

FOREIGN LANGUAGES AND VIETNAMESE

**STUDENTS' ATTITUDES TOWARDS THE USE OF
DUOLINGO APPLICATION TO IMPROVE VOCABULARY:
THE CASE OF TRAVEL AND TOURISM MANAGEMENT
NON-MAJOR STUDENTS AT A UNIVERSITY IN VIETNAM****TRAN NGOC DUC* - NGUYEN THI THU HA** -****VU LE DIEP ANH*****

ABSTRACT: The study aims to investigate the attitudes of non-English major students in the Travel and Tourism Management program at Ha Long University toward using the Duolingo application to improve their English vocabulary. It focuses on exploring both the perceived benefits and limitations of the application in enhancing vocabulary acquisition.

KEY WORDS: English learning; vocabulary; attitudes; duolingo application; mobile Apps.

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1. Introduction

Numerous studies have demonstrated that integrating information and communication technologies (ICT) into the classroom improves the impact of teaching and learning processes, motivation, and engagement (Chapelle, 2001). Mobile Assisted-Language Learning (MALL), a type of E-learning and an evolution of Computer-Assisted Language Learning (CALL), has emerged due to ICT's growing integration into educational practices. The teaching and learning of foreign languages, especially English as a Foreign Language (EFL), is the primary use for MALL. MALL provides language learners with access to educational resources from any location at any time by using mobile devices such as laptops, tablets, and smartphones.

In Vietnamese higher education, particularly for students at Ha Long University, there is limited research examining the attitudes of non-English major students towards using Duolingo to enhance vocabulary. This study is, therefore, unique as it seeks to understand the attitudes and perceptions of non-major students in the Travel and Tourism Management program at Ha Long University regarding Duolingo's potential as a vocabulary learning tool. This study explores the attitudes and experiences of non-English major students in the Travel and Tourism Management program at Ha Long University regarding their use of the Duolingo application to improve their English vocabulary.

2. Literature Review**2.1. Definition of attitudes**

Attitudes are best defined by three categories in mind: cognitive, affective, and behavioural (Bucu et al., 1993; Maio & Haddock, 2009). The cognitive component includes the beliefs and thoughts one holds towards an object. In contrast, the affective component deals with feelings, and the behavioural component encompasses the intentions or actions inspired by those beliefs and feelings. It gives a more dimensional way of looking at the person and their reactions.

Attitudes are measured evaluations of people, groups, or objects in the social sphere. They play a defining role in perception and action, so they are important for study. In education, language learning, for instance, attitudes play an important role because they determine how much students are involved, motivated, and tend to succeed.

2.2. Vocabulary acquisition

Language skills always include vocabulary(s); these include words that a particular individual or group is aware of and uses (Richards & Schmidt, 2010). They also include the listening and reading

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aspects, where recognition of some words is also involved. Those words considered listening and reading are speaking and writing words that are actively practised. This integrated understanding of vocabulary is important for language acquisition in learners since vocabulary facilitates understanding of the input and the expression of the output.

Indeed, vocabulary learning/acquisition encompasses cognitive and communicative aspects requiring comprehension of the meaning of words, how they are used in context, and how they can be used in various situations (Nation, 2001). Its relevance to language learning expands because it is a basis of comprehension, expression, and interaction in all language dimensions. A developed vocabulary is paramount as students are often hindered in their ability to relay their ideas, understand language, or achieve the desired fluency within the target language.

2.3. Types of Vocabulary

2.3.1. Receptive vocabulary

Receptive vocabulary includes words that learners do not use in conversation or writing, but they can understand them when they read or listen. This type of vocabulary is crucial for understanding the language and is often the first stage of vocabulary acquisition. In Laufer's argument (1997), yes, it is true. It is reasonable to conclude that receptive vocabulary has increased faster than productive vocabulary. Learners hear or read new terms, and their ability to recall or interpret them goes a long way in determining how well they express themselves in that language.

2.3.2. Productive vocabulary

This vocabulary is the one that learners can readily apply in speaking or writing. Distinguished from receptive vocabulary, which is passive only in meaning, productive vocabulary is verbal communication, in which words are already set in the mind to be brought out to communicate. Nation (2001) further states that these vocabulary skills have to be taught for learners to function effectively and convey their thoughts meaningfully in real-life situations. It is necessary to convey ideas, feelings, and knowledge in conversation and speech.

2.3.3. Academic Vocabulary

Students seeking higher qualifications will benefit from academic learning (Coxhead, 2000; Hyland, 2006). An example would be a student's ability to thoroughly grasp terminologies regarding destination marketing, tourism sustainability and consumer behaviour. This clearly illustrates the concept of an academic vocabulary. Engaging in a scholarly talk requires one to have an understanding of the content being discussed and vocabulary to supplement their knowledge. In disciplines such as law or social studies, vocabulary is exceedingly significant due to the complexity of the concepts.

2.3.4. Content-Specific Vocabulary

According to Nation (2001); Beck, McKeown, & Kucan (2002), domain-specific or technical vocabulary is the terminology unique to particular fields, subjects, or industries. That has limited and specific meanings in particular contexts essential for comprehension and discussion of specialized topics. Between the initial layer of everyday vocabulary and the complex structure of the content-specific vocabulary emerges the term that describes the process of learning in a way that connects to the content; notably, in this study focusing on learning in a specific academic field, which must draw on the learner's stock of knowledge that is already steady from the beginning and with which she/he is paving the road of practical application in the area of professional practice (Beck et al., 2002).

2.4. The importance of vocabulary

Vocabulary knowledge is closely linked to reading comprehension and language fluency. Learners with a broader vocabulary are better equipped to understand and interpret texts, which, in turn, enhances their academic performance and critical thinking skills (Schmitt, 2008). Extensive vocabulary facilitates listening and speaking, allowing learners to engage in meaningful interactions and adapt to diverse communicative contexts.

Vocabulary is indispensable for language learners as it underpins all communication, comprehension, and expression aspects. Its importance extends beyond everyday interactions and is pivotal in academic success, professional development, and cultural integration. Effective vocabulary instruction is a cornerstone of language education, ensuring learners have the tools to achieve their goals.

2.5. The use of mobile apps in language learning

2.5.1. Mobile-assisted language learning

Research on mobile learning has introduced Mobile-Assisted Language Acquisition (MALL), a new approach to language education, particularly for learning English as a foreign language (Beatty, 2010). MALL emphasizes continuity and spontaneity of access across various contexts, addressing the demands of language learners for accessibility and flexibility.

Advancements in mobile technology have enabled the creation of mobile applications that promote MALL and aid language learners, enabling students to access language learning resources on demand, resulting in a more dynamic and individualized learning experience (Kukulska-Hulme, 2012). MALL has emerged as a significant innovation in solving traditional language learning challenges.

2.5.2. Mobile Apps for Language Learning

A mobile application, commonly called an app, is software specifically designed to run on mobile devices such as smartphones and tablets (Techopedia, 2013). Mobile apps provide users services similar to those available on personal computers while offering additional functionalities tailored to mobile environments. These apps can be downloaded from platