

THE USE OF THE DUOLINGO DIGITAL TOOL FOR ENGLISH VOCABULARY ACQUISITION AMONG HIGH SCHOOL STUDENTS

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Abstract-- This article of analysis and literature review examines how the integration of the digital tool called Duolingo into the English classroom, used as an additional resource in teaching practice, promotes the acquisition of English vocabulary as well as its reinforcement. In English language learning, vocabulary is the cornerstone of linguistic competence development, and Duolingo aims to improve and expand students' vocabulary through the platform's versatility and gamification; the goal is for students to progressively master the language by using and practicing it in each session through individual and group work, and to apply the vocabulary they acquire in a real and practical way to their daily lives.

Keywords-- Duolingo, vocabulary acquisition, tool, lexical competence, gamification

Abstract-- This document, which consists of an analysis and documentary research, examines how the integration of the digital tool Duolingo into the English classroom—used as an additional resource in teaching practice promotes the acquisition and reinforcement of English vocabulary. In English language In language learning, vocabulary is the cornerstone of developing linguistic competence. By leveraging the platform's versatility and gamification, this paper aims to improve and expand students' vocabulary. The goal is for students to progressively take ownership of the language by using and practicing it in each session—working both individually and in groups—and to apply the vocabulary they have acquired in a practical way to their daily lives.

Keywords-- Duolingo, Vocabulary acquisition, tool, lexical competence, gamification.

INTRODUCTION

The purpose of this analysis is to highlight important information and the benefits of using digital tools in the classroom (specifically Duolingo) as an integral part and supplement to English classes, with a focus on vocabulary acquisition among high school students, while examining the advantages and limitations from an educational perspective. Furthermore, it explains that working collaboratively with students motivates and drives them throughout their academic development. This tool offers significant educational opportunities, as its use in the classroom can foster and enhance skill development; additionally, students can learn content in a more practical way, through trial and error, and it gives them the option

to work at their own pace; the need for active learning makes it essential to utilize a tool that young people already use in their social and daily lives.

Today, society as a whole is facing constant change in terms of technology; therefore, teachers must gradually adapt to the needs of new generations, since the use of technology fortunately fosters a willingness to learn among students, as they are very familiar with it and find it easy to use. Duolingo offers users short versions designed to be practiced like a game rather than a cookbook.

The key is to effectively integrate this technological resource into teaching so that its incorporation serves to enrich the teaching-learning process for specific content, in line with the subject area. It is important to note that Duolingo is a free tool (in one of its versions) and is motivating for students, as it fosters healthy competition among them and allows for greater personalization of educational content. The use of Duolingo in a gamified context provides students with various playful applications that help them acquire new English vocabulary and reinforce it, as it improves the assimilation process.

Likewise, the current importance of developing lexical competence for second language acquisition is central, since it forms the basis for the entire grammatical structure required for learning English; knowing a language's vocabulary enables communication and an understanding of that language's contextual usage.

Rationale

To analyze how the Duolingo English learning platform can reinforce acquired knowledge and expand the vocabulary of fifth-semester upper secondary students at a Colegio de Bachilleres in Mexico City, as well as the benefits that can be gained through its continuous use.

Knowing and using the vocabulary of a second language is essential for effective communication, both spoken and written; a broad vocabulary enables and expands the possibilities for greater fluency, facilitating interaction in various social and cultural contexts.

DEVELOPMENT

Use of Digital Tools in the Educational Context

According to a text shared by RIDE. Revista Iberoamericana para la Investigación y el Desarrollo Educativo (2020), the introduction of information and communication technologies (ICT) in classrooms highlights the need for a new definition of roles, especially for students and teachers. Thanks to these new tools, students can gain greater autonomy and responsibility in the learning process, which forces teachers to move beyond their traditional role as the sole source of knowledge. This generates uncertainty, tension, and fear—a reality that necessitates a creative reorientation of the school system.

Digital tools in education are technological solutions designed to improve and transform the teaching-learning process. These tools range from learning management platforms and collaborative applications to interactive resources and simulators. The primary purpose of these tools is to facilitate access to information, promote collaboration between students and teachers, and personalize learning to meet the individual needs of each student.

School systems are thus faced with the need for a major and inevitable transformation: evolving from an education system that served an industrial society to one that prepares students to thrive in the knowledge society. It is expected that the increase in the use of ICT resources will drive not only a transformation in pedagogical models

but also in the promotion of new scenarios for fostering autonomy in the teaching-learning process in the classroom. Furthermore, if information technologies generate new languages and forms of representation and facilitate the creation of new learning scenarios, educational institutions cannot remain on the sidelines; they must understand and utilize these new languages and forms of communication. It is urgent that educational institutions adopt these resources, responsibly train their teachers in the use of new media, and create the conditions for their students to benefit equally from them. (Garay, 2020).

