

THE IMPACT OF GAME-BASED LEARNING ON ENGLISH GRAMMAR PROFICIENCY: A DUOLINGO CASE PERSPECTIVE

Research on gamification in English grammar instruction highlights its ability to enhance learner motivation, engagement, and comprehension. Duolingo, a widely used gamified language-learning application, incorporates features such as points, badges, progress tracking, and immediate feedback, which foster intrinsic motivation and create an interactive learning environment [3;11]. These game-like elements make grammar instruction more dynamic, enabling students to practice language structures in a low-stress context that encourages active participation and sustained interest [3].

Gamified learning tools like Duolingo are grounded in constructivist theories, self-determination theory, and mobile-assisted language learning (MALL), emphasizing portability, accessibility, and learner autonomy [4]. Grammar proficiency, particularly at early stages, benefits from repeated exposure and trial-based correction, and apps like Duolingo foster grammar accuracy through contextual examples, translation tasks, and instant feedback [3;12]. However, the lack of explicit grammar instruction remains a significant limitation, especially for users who benefit from rule-based explanations [7;11].

The researcher's practical experience with Duolingo supports these observations. The app was used not as a primary language acquisition tool but to maintain an intermediate (B1) level of English. While it effectively reinforced grammar through repetition and contextualized input, grammar concepts were often presented solely through examples without theoretical overviews. For instance, in the present continuous section, learners had to insert missing verbs into pre-written phrases without any structural explanation. Furthermore, syntactically correct but semantically awkward or artificial phrases, presumably generated by AI, were frequently encountered. This diminished the naturalness of language exposure and highlighted the app's limitations for learners preferring explicit grammar instruction [6;8].

The gamification system — including XP, streaks, and levels — encourages habitual practice and increases motivation, especially for beginners and low-intermediate learners. Duolingo facilitates retention through spaced repetition, translation-based tasks, and rapid feedback, fostering self-directed learning [1;3;9]. Pedagogically, these elements reduce anxiety and promote consistent exposure to grammatical forms. Frequent use of sentence matching, word order tasks, and basic translation activities also helped reinforce subject-verb agreement and tense formation [2].

Research shows that Duolingo use leads to measurable improvements in grammar skills, particularly in sentence construction, verb usage, and reducing grammatical errors [2;10;12]. It offers structured progression, repeated input, and clear correction, all of which contribute to improved learner outcomes [5;9]. However, several limitations remain. The absence of explicit grammar explanations often forces learners to infer rules inductively, leading to confusion or fossilization of incorrect forms [7;8;11;12]. Its interface, focused heavily on speed and gamification, sometimes compromises depth and precision, limiting its effectiveness for more advanced learners [9].

Another concern is the use of AI-generated content. While scalable, AI output can lead to unnatural or awkward phrasing, reducing grammatical fluency and frustrating users [6;8]. The researcher's experience aligns with these criticisms, as many AI-generated

sentences were syntactically correct yet contextually odd. Moreover, Duolingo's focus on beginner content creates a ceiling for more advanced users, and its limited speaking practice and lack of authentic dialogue further restrict its use for comprehensive grammar development [7;8;11].

In summary, Duolingo illustrates the potential of game-based learning to support grammar acquisition. Its engaging, low-pressure environment and structured content benefit beginner learners and promote repetition-based learning. Nonetheless, the lack of explicit instruction, shallow content for advanced learners, and over-reliance on AI-generated material suggest that Duolingo is best used as a supplementary tool alongside formal instruction.

REFERENCES

1. Dehghanzadeh H., Fardanesh H., Hatami J. Using gamification to support learning English as a second language: a systematic review. *Computer Assisted Language Learning*. 2019. Т. 34, вип. 7. С. 934–957.
2. Fadhilawati D. The Utilization of Duolingo to Boost Students' Grammar Mastery in Senior High School. *JARES (Journal of Academic Research and Sciences)*. 2023. Т. 8, вип. 2. С. 37–52. URL: <https://doi.org/10.35457/jares.v8i2.3034>.
3. Fatmawati I., Sudirman, A., and Munawaroh, T. The Effect of Using Duolingo Application towards Students' Grammar Mastery in Simple Present Tense / I. Fatmawati, A. Sudirman, T. Munawaroh. *JEPAL (Journal of English Pedagogy and Applied Linguistics)*. 2023. №3(2). С. 77–85.
4. Klopfer E. *Augmented Learning: Research and Design of Mobile Educational Games*. 55 Hayward Street, Cambridge, MA 02142-1493, USA: MIT Press, 2008. ISBN 978-0262113151.
5. Laura De La Cruz K. M., Franco Noa L. M. Gamification for Understanding English Texts for Students in a Public School in Peru. *International Journal of Development Research*. 2020. Т. 10, вип. 8. С. 41787–41791. URL: https://www.journalijdr.com/sites/default/files/issue-pdf/20319_0.pdf (дата звернення: 15.05.2025).
6. Lung N. Duolingo More Than Doubles Courses as 'AI-First' Push Draws Heat. *Bloomberg Technology*. 14.04.2025. URL: <https://www.bloomberg.com/news/articles/2025-04-30/duolingo-more-than-doubles-courses-as-ai-first-push-draws-heat?sref=cus85deZ> (дата звернення: 15.05.2025).
7. Nushi M., Eqbali M. H. Duolingo: A Mobile Application to Assist Second Language Learning. *The Journal of Teaching English with Technology*. 2017. Т. 17, вип. 1. С. 89–98. URL: <https://files.eric.ed.gov/fulltext/EJ1135889.pdf> (дата звернення: 15.05.2025).
8. Rehman Z., Iqbal A. Investigating the Challenges of Using Duolingo for Language Learning: A Simplified Review. *CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW*. 2024. Т. 2, вип. 4. С. 863–878. URL: <https://callej.org/index.php/journal/article/download/477/415/1512> (дата звернення: 15.05.2025).
9. Suryani E. R. Increasing English Language Skills in Terms of Grammar by Using Duolingo Application. *Proceeding english national seminar "critical thinking in english education for a just society"*, Pacitan, Indonesia, 6 жовт. 2023. 2023. С. 68–70. URL: https://repository.stkippacitan.ac.id/id/eprint/1308/1/Increasing%20English%20Language%20Skills_Eka%20Restu%20Suryani.pdf (дата звернення: 16.05.2025).
10. Syahputra M. Duolingo Gamification: Does it Reduce Students' Grammatical Errors in Writing? *Getsempena English Education Journal*. 2019. Т. 6, вип. 1. С. 1–12. URL: <https://doi.org/10.46244/geej.v6i1.858>.
11. The Benefits and Drawbacks of Using Duolingo to Learn English: A Study with Young ESL Learners / M. I. Vizcarra та ін.; ред. K. M. A. Velázquez. Street 613nw 15th, in Amarillo, Texas: Editorial Tecnocientífica Americana, 2021. ISBN 978-0-3110-0010-4. URL: <https://etecam.com/index.php/etecam/article/view/28/32> (дата звернення: 15.05.2025).
12. Zahra N. S. The Effectiveness of Using Duolingo Application Towards Students' Mastery in Making Simple Present Tense at the Second Grade Students of SMP El-Syihab Bandar Lampung at the First Semester in the Academic Year of 2021/2022 : diss. Bachelor's Degree in English Education / UIN Raden Intan Lampung. Lampung, 2022. 30 с. URL: <https://repository.radenintan.ac.id/id/eprint/20920> (дата звернення: 15.05.2025).