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EFFECTIVENESS OF DUOLINGO
IN FOREIGN LANGUAGE LEARNING

This study aims to explore the efficiency of Duolingo as a language learning tool, with a particular focus on its gamified nature, adaptive learning technology and strategic use of notifications. In this regard, the study employed qualitative research design wherein two semi-structured interviews were held. Specifically, these participants were housewife who had been using Duolingo daily for almost 37 days to learn English and a student who was intermittently using it to learn Turkish. In conclusion, these findings show that apart from being interactive and engaging, Duolingo significantly improves vocabulary and grammar skills. Furthermore, such game-like features as rewards, competitions and streak counts act as strong incentives for continued usage. Additionally, customized messages delivered in real time can help in bringing back users into the application and ensuring daily routine learning is maintained. Nevertheless, despite its pros there are several cons that have been found; they include restriction of lives in free version and lack of practice realistic communication scenarios. Accordingly, researchers recommend introducing artificial intelligence for

improved speaking practice and enhancing the number of lives to further improve the functionality of DuoLingo.com. These facts help give more insights on how digital tools can support language acquisition across diverse contexts.

Key words: Duolingo, Language Learning, Gamification, Vocabulary, Grammar and Motivation.

Introduction

The process of language learning has been absorbing many tools and applications online with the development of digital technology. We shall consider one such tool that is in popular use everywhere, that is Duolingo. Duolingo was launched in November 2011 by Louis Von Ahn and Severin Hacker. More than 30 million people have registered on it. Duolingo made a name for itself due to its gamified approach − the company uses to make learning into an addictive loop that attracts users back time after time. The article is going to unpack the potential of Duolingo in EFL learning versus its impact on vocabulary acquisition, grammar mastery, and speaking skills.

The program has been designed to be user-friendly, and exercises differ in method so that as many elements of language production are covered. Studies have evidenced that Duolingo is exceptionally good at vocabulary acquisition. The app also boasts structured repetition of target vocabulary with immediate feedback in studies, leading to measurable gains, so learners that expand vocabularies through this application retain them more effectively. The effectiveness of learning study conducted in SDN 02 Ciputat showed similar results, with an average improvement of the student's vocabulary test scores when using Duolingo for vocabulary understanding at a rate of effective around 73.8 % [1].

Many people believe that Duolingo is aimed just at learning vocabulary; however, it also contributes to the acquisition of some grammatical elements, as we will see next. This particular one combines gamified elements—in what are referred to as exercises, such as multiple-choice questions, translation tasks, and fill-in-the-blank activities − having been shown to decrease the number of grammatical errors in students' writing. A study at the Methodist Senior High School, conducted with second graders, has proven that Duolingo efficiently reduces grammatical error, thus can be used as a supplement to traditional learning of grammar as an additional material [2].

Speaking is the most challenging language learning skill for users of Duolingo, and Duolingos develops it by using speech recognition technology coupled with speaking exercises. A study assessing the speaking skill levels of Duolingo learners of Spanish and French courses indicates that most users attain a level of A2 as

per the Common European Framework of Reference (CEFR) rating scale, where users are capable of comprehending spoken language enough to communicate on basic levels [3]. It, therefore, indicates that even Duolingo is nice for speaking basic skills, but a more interactive class could be essential for intermediate levels in developing your general proficiency level [4].

Moreover, Duolingo incorporates educational data mining to enable feedback on the learners' progress and the most effective methods. It leads to constant iteration of the platform, so it caters to a wide demographic base. One such case study on Language Learning Assessment returned results that showed how adaptive learning paths and personalized feedback in-app enhance the performance of learners [5].

These studies all agree on the great and not-so-good of Duolingo in EFL learning. Among the significant advantages over duolingo is motivation, which we discussed. Gamification elements such as point scoring, maintenance of streaks, and levelling up in different stages make learning fun and exciting. It forms an important part of the motivation because learners who are motivated are likely to stick with it in language learning. Another research conducted at IAIN Sultan Amai Gorontalo, among the students, showed that after using Duolingo, the English language learning class motivation showed higher motivation compared to similar methods, showed a high level of enthusiasm of 90.88 %, had a great desire for lifelong learning of 62 % with excellent response rates from the medium; this application received very positive attitudes towards languages when their performance Level 1, they reach in good group category [6].

However, there are also several limitations of Duolingo that do not answer effectively. On the other side, this reliance upon an internet connection can turn into a limitation for learners who are in areas with unstable connectivity. In like fashion, Duolingo does not give detailed explanations as to why a given answer is correct or incorrect, even though it provides the correct answers for its exercises, which may hinder understanding on deeper levels [7].