In other words, digital tools in education are no longer merely a supplement but have become fundamental elements of the teaching-learning process, since their proper implementation can enhance and foster student engagement; facilitating the personalization and acquisition of content, and reinforcing what students already know. Likewise, they prepare not only students but also teachers for the challenges of the digital environment in which

we are currently immersed. Furthermore, digital tools generate new languages and forms of representation that facilitate the creation of learning environments; therefore, educational institutions cannot afford to fall behind; on the contrary, they must understand and utilize these new forms of communication.

Websites or digital platforms that allow teachers to send assignments or questions to students foster a more interactive approach to learning; most programs that utilize this technology provide real-time feedback on responses, enabling students to make the necessary adjustments. Educational apps and games offer options for individual student logins, giving them the opportunity to work at their own pace and spend extra time on the areas where they need it most. Joyanes Luis, (2025).

Duolingo Background

The author Bogdan (2016) defines Duolingo as a dual-platform service—that is, both a website and an app designed for use on Android and iOS (iPhone) devices—which can be accessed via various types of technology: tablets, computers, laptops, and smartphones. The appeal of Duolingo is that it is a game-based educational program that can be accessed from anywhere as long as there is an internet connection.

Duolingo was created by computer scientist Luis Von Ahn, originally from Guatemala, with the primary goal of combining human effort with technology, since without human intervention it is not possible to create and solve problems through the programming of instructions that adapt to computers and future educational applications. It was selected as the best educational mobile app in 2014 by Apple Inc. and Google Play.

The Duolingo app offers a wide variety of activities that support daily language practice through a series of grammar, vocabulary, pronunciation, and writing exercises. Through its software, users have countless opportunities to practice, have fun, and engage with the language of their choice or need. The game concept in Duolingo is centered on completing a series of activities where points are earned for correct answers; it is a game designed with a specific purpose—to achieve proficiency levels in a language—a process that aims to engage and motivate the user. Bogdan (2016).

The concept of play that it employs for teaching and learning is, in itself, a game that does not incorporate all the characteristics of a game as such; that is, it involves playing with a limited set of elements aimed at an academic goal, where the user performs translation exercises—either from Spanish to English or vice versa—as well as rearranging words so that the sentence makes sense in the language being studied, listening to audio clips to transcribe sentences, and other similar activities. Duolingo employs the technique of continuous winning, where the user can visualize their learning progress through the game; these games are based on the application of certain game elements integrated into a learning platform, where the user enjoys the game while earning rewards. Huynh and Lida (2017). The connectivity enabled by mobile devices and their portability allow access to large volumes of information, making them a vital resource for daily life and a subject of great interest for education. Mobile devices offer significant educational opportunities, as their use in the classroom could drive and foster skill development, and students can learn content in a more practical way, through trial and error, while having the option to work at their own pace; the need for active learning makes it essential to utilize a tool that young people already use in their social lives. In this sense, the Duolingo digital platform should not be viewed by users solely from a recreational perspective (playing just for the sake of playing); one must take a broader view of what it means to engage directly with Duolingo, analyzing and reflecting on the fact that it is a resource that will facilitate the acquisition of the English language more easily, including vocabulary reinforcement and acquisition, active pronunciation practice, reading comprehension, and listening comprehension.

Previous Research on Duolingo for Schools

The authors González et al. (2020) assert that various studies have shown significant improvements in both listening comprehension and reading skills in English using the Duolingo for Schools platform. One such example is a study conducted in the United States in 2015 by Krajka, which demonstrated that students who used the platform regularly performed better in English than those who did not.

In their study on the impact of Duolingo on English language instruction in elementary education, they highlight that “teachers positively value the platform’s ease of use and tracking tools, although

some point out the need to supplement it with other resources to cover more complex aspects of the language, such as advanced oral production and spontaneous conversation. González et al. (2020) **English Proficiency Index (EPI) and its Implications for Education**

The English Proficiency Index (EPI) developed by Education First (EF) is a global measure of English proficiency among the adult population. This index is based on the results of English tests taken by millions of people worldwide; the EPI ranks countries according to their level of English proficiency, which has significant implications for education. The 2023 EPI reveals that “countries with high levels of English proficiency tend to have more developed economies and stronger education systems.” In the context of primary education, EPI data indicates that the early introduction of English and the use of educational technologies can significantly contribute to improving language proficiency; this approach allows students to develop basic language skills that will serve as a foundation for more advanced learning in later stages.

Furthermore, the EPI report highlights the need for innovative and adaptive pedagogical approaches. The implementation of digital resources and interactive platforms can increase student motivation and engagement, resulting in better language retention and comprehension.

Of course, today, proficiency in an additional language more easily opens doors to employment opportunities, enabling international communication that is not limited to the context in which young people are immersed. This enriches their cultural understanding, allows them to learn about other contexts, and boosts their confidence when expressing themselves in a second language. Of course, it is an excellent support tool for teachers, but this resource should not be the only one teachers use; it can be combined with a range of other activities to develop, enhance, and strengthen the four language skills: listening, reading, writing, and speaking. Likewise, introducing children to the English language from a young age allows them to assimilate it more effectively, since their brains are more receptive and they are not afraid of making mistakes like teenagers are, making their language acquisition process easier and more natural.

