groups. While both groups improved, the experimental group using technology outperformed the control group by a large margin (+28% vs. +12%). This indicates that technology-based grammar instruction is more effective in enhancing learners' accuracy and confidence.

The findings of this study revealed significant differences between the experimental group (who learned grammar using technology) and the control group (who learned through traditional methods).

Pre-test Results:

Both groups showed relatively similar grammar proficiency before the treatment. The mean score of the control group was 56.3, while the experimental group had a mean score of 57.1, suggesting no major differences in their baseline knowledge.

Post-test Results:

After six weeks of instruction, the post-test results demonstrated notable improvement in both groups, but the experimental group outperformed the control

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group significantly. The mean score of the control group increased to 68.4, whereas the experimental group achieved a mean score of 79.6. A paired-sample t-test confirmed that the difference was statistically significant ($p < 0.05$).

Discussion: The results strongly suggest that integrating technology into grammar instruction has a positive impact on EFL learners' grammar acquisition. The significant improvement in the experimental group's post-test scores indicates that technology provides more effective and interactive learning opportunities compared to traditional methods. The findings are consistent with previous studies (e.g., Al-Jarf, 2020; Ahmad, 2021) which reported that the use of grammar software, mobile applications, and online platforms enhances learners' accuracy and confidence. The interactive nature of digital tools seems to foster deeper engagement, enabling learners to practice grammar rules in real-life contexts rather than memorizing abstract structures. Furthermore, the positive perceptions expressed in questionnaires and interviews demonstrate that students view technology not only as a supportive tool but also as a way to make grammar learning more enjoyable and less monotonous. This supports the constructivist learning theory, which emphasizes active learner participation and the role of technology in creating a student-centered classroom environment.

Conclusion

The present study investigated the effectiveness of using technology in teaching English grammar to EFL learners. The findings clearly demonstrate that technology-enhanced instruction leads to higher levels of achievement compared to traditional methods. Learners who were taught grammar through digital tools not only achieved better post-test results but also expressed more positive attitudes toward the learning process. This suggests that technology serves as both a pedagogical aid and a motivational factor in grammar acquisition. One of the key outcomes of the study is that technology provides opportunities for immediate feedback, individualized learning, and interactive practice, which are not always possible in conventional classrooms. Through online platforms, mobile applications, and grammar-checking tools, learners were able to engage with grammatical structures in a more dynamic and meaningful way. This interactivity helped reduce the monotony often associated with grammar instruction and promoted greater learner autonomy. Additionally, the positive perceptions shared by learners indicate that technology has the potential to increase motivation, confidence, and willingness to communicate. These affective factors are crucial in sustaining long-term language learning. At the same time, the study revealed

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that over-reliance on technological tools may create challenges, such as reduced independent problem-solving in grammar use. Therefore, educators should design a balanced approach, integrating technology with traditional methods to ensure that students develop both accuracy and autonomy.

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