Moreover, the flexibility that Duolingo provided was adopted by users because it enabled them to be flexible about their practice of the target language—completing lessons within the constraints that scheduled classes placed on daily schedules [8]. Furthermore, students at the Universitas Borneo of Tarakan have found that Duolingo created enthusiasm and interest in learning English, particularly in vocabulary [1]. Other research has been done on the light-heartedness of Duolingo when learning vocabulary and has argued that it helped in making language learning fun and not a drag [9].

Materials and methods

A Qualitative Research Design to Investigate the Effectiveness of Duolingo in Language Learning The housewife went through semi-structured interview along with the student. The housewife learned English every day for a bit over 36 days

using Duolingo in her spare time while at home. A student learning Turkish on Duolingo (with ads) from zero, a couple of 5−15 minutes each day at her work or between classes. Authors carried out each interview, lasted approximately 30 min and was performed in relaxed setting in the housewife's home or a quiet area of campus for the student. The experiences, motivations and perceived effectiveness of participating in the method were explored during 302 interviews, together with comparative reflections on other methods used; problems encountered when applying User Centred Design to CREATE; as well suggestions for tweaking. Data were transcribed verbatim and analyzed using a thematic analysis technique to reveal important patterns and themes. Approval was granted and identities of participants were concealed to protect the confidentiality of patients.

Results and discussion

These interviews disclosed that both participants experienced a good onset impression of Duolingo. Housewife, Participant 1 had been practicing Duolingo continuously since a friend suggested the app. Student, Participant 2 used duolingo occasionally partly due to ads. This initial impression is consistent with literature showing that Duolingo use often begins via recommendations from peers and exposure in the media [10].

Participant 1, the housewife, spent approximately 30 minutes to an hour per session, as she opened the app whenever she was free and not doing any housework. As for Participant 2, the student, Duolingo is used during free time at work and between classes for about 20−40 minutes. In this study, both participants began learning their respective languages from scratch. Participant 1 learned English from an absolute zero level and felt a huge difference within the first month. She said that well-structured lessons and interactive exercises on Duolingo gave her quite a good base in vocabulary and grammar. Participant 2 studied Turkish and reported it relatively easy because certain similarities with her native language exist. She said that in about 1.5 to 2 months, she had learnt the basics of Turkish grammar and vocabulary. This is one of the major benefits of Duolingo − flexibility in usage and the ability to fit the learning into variously changing schedules − a study also has highlighted, stating that Duolingo supports learning anywhere, anytime [10].

The rewards, challenges, and daily reminder messages are some gamification-related features at Duolingo that were powerful motivators to keep using the application. Participant 1 pointed out that the periodic reminders and the competitive elements of earning rewards and engaging in challenges kept her motivated. Because it gave constant reminders to use the app every day, she said this was key to not falling off the wagon with her learning routine. For Participant 2, the streak count feature was the greatest form of motivation. The streak count, showing the number of days in a row the app had been used, motivated her to open Duolingo every day to preserve her streak. Indeed, this feature is aimed at

ensuring continuous practice and has been noted in literature as offering a strong motivational tool. Streak counts and rewards, among other features in the category, were seen to significantly enhance user engagement and motivation by providing immediate and tangible incentives for use continuation.

Both users showed an enormous improvement in vocabulary and grammar in the language. Participant 1 stated that she found videos on social media easy to understand. She said she could recognize familiar words, by which she was able to infer and get the overall context of what the video is talking about. This practical usage of language skills shows how effectively this method of Duolingo can be in actually improving vocabulary retention and comprehension. According to Participant 2, Duolingo helped the beginning learner very much. She added that this application enabled her to learn the basics of grammar and basic words quickly to help her form basic sentences and understand everyday conversations in Turkish. Duolingo uses adaptive learning technology, ensuring that learning remains at a level relevant to users' needs, thus keeping users engaged and promoting progression. These observations are also partly consistent with findings from other studies. For example, it was determined that the engaging format and user-friendliness of Duolingo significantly enhanced vocabulary acquisition and overall language skills in learners. The study pointed out that the interactive exercises and gamification used by Duolingo made learning less tedious and improved the overall retention and grasp of the language.

While Participant 1 did not have experience with any of the other methods to learn a language, Participant 2 compared Duolingo against traditional courses and classes taken offline. She describes how in some respects, traditional methods – live interaction, a more immersive environment for learning – are better. She praised Duolingo, however, saying that it definitely has its merits when considering its accessibility and ease of use, especially for users who have irregular schedules. For her, this ability to practice language skills anywhere and at any time was of great benefit. Literature confirms these views that, if traditional methods offer benefits related to live interaction and personal feedback, Duolingo offers another flexible and accessible alternative with potential to complement others. People also liked the flexibility of Duolingo, which allowed them to fit language practice into their daily routines without having to attend any classes.