PISA Report

According to the OECD (Organization for Economic Cooperation and Development) and the OECD's Programme for International Student Assessment (PISA), this program helps systematically evaluate what young people know and are capable of doing upon completing their Compulsory Secondary Education (ESO) in more than 80 countries worldwide.

The PISA report provides key insights into English proficiency. According to the latest PISA report, students in countries with stronger and more equitable education systems tend to have a better command of English (OECD, 2021).

However, the PISA assessment is subjective because, unlike the EPI, it is not a systematic evaluation; relying solely on a final score without tracking students' progress in English does not allow for the observation and verification of proficiency and advancement in a second language.

The Duolingo Phenomenon: Evolution

Von Ahn (2014; 2016) conceived Duolingo as a way to make language learning accessible to people who faced barriers to studying due to financial constraints and/or limited geographic access. It was launched and remains a free app. The creator's initial idea was to revive the "apprentice model"—common in vocational training before the Industrial Revolution—and adapt it to the modern era. In Duolingo's case, a text translation service was launched for app users, through which students, upon completing their courses, would perform translations for the platform. In this way, using their newly acquired knowledge, they compensated the "teacher" Duolingo for the knowledge provided free of charge; in a society where criticism of big capital is commonplace, the promotion of the old barter of labor for trade training found acceptance among the app's users.

The Duolingo Methodology

As Rodríguez J.M. (2015) points out, learning on small mobile devices (phones, tablets, etc.) requires content tailored to their nature: short and simple, with limited information in each content unit, and featuring unconventional activities that are better suited to their use. Duolingo's simple organization aligns with these characteristics through straightforward grammar and vocabulary units that form a learning pyramid; the index for each unit lists the aspects of the new language that the learner must acquire.

Vocabulary units are first introduced to the student through exercises, and the student is expected to complete them based on their intuition and by establishing connections with other vocabulary units (synonyms, homonyms, etc.) or with images. Likewise, the learner always has access to the translation of the lexical unit into the language they are studying from; in this way, a dynamic of discovery-based learning is established, in which the student moves from practice to knowledge. Rodríguez

J.M. (2015).

Similarly, the app's instructional approach relies on rote learning, defined as: "A method that promotes the acquisition of new knowledge through repetitive procedures and practices, placing little emphasis on the meaning of what is learned and failing to link newly acquired information with previously stored knowledge." The Duolingo system is based on the first aspect: repetitive exercises. The app alternates between both types of learning but does not consider the possibility of making inferences through real-life situations with context or simulated situations presented in the classroom to foster deduction; therefore, it does not take into account the full meaning of the vocabulary. Duolingo fails to practice the functional component in real communicative situations. Rodríguez J.M. (2015).

In fact, using Duolingo as a supplement to classroom sessions helps expand vocabulary and includes exercises that promote oral and written expression; the platform integrates technology into the educational environment, facilitating teaching and learning, making classes more interactive and engaging, while keeping in mind that its primary goal is educational. During activities on the platform, students translate phrases or paragraphs, improving their grammatical comprehension, vocabulary, and understanding of the language's grammatical structure; in particular, the activities include corrections for students, allowing them to learn from their mistakes and progressively improve their performance.

Didactic Principles of Vocabulary Learning on Duolingo

According to Higuera, M. (2000), the following teaching principles are described below:

Repetition

Once a lexical unit has been introduced, the application adds it to its list and repeats it at spaced intervals; the student can access the "words" section, where they will see a list of lexical units mixed with grammatical items that have already appeared in their course, along with a bar

indicating the “confidence level.” This bar is configured using algorithms that take into account the number of repetitions of the words.

The sequence follows the procedures of the direct method, which introduces vocabulary through the association of objects or images. Deductive learning predominates, as the learner first encounters the lexical unit through a question in their native language, observes the images, and selects the correct option containing the equivalent phrase in L2; subsequently, they translate phrases from the target language into their native language, and later, from L1 to L2. When combined with the grammatical and syntactic explanations found in each topic, it becomes clear that Duolingo also draws on the principles of structuralist methods; while the concepts are listed at the beginning, their application is subordinated to the morphosyntactic system as the focus of learning, and the vocabulary ultimately ends up being summarized in a list of words. Higuera, M. (2000).

Specifically, spaced repetition is effective for students, as it reinforces long-term learning; this is because the continuous repetition of words or complete phrases aloud on a regular basis aids in better retention, pronunciation, and memory. Similarly, at the end of each lesson, students can review and repeat the material as many times as necessary.

Lack of Combination Vocabulary

On the other hand, it can be observed that the vocabulary in Duolingo is limited to the study of simple lexical units without taking into account the combinations of words that appear in a sentence, as well as those that are typically associated in a given context; therefore, it does not provide the benefits in improving linguistic production that such study generates. Higuera, M. (2000).

