



Motivation and Proficiency in English as a Foreign Language: A case study using Duolingo

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Abstract

This study examines the impact of Duolingo's gamified features on motivation and proficiency in English as a Foreign Language (EFL) among secondary school students. Using a quasi-experimental design, 52 students aged 14–16 were divided into an experimental group using Duolingo and a control group receiving traditional instruction. Both groups took pre- and post-tests in vocabulary, grammar, speaking, and writing, while the experimental group also completed surveys on motivation. Results showed that Duolingo significantly boosted motivation and vocabulary acquisition, with the experimental group improving 12% in overall proficiency compared to 6% in the control group. However, Duolingo's effectiveness in enhancing speaking and writing skills was limited, suggesting it is best used as a supplementary tool. The study recommends integrating Duolingo with interactive teaching methods to develop well-rounded proficiency and suggests future enhancements like voice recognition to support speaking skills.

Keywords: Duolingo, Gamification, Motivation, English as a Foreign Language, Language Proficiency, Vocabulary Learning, Educational Technology.

1. Introduction

Language learning has evolved rapidly with the arrival of technology and platforms like Duolingo have pioneered the use of gamification to enhance user engagement. Gamification refers to the incorporation of game-like elements such as points, badges, streaks, and leaderboards into non-game environments, aiming to increase motivation and commitment (Deterding et al., 2011). Duolingo's approach to language learning has appealed to millions of learners worldwide, primarily due to its user-friendly design and gamified rewards system (Alizadeh, 2019).

Although Duolingo has been successful in encouraging consistent engagement, there are concerns about the depth of proficiency gained through the platform. Speaking and writing skills, which are crucial for complete language fluency, are areas where Duolingo's impact is less substantial compared to its success in teaching vocabulary and grammar (Vesselinov &

Grego, 2016). This paper seeks to explore the extent to which Duolingo's gamification features influence student motivation and language proficiency and to provide recommendations for integrating it into more holistic language-learning programs.

2. Theoretical framework

2.1 Gamification in Education

Gamification has transformed the way educational content is delivered by incorporating elements traditionally found in video games to enhance engagement and learning outcomes (Deterding et al., 2011). By providing immediate rewards and tracking progress, gamification helps maintain learner interest over time (Berns et al., 2016). Duolingo effectively uses these principles by offering points for completed lessons, streaks for consistent daily use, and leaderboards that allow users to compare their performance with others (Alizadeh, 2019).

2.2 Duolingo as a Learning Tool

Duolingo is built on an adaptive learning system that tailors its exercises to the learner's proficiency level. This ensures that students are neither overwhelmed nor under-challenged (Vesselinov & Grego, 2016). Despite its simplicity, Duolingo has been widely used in formal educational settings, including secondary schools and universities. However, while its gamified elements have been shown to improve vocabulary acquisition, the platform's effectiveness in improving speaking and writing skills remains limited (Zhao, 2021).

3. Methodology

3.1 Participants and Materials

This study involved 52 secondary school students between the ages of 14 and 16, all with an intermediate level of proficiency in English. The participants were split into two groups: the experimental group used Duolingo as a primary learning tool, while the control group followed traditional classroom instruction. Both groups undertook pre- and post-tests focusing on vocabulary, grammar, speaking, and writing.

3.2 Data Collection

The data were collected through pre- and post-tests to measure changes in proficiency. Students were also surveyed on their motivation levels and engagement with Duolingo. Classroom observations were conducted to assess the experimental group's interaction with the app.

4. Results

The experimental group, which used Duolingo, showed a 12% improvement in overall proficiency, compared to 6% in the control group. This was particularly evident in vocabulary acquisition, where students using Duolingo outperformed their peers. However, the results showed little improvement in speaking and writing skills, suggesting that Duolingo's gamified exercises are less effective in developing productive language competencies (Vesselinov & Grego, 2016).