One of the major challenges, as expressed by both participants, was the lives that are limited in the free version. Duolingo's «lives» system restricts the number of mistakes one can make before it cuts in with the wait for lives to regenerate or purchase more, which disrupts the flow in learning. This was not a problem encountered by participant 2, who used the premium version, though she mentioned that the lack of practice in real-life communication was a disadvantage of the application. She further proposed that the integration of AI for the simulation of

real-life conversations could provide practice in speaking skills, thus making it an all-inclusive language learning tool. These recommendations are in line with earlier studies that noted the need for advanced content and more real-life communication practice as things which Duolingo lacked. It was further stressed that there was a need to include features for the practicing of speaking and interchanging with native speakers to enrich the learning process [10].

Notifications are among the most critical means through which Duolingo keeps users engaged and interested. As explained in a video on deep dive into strategies employed by Duolingo, it indicates that Duolingo reminds users to return and continue their lessons. There are many forms of notifications, such as:

1 Timed Notifications: Sent exactly 24 hours since the user's last interaction with the app, based on the assumption that at the same time today as yesterday, the chances are he will be free. This timing strategy increases the chances of re-engagement.

2 Push Notification Content: This will be more attention-grabbing and relevant, thus increasing its responsiveness in getting users to come back.

3 Passive-Aggressive Notifications: If a user stops using the app, Duolingo sends a notification that says, "These reminders don't seem to be working. We'll stop sending them for now." This type of notification works due to the human brain's psychology. The app basically lets them know that it gives up on them; hence, most of the time the user comes back.[11]

These notifications maintain streaks, which motivate the user to open the app every day. Strategic timing of notifications is one of the ways to increase engagement, making language learning a habit for users [4].

Conclusion

This paper has presented that Duolingo, through its engaging gamified framework and intelligent adaptive learning methodologies, can effectively enhance both vocabulary and grammar proficiency. Duolingo's motivational mechanisms involve points, streaks, and mid-personalized notifications, which encourage users to log in regularly and be more engaged. The research also, however, points out the limitations in Duolingo's model itself with the free version, including the lives limitation, and the conversational practice that is not real-world. Some suggested improvements include incorporating more complex AI that would allow for more realistic conversational situations and revising the lives feature to allow extended learning sessions. Even with these areas for improvement, Duolingo is an excellent tool in the learning process, especially for novices and those with fluctuating schedules who require an accessible, user-friendly platform to make language learning feasible and, most importantly, fun. Having said that, it can continue to get better at being a fully embedded language learning tool by working on some of its shortcomings.

References

1 **Tiara, A. D., Rahman, M. A., Handrianto, C.** The students' perception about use of Duolingo application for improving English vocabulary. − 2021. - Vol. 4. − No. 4. − P.690−701.

2 **Fauzan, U., Kasim, U.** Exploring the implementation of Duolingo media for assignment in learning English. – 2020. – Vol. 11. – No. 2. – P. 288–301.

3 **Rosyidah, H., Wahjuningsih, E., Andayani, R.** The Effect of Duolingo Application on Students' English Vocabulary Mastery // ELTR Journal. – 2020. – Vol. 4. – No. 2. – P. 29-37.

4 **Jiang, X., Rollinson, J., Chen, H., Reuveni, B., Gustafson, E., Plonsky, L., Pajak, B.** How well does Duolingo teach speaking skills? // Duolingo Research Report DRR-21-02. – Duolingo, Inc., − 2021.

5 **Portnoff, L., Gustafson, E., Bicknell, K., Rollinson, J.** Methods for language learning assessment at scale: Duolingo case study // Proceedings of the 14th International Conference on Educational Data Mining (EDM 2021). – International Educational Data Mining Society. − 2021. − P. 865−871.

6 **Habibie, A.** Duolingo as an Educational Language Tool to Enhance EFL Students' Motivation in Learning English // British Journal of English Language and Literature. − 2020. − Vol. 9. − No. 1. − P. 13−25.

7 **Ajisoko, P.** The Use of Duolingo Apps to Improve English Vocabulary Learning // International Journal of Emerging Technologies in Learning (iJET). − 2020. − Vol. 15. − No. 7. − P. 149−153.

8 **Inayah, N., Yusuf, Q., Fibula, N.** Exploring Undergraduate Students' Perception Toward the Use of Duolingo in Learning English // Humanities & Social Sciences Reviews. − 2020. − Vol. 8. − No. 3. − P. 76−85.