In this regard, the lack of vocabulary is a clear limitation for students, since learning focuses solely on direct translation, without allowing students to contextualize it within their daily lives; furthermore, the vocabulary presented by the platform (Duolingo) is shown in isolation, that is, without any connection between the words. Consequently, this leads to the acquired, reinforced, and repeated vocabulary becoming rote, which does not provide a real-world context for students. Translation

Duolingo courses are based on a two-way relationship between two languages. The menus and instructions appear in the source language selected by the learner; each lesson includes direct translation exercises

, and students can hover over each word to see its translation. The method thus departs from the pedagogical approaches that have prevailed in the direct and structuralist methods, adopting those applied by the old framework of the traditional method. Higuera, M. (2000) It is important to emphasize that translation on Duolingo focuses solely on reinforcing two language skills—reading and writing—with the aim of developing these skills in students; through trial and error, students can improve their areas of opportunity regarding these two language skills; however, this approach based solely on translation may prevent students from genuinely thinking and internalizing the language they are learning. **Current Context**

According to Munday, P. and Espinoza, A. (2024), the activities presented in Duolingo lessons interweave different skills (from pronunciation to translation) and offer a variety of tasks (recognizing a word in an image, writing down what is heard, etc.). These three elements—spaced practice and interweaving—are key. It also provides instant feedback to users after each task; this feedback goes beyond basic multiple-choice options and includes other appropriate versions. In many cases, it also includes a discussion area where users can discuss the exact meaning or potential issues with the activity or the provided solution. Munday, P. and Espinoza, A. (2024). In the desktop version, the application has different sections:

- The "tree" that contains skills, each represented by a node that changes color: gray (indicates that you haven't started a skill), red, blue, or green (you've started the lessons for that skill), or gold (you've mastered all the lessons and vocabulary for that specific skill). Note that the gold color may change if Duolingo's algorithm determines that you need to review those nodes you've forgotten—either because you've forgotten the vocabulary or because enough time has passed. Munday, P. and Espinoza, A. (2024).
- Words: A list of words the user has studied or already knows. Each word is accompanied by a strength bar, which indicates whether you still remember it well or if it's time to practice again, according to Duolingo's algorithm. You can also review these words with vocabulary flashcards. Munday, P. and Espinoza, A. (2024).

- Activity: Duolingo works similarly to a social network. You can follow other students, and others can follow you. The activity feed shows not only your achievements on Duolingo (completed levels) but also whether you've posted in the forum. Everyone you follow, and yourself, appear on a leaderboard that displays the Duolingo points you earn each week. Munday, P. and Espinoza, A. (2024).
- Discussion: In this feature, users can post discussions on topics of interest. A discussion will also be created if there are questions about any of the activities carried out during the lessons, in which case users negotiate the meaning among themselves. Discussions are divided by the language being studied, and there are also general discussion areas, such as the one recently opened for educators. Munday, P. and Espinoza, A. (2024).
- Immersion: This area is for more advanced students; anyone can upload a public document in any language, and the community can begin translating it. Users can offer suggestions to improve translations or simply make general comments. Munday, P. and Espinoza, A. (2024).

Users earn XP points for translating their own documents or collaborating on other documents already uploaded to the site. They also receive Lingots, which are the currency Duolingo uses to reward its users. You earn Lingots by completing a skill node or maintaining a streak of days using the site. Users can also “reward” other users with Lingots in the discussion area, with which you can buy various items, such as a “streak freeze” that lets you miss a day without losing your streak, fun outfits for the Duolingo owl (the program’s mascot), or, most importantly, a progress test that shows your current progress in your studies on a scale of 0 to 5. Munday, P. and Espinoza, A. (2024).

The mobile version of Duolingo doesn't have as many features; it's limited to the tree, gamification, and the Lingot Store, although you can view the leaderboard there with information about the people you follow. The app also tracks your streak; you can set daily goals (the minimum is 10 XP per day), and the app will send you reminders and notifications if you haven't met your goal that day. Duolingo is currently one of the tools that most clearly employs gamification in language learning; this term refers to “the use of game mechanics in non-gaming environments and applications to enhance motivation, concentration, effort, loyalty, and other positive values

common to all games; it is a new and powerful strategy for influencing and motivating groups of people.”
Munday, P. and Espinoza, A. (2014).

In fact, new technologies are already an integral part of life, since the vast majority of people have a cell phone for communicating and searching for information; therefore, education requires teachers to adopt a new perspective by incorporating the appropriate use of the Duolingo app into their lesson planning, given that students are invariably immersed in these information technologies. Likewise, teachers today are no longer merely transmitters of knowledge; they have become facilitators and guides in students’ learning. Consequently, this educational tool helps strengthen knowledge and skills through continuous practice, via trial and error.

As mentioned in the Multidisciplinary Journal of Innovation and Applied Studies: Scientific Review Articles, the goal of the Duolingo digital platform is to offer free, fun, and accessible education for everyone, fostering self-directed learners who improve their communication skills. The primary goal of learning a new language is to apply it in real-life situations when communicating—that is, the ability to interact in different contexts, which allows students to better appreciate the usefulness of the language they are learning.