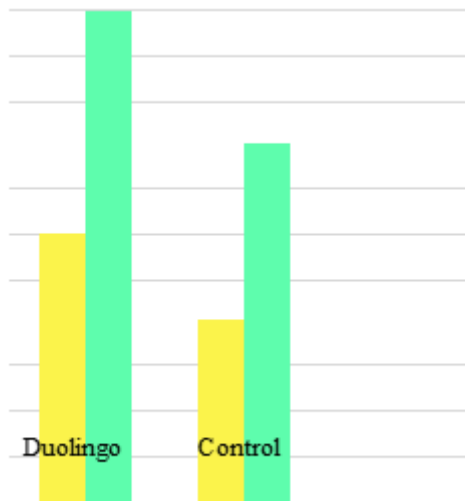
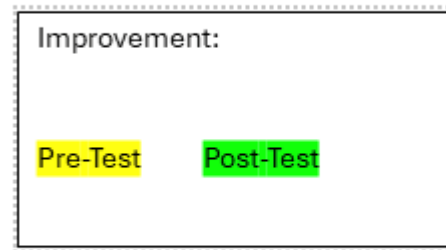


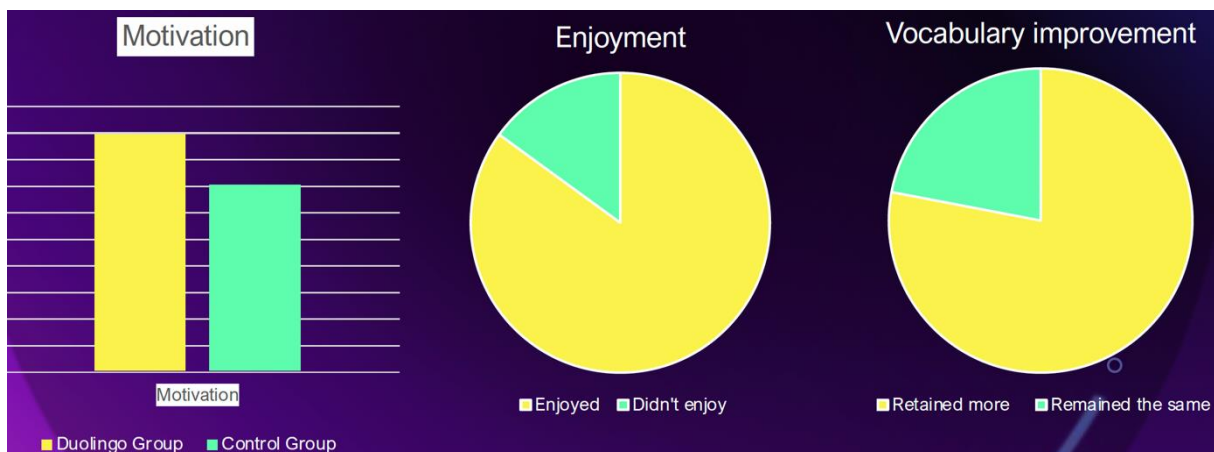
Figure 1: Groups' improvement graphic



Source: Own elaboration.

Additionally, 85% of the students reported that the gamified elements, such as streaks and badges, increased their enjoyment of learning. However, only 45% felt that their speaking skills improved through Duolingo, further highlighting the platform's limitations in this area.

Figure 2: Further results graphic



Source: Own elaboration

5. Discussion

5.1 Gamification as a Motivational Tool

The study confirms that gamification is a powerful motivator in educational settings. Duolingo's use of points, badges and leaderboards keeps learners engaged and encourages consistent practice, which is critical for language acquisition. These findings align with Lieberoth's (2015) research, which found that labeling an activity as a "game" significantly increases motivation, regardless of the task's intrinsic appeal.

However, the study also revealed that while Duolingo increases motivation, it does not necessarily translate into comprehensive language proficiency. The platform's limited focus on speaking and writing skills restricts its ability to promote deeper language acquisition (Krashen, 1982).

5.2 Recommendations for Improvement

For Duolingo to become a more effective tool for language acquisition, it should incorporate more interactive exercises that focus on speaking and writing. This could include integrating voice recognition technology and allowing learners to engage in real-time conversations with native speakers. Furthermore, teachers should consider using Duolingo as a supplementary tool alongside traditional instruction that focuses on developing productive skills (Zhao, 2021).

6. Conclusion

In conclusion, Duolingo's gamification features significantly enhance student motivation and make language learning enjoyable and accessible. However, while the platform is effective in improving vocabulary and grammar, it does not fully support the development of speaking and writing skills. As such, Duolingo should be integrated into a blended learning approach, where its strengths in gamification are complemented by more interactive and communicative teaching methods. Future studies should explore how real-time interactive elements can be added to gamified platforms to improve speaking proficiency and overall language competency.

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