9 **Jaelani, A., Sutari, D. R.** Students' Perception of Using Duolingo Application as a Media in Learning Vocabulary // Bogor English Student and Teacher (BEST) Conference. − 2020.

10 **Irawan, A., Wilson, A.,** Sutrisno. The Implementation of Duolingo Mobile Application in English Vocabulary Learning // SCOPE: Journal of English Language Teaching. - 2020. - Vol. 5. − No. 1. − P. 8−14.

11. TED. How to Make Learning as Addictive as Social Media | Luis Von Ahn | TED [Video]. - YouTube. - 2023. - October 26. − [Electronic resource] − https://www.youtube.com/watch?v=P6FORpg0KVo

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DUOLINGO ШЕТ ТІЛДЕРІН ҮЙРЕНУДЕГІ ТИІМДІЛІГІ

Бұл зерттеу Duolingo тіл үйрену құралы ретінде тиімділігін, әсіресе оның ойындық табиғаты, бейімделген оқыту технологиялары және хабарландыруларды стратегиялық қолдануына ерекше назар аудара отырып, зерттеуге бағытталған. Бұл ретте, зерттеуде сапалық зерттеу әдісі қолданылып, екі жартылай құрылымдық сұхбат өткізілді. Атап айтқанда, бұл қатысушылар күнделікті Duolingo арқылы ағылшын тілін үйренуге шамамен 37 күн бойы пайдаланған үй шаруасындағы әйел және түрік тілін үйрену үшін анда-санда пайдаланған студент болды. Қорытындылай келе, зерттеу нәтижелері Duolingo тек интерактивті және тартымды ғана емес, сонымен қатар сөздік қоры мен грамматикалық дағдыларды елеулі түрде жақсартатынын көрсетті. Сондай-ақ, марапаттар, жарыстар және жалғасу санақтары сияқты ойындық ерекшеліктер қолдануды жалғастыруға күшті ынталандыру болып табылады. Сонымен қатар, нақты уақытта жеткізілетін жекелендірілген хабарламалар пайдаланушыларды қосымшаға қайтаруға және күнделікті оқу режимін сақтауға көмектесе алады. Дегенмен, оның артықшылықтарына қарамастан, бірнеше кемшіліктер табылды; оларға тегін нұсқадағы өмірлерді шектеу және шынайы қарым-қатынас сценарийлерін тәжірибеден өткізу мүмкіндігінің жоқтығы кіреді. Сәйкесінше, зерттеушілер сөйлеу практикасын жақсарту үшін жасанды интеллект енгізуді және DuoLingo.com функционалдығын одан әрі жақсарту үшін өмірлер санын көбейтуді ұсынады. Бұл фактілер тілді меңгеру үшін цифрлық құралдардың әртүрлі контекстерде қолдау көрсетуі мүмкіндігін түсінуге көмектеседі.

Кілтті сөздер: Duolingo, тіл үйрену, ойындау, сөздік қор, грамматика, мотивация.

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ЭФФЕКТИВНОСТЬ DUOLINGO В ИЗУЧЕНИИ ИНОСТРАННЫХ ЯЗЫКОВ

Целью данного исследования является изучение эффективности Duolingo как инструмента изучения языка, с особым акцентом на его игровой характер, адаптивную технологию обучения и стратегическое использование уведомлений. В связи с этим в исследовании использовался качественный исследовательский подход, в рамках которого были проведены два полуструктурированных интервью. В частности, участниками были домохозяйка, которая в течение почти 37 дней ежедневно использовала Duolingo для изучения английского языка, и студент, который периодически использовал его для изучения турецкого. В заключении, эти результаты показывают, что Duolingo не только интерактивен и увлекателен, но и значительно улучшает словарный запас и грамматические навыки. Кроме того, такие игровые функции, как награды, соревнования и подсчет очков, служат мощным стимулом для продолжения использования. Кроме того, настраиваемые сообщения, передаваемые в режиме реального времени, могут помочь вернуть пользователей в приложение и обеспечить ежедневное обучение. Тем не менее, несмотря на все плюсы, есть несколько недостатков, которые были обнаружены; к ним относятся ограничение продолжительности жизни в бесплатной версии и отсутствие практики реалистичных сценариев общения. Соответственно, исследователи рекомендуют внедрять искусственный интеллект для улучшения разговорной практики и увеличения количества жизней, чтобы еще больше улучшить функциональность DuoLingo.com. Эти факты помогают лучше понять, как цифровые инструменты могут способствовать овладению языком в различных контекстах.

Ключевые слова: Duolingo, изучение языка, геймификация, словарный запас, грамматика и мотивация