The primary objective of the Duolingo digital platform in educational institutions is self-directed learning, achieved through playful and interactive learning processes that enhance understanding and knowledge retention. Munday, P. and Espinoza, A. (2014).

In the same vein, Duolingo is a supplementary resource that empowers students to take charge of their own learning, sparking their interest in acquiring a new language. It is important to note that it strengthens students’ communication skills, as they use linguistic expressions effectively in their social interactions.

Hernández, M. and González, M. (2021) propose that the new educational paradigm and its pedagogical implications extend to all branches of knowledge; language teaching is one of them, and within this discipline, second language acquisition. The time when its study focused on vocabulary and the translation of written texts is long gone. Advances in the first half of the last century paved the way for models that asserted the similarity between the acquisition of the first language (FL) and the second language (SL), later superseded by structuralists who, recognizing the importance of oral proficiency and

criteria of use, based their approach on language as a system and focused learning on the phonological, morphological, and syntactic levels.

The paradigm shift—the growing importance of self-directed learning driven by the increasing number of tools available to learners, their ability to use these tools effectively, and free access to information (and consequently, limited linguistic input)—has sparked interest in exploring new learning tools, their applications, and their effectiveness. The selection and analysis of Duolingo addresses this concern; the app is currently the most popular way to learn languages in the world, according to its creator Luis Von Ahn (2016); the app for iPhone and Android (which also offers a web version) has over 42 million users.

It is clear that, given its extraordinary reach, Duolingo deserves the attention of language teachers; its success stems from the simplicity of its method: information presented in small units of grammar and vocabulary, limited content, the choice of a daily learning plan (light, relaxed, serious, or intense), and gamified activities designed like a video game. Hernández, M. and González, M. (2021).

Consequently, Duolingo is a great ally for teachers (especially language teachers), given that there is a free version accessible to students; in turn, teachers can gradually observe the progress students are making in a way that is playful and entertaining for them, as this approach breaks away from traditional classroom methods. At the same time, it allows for adapting to each student's learning pace by providing differentiated instruction based on each student's language proficiency.

Duolingo and its use in the classroom

According to the Sísifo Education Journal (2023), Duolingo is a platform offering resources such as websites, apps, and proficiency tests, focused on language learning, with over 120 million registered users. It is considered one of the most successful examples of gamification in education, especially for learning English, French, Spanish, and German. With Duolingo, users can translate words and phrases in both their native language and the target language; practice audio exercises similar to *listening comprehension exercises* in English classes, for example, where users write down the sentences and texts they hear; or participate in nonverbal language activities

using images. Oral and written production activities are less common and are generally conducted in *chat rooms*.

When registering on Duolingo, users must choose the language they want to learn and provide personal information such as age, email address, and their proficiency level in the selected language, as well as indicate their daily study time goal within the app (10, 15, 20 minutes, or more), depending on their available time and established goals. These daily goals allow the *software* to track the student's time spent on the platform and earn points if they use it daily for the selected duration. It is also possible to choose a course for those who already have knowledge of the foreign language at advanced levels, or to start from the most basic level for beginners. Sísifo Education Journal (2023).

Of course, as a result of the activities carried out on Duolingo, students can see their progress in real time, encouraging them to continue using the app and completing the exercises; similarly, this educational tool sparks their curiosity to continue acquiring new knowledge and reinforcing what they have learned, facilitating retention and allowing them to gain greater confidence in their English language acquisition. Likewise, this platform is an excellent ally for teachers, as it allows them to monitor students' academic performance and progress; at the same time, it enables them to identify areas for improvement in each student, recognize the difficulties that arise along the way, and thus make the necessary adjustments.

Duolingo for Schools: Features and Its Role as a Technological Resource in English Instruction

According to Miller (2021), Duolingo for Schools is a dashboard that appears within a teacher's Duolingo account and allows them to create classrooms and activities while tracking their students' progress. It also offers reading, writing, listening, and pronunciation exercises that integrate images and audio to facilitate learning and maintain student engagement; thus, the platform provides students with multimodal content. The platform itself enables teachers to track and assess students, providing progress-tracking tools that allow teachers to monitor their students' progress in real time and receive detailed reports on their performance.

The Duolingo for Schools platform offers several benefits. First, Duolingo can be used as a supplement to traditional classes, providing additional practice and reinforcement of

the content covered in class. Additionally, students can practice independently, which fosters self-discipline and responsibility for their own learning. Vesselinov Grego, (2020).

Therefore, incorporating Duolingo into English classes allows teachers to tailor instruction to each student's individual learning needs, as it enables them to customize assignments, activities, and exercises; this makes it easier to address individual needs and contributes to more effective learning.

Foreign Language Learning: English

Based on the work of Peláez Sánchez, I.C. (2020), it is essential to examine theories that explain how people learn a second language. In this regard, the Generative Voice Theory stands out, which accounts for the existence of communication codes based on the connections the brain establishes between a sign and an image, which are then stored. This occurs through a process called “switching,” which involves a fluid and spontaneous transition, thereby avoiding the need to “search the Spanish brain” to translate into English. In other words, according to this theory, the relationships and/or connections in the brain can generate processes that enable second language learning through mechanisms in which communication codes are based on these connections.

There are various processes and mechanisms involved in second language learning, as learners must be able to use the new linguistic system to communicate while understanding the meaning of what is being said; in these processes, the teacher's role as a mediator—through activities designed to develop communicative competence—enables second language acquisition to take place. Among the diverse processes involved in second language acquisition, it is important to note that this involves learning new linguistic systems; consequently, the acquisition and teaching of a foreign language—in this case, English—is a complex and multidisciplinary process. Peláez Sánchez, I.C. (2020).

Therefore, an effective method for learning and acquiring a second language is for people to associate the image presented with the (the English word) in order to prevent the brain from translating those words into Spanish as they are being processed, thereby achieving better assimilation without having to resort to the other part of the brain responsible for decoding. There are a number of factors that significantly influence

considerably on second language acquisition, such as: social context and the knowledge the student already possesses.

Vocabulary

The author Scrivener (2021) asserts that vocabulary learning plays an important role in mastering a second language; he defines vocabulary as the words of a language, including individual elements, phrases, or multi-word units that convey a particular meaning. Vocabulary becomes a central part of learning the English language; without it, students cannot express their ideas or understand what is being said to them. Vocabulary learning goes beyond memorizing words; they acquire real meaning, which is linked to a context—that is, a word involves learning its pronunciation, spelling, and grammatical function.

Vocabulary learning is divided into four stages: the first involves becoming familiar with new lexical items, understanding them, and using them; the second allows students to practice using these lexical items; the third consists of memorizing them; and finally, recalling and using them again. Based on the above, the process of memorizing lexical units is described as effective when students successfully complete four stages: storing the lexical unit in memory, retaining it there, retrieving it, and using it. Scrivener (2021).

It is important to recognize that the acquisition of vocabulary in a second language (English) requires the student to be both a receiver and a producer of that vocabulary, that is, to constantly practice the acquired vocabulary orally, visually, in writing, and aurally, with the primary goal of achieving retention that will later allow them to use it in real-life contexts and facilitate communication with appropriate grammatical structure, integrating the vocabulary they have already mastered into their dialogues in a natural way. Learning new words is a stimulant that improves memory and analytical skills; in other words, it is the foundation of language, as it allows one to express thoughts, ideas, and share information.

Vocabulary Acquisition on Duolingo

The authors Díaz and Analí (2021), in their thesis “The Duolingo Educational Tool for Improving English Vocabulary Among Adolescents at the Luz de Amor Church,” used this tool to enhance English vocabulary acquisition processes; they administered a test

to assess language proficiency and subsequently conducted eight learning sessions

based on the content provided by the Duolingo platform to determine the participants’ vocabulary level

students; upon completing this process, they administered a post-test with statistical results, which showed high levels of improvement and demonstrated that language is a system of signs used for communication, achieved through the use of vocabulary in specific contexts and the refinement of pronunciation; from this, it follows that Duolingo allows students to discover grammar on their own without focusing literally on the rules inherent to the language itself, acquiring vocabulary in a contextualized manner, just as they learned in their native language, through repetition and the association of sounds, presenting a real-world context and an immediate reason to use the language, which becomes a vehicle for communication with an educational purpose.

Vocabulary in Context

The author, Figueredo, L. (2020), states that context is essential for long-term word retention because it creates mental connections that anchor information in the brain. This principle is exemplified when we interact with others, read, or watch television. Communicative competence is important because it encompasses not only linguistic knowledge of the language but also contextual usage; in this sense, vocabulary is essential, as it enables the recognition of word usage across all contexts; similarly, vocabulary in context facilitates assertive communication while respecting cultural differences.

Additionally, the author emphasizes that in the learning of any language—and specifically in the case of vocabulary—there are certain elements present in the student’s learning processes, such as input, intake, and output. Figueredo, L. (2020).

In other words, vocabulary is essential, as it forms the foundation of language for maintaining oral and written communication; that is why acquiring it is fundamental to linguistic proficiency in a second language, in this case English. Vocabulary is therefore an essential component, since it enables the creation of correct grammatical structures, which are necessary for engaging in conversation and/or understanding messages.

Learning English Vocabulary

Author Gooding, F.A. (2020) notes that lexical competence encompasses knowledge of the vocabulary or set of words of a language, in this case, English. English vocabulary consists of lexical and grammatical elements, as shown in Table 1.

Table 1. *English Vocabulary.*

Lexical Elements	Grammatical elements
Fixed expressions: several words that are used and learned as a whole; these can include: <ul style="list-style-type: none"> - Fixed phrases - Idioms - Fixed structures - Semantic category 	These are closed word classes: <ul style="list-style-type: none"> - Articles - Demonstratives - Prepositions - Auxiliary verbs - Possessives

Source: *Gooding.*

He explains that foreign language teaching activities in the classroom should provide context and create mental frameworks into which new information can be integrated; among the activities recommended by the author to activate prior knowledge are: reviewing video clips related to topics that have been covered or will be covered, asking questions, reusing the language in a new context, using digital tools to help remember vocabulary, etc. Gooding, F.A. (2020).

Similarly, he suggests that English learning is achieved when the student is able to relate the characteristics of the foreign language to the knowledge frameworks already defined and acquired through their own language. At the same time, he explains that the teacher must take on an active role, and instead of simply providing information, must guide the student in their imitation processes. Gooding, F.A. (2020).

Therefore, the acquisition and reinforcement of new vocabulary in a foreign language, through a digital tool implemented by the teacher in the classroom, creates a supportive atmosphere where students feel comfortable and have greater confidence in actively practicing the language; improving not only their vocabulary retention but also their pronunciation, intonation, and fluency in each word or sentence through regular practice. Today, technology enables the teaching-learning process to be active, collaborative, dialogic, contextualized, and reflective for both students and teachers.

Benefits of Teaching and Learning English Vocabulary

The author Unir, V. (2021) argues that learning a language will always have positive benefits for the learner; in particular, learning English vocabulary has benefits for both the student’s linguistic and cognitive development. The fastest way to start speaking a language is to

memorizing useful phrases and sentences, which should be drawn from the essential vocabulary being learned, such as greetings, expressions, or language necessary for everyday contexts.

It is important to consider the cognitive benefits of learning and remembering new vocabulary, as this exercises memory and strengthens cognitive skills. The author argues that when people approach a foreign language, they make an intellectual effort to understand how the new language works, its syntactic rules, and its vocabulary. Mastering a wide range of vocabulary allows for the expansion of knowledge to more complex grammatical concepts and facilitates their understanding; this will improve writing skills and comprehension of grammatical structures, helping to choose more precise words and providing a broad lexical repertoire when writing texts or compositions. Unir, V. (2021).

In other words, learning a wide range of English vocabulary is essential for effective language development, given that we live in an increasingly interconnected and globalized world; this enables students to better develop the skills inherent to the language. By expanding their vocabulary, students undoubtedly improve their communication skills, allowing them to express themselves with greater precision and fluency; they also enhance their reading, listening, and writing comprehension to better understand a wide variety of words and complete sentences.

The Relationship Between Vocabulary and Comprehension and Production Skills in English

Unir, V. (2023), in his study on vocabulary, states that knowing a language's vocabulary enables basic communication in that language; therefore, learning vocabulary enhances the student's level of comprehension. A strong command of vocabulary is essential for developing comprehension and production skills in a language; that is, having a broad vocabulary facilitates language comprehension and text production, in addition to helping expand and consolidate vocabulary through oral use. Without a solid foundation in vocabulary, one cannot acquire language comprehension and production skills; a broad and well-developed vocabulary is essential for understanding and producing language more effectively.

Like reading comprehension, listening comprehension depends largely on one's knowledge of the language's vocabulary; identifying words and phrases in an audio recording or spoken discourse can be difficult without a broad vocabulary. Furthermore, a broad

vocabulary enables one to follow conversations or other speech, as it allows for the quick identification of words and an understanding of the context. Unir, V. (2023).

On the other hand, language production is divided into written and oral expression. Written production requires a command of vocabulary to express ideas clearly and precisely; it can be difficult to convey ideas in writing or produce texts with precision without a broad vocabulary, which can lead to repetitive use of simple words and phrases; conversely, a rich vocabulary allows for greater variety and precision in writing, thereby improving the quality of the text. Extensive reading of texts, articles, or other materials in English, active listening and participation in conversations in real-life contexts, and written and oral practice are strategies for improving and expanding vocabulary and, in turn, acquiring language comprehension and production skills—in this case, in the English language. Unir, V. (2023).

Of course, vocabulary is the cornerstone of reading comprehension, since it is necessary to recognize, identify, and understand the meaning of a text; if a student's vocabulary is limited, they may misinterpret what they read or have difficulty continuing to read a text; As a student advances in vocabulary acquisition, their progress in text comprehension becomes more complex, leading to better retention. Similarly, proper vocabulary management will benefit students' oral expression; that is, it is essential to know and use words appropriately to maintain effective communication. Conversely, a limited vocabulary prevents them from speaking fluently and may limit their participation in conversations in real-life contexts.

Lexical Competence to Strengthen English Language Teaching and Learning Processes Herrera et al. (2019) note that lexical competence refers to an individual's ability to use a wide range of words and expressions accurately and appropriately in communicative contexts, so that English learners can improve their ability to communicate more effectively, allowing them to express ideas with greater clarity and fluency. Similarly, it is recognized that the quantity and quality of lexical knowledge are fundamental aspects for the development of reading comprehension skills in a foreign language; the dimensions of lexical knowledge are directly related to reading ability, which plays a significant role in learning. However, lexical knowledge increases over time and through

practice; for this reason, vocabulary instruction should be conducted both implicitly and explicitly so that learners progress not through memorization but through inferring meanings and defining concepts.

In this regard, according to Arancibia, R. (2011), it is essential to understand that words and expressions do not exist in isolation but are embedded in specific contexts, which creates connections and relationships that facilitate their organization in the mental lexicon. This interconnection between reading and vocabulary acquisition is complemented by other communicative activities, such as oral expression, depending on the level of proficiency and the established educational objectives.

As a result, both authors agree that lexical competence is essential for effective communication in English, since the words one learns are the basic building blocks used to express ideas, thoughts, and meanings; without a solid lexical foundation, communication between people can be limited and incomprehensible; therefore, lexical competence is not merely about knowing the literal meaning of words, but also involves understanding how they are used in various contexts—that is, contextualizing the acquired vocabulary.

The Relationship Between Gamification and Vocabulary Acquisition on Duolingo

According to García Costa, L. (2021), when considering the relationship between gamification and vocabulary learning, one must address the types of learning through which an individual can develop a skill or learn something new; this technique leverages each of these cognitive processes. For example, gamified activities provide learners with the opportunity to discover meaningful knowledge, as they recreate the conditions essential for experiential learning.

Gamification fosters experiential learning, which provides language learners not only with the opportunity to discover new and meaningful knowledge, but also with the ability to develop autonomy in their learning; furthermore, gamification also offers the possibility of demonstrating to students the practical application of the subject matter in context, allowing them to connect their existing knowledge with new knowledge. Finally, one of the key features of gamification is the promotion of game-based learning, given that these types of playful activities are used to help students develop a skill. García Costa, L. (2021).

Consequently, it is essential that teachers make use of diverse resources and/or varied stimuli that serve as a complement to the development of a skill or competency in students; one such method is gamification, as it promotes learning and interest. Now, the relationship between gamification and second-language vocabulary is that through the games used in gamification, students can gradually acquire and incorporate new vocabulary via interactive images and competitive games, which they relate to their real-life context.

Advantages of the Duolingo Digital Tool for Vocabulary Acquisition

The author, Ajisoko, P. (2020), suggests that this digital tool offers numerous, easy-to-use activities for both beginner and advanced learners, through an interface with processes and steps that are easy to understand. Among the advantages of Duolingo, he mentions the following, depending on the version chosen.

Table 2. *Versions of the Duolingo Digital Tool.*

Free Version	Premium version	Duolingo Max
Access to all lessons	No ads	Includes all the benefits of the premium version.
Life system: If you make more than 5 mistakes, the lesson is locked and you must recover lives.	Unlimited lives	Uses AI to explain why an answer is correct or incorrect.
There are advertisements	Personalized practice	Practice conversations with AI characters.
Gamification and competition with friends.	Access to stories	Price: \$4,141.13 per year
Limited content	Legendary challenges	
Works for beginners or to maintain a daily study habit at no cost.	Speak and listen feature Price: 149 MXN per month	

Sources: *Ajisoko (2020)*

As a result, it is important to note that Duolingo, as an additional resource used by teachers and students in second-language classes, offers significant advantages. On the one hand, it allows teachers to track each student's academic performance through detailed reports that the platform generates immediately and accurately regarding the activities and exercises completed. It is also fun, practical, available, and accessible to students, as it uses interactive methods, allowing them to learn and expand their English vocabulary in an engaging way. There are even three versions that showcase the variety of activities students can engage in, tailored to their current English proficiency and the level they aim to achieve gradually.

Conclusions

The use of the Duolingo digital tool for learning English improves the quality of the teaching-learning process, especially when the content is linked to the interactive activities provided; it also promotes collaborative work by facilitating access to information. In this context, Duolingo can facilitate significant progress in the English language learning process due to its user-friendly and engaging design. This tool is accessible and available to all users; it also leverages interactivity and gamification to make second-language learning and vocabulary acquisition more appealing to students.

Consequently, it is essential that the teacher carefully select relevant vocabulary, starting first with the students' age, followed by their specific needs and their current levels of language proficiency. It is important for teachers to consistently and continuously practice vocabulary with students, thereby reinforcing language skills (oral and written expression) by leveraging the digital resources available to both themselves and their students.

Duolingo is, therefore, an effective resource for both teachers and students, as it serves as a complementary tool that allows for the monitoring, tracking, and supervision of student progress, enabling teachers to tailor their instruction to students' needs. In the same vein, it is an affordable option for learning a second language, more economical than an in-person or online course; furthermore, users can choose from its three versions the one that best suits their interests

, depending on the level of English they wish to achieve. It is worth noting that it is a good investment for language learning; of course, consistency and continuous practice are required for the language to be internalized, learned, and applied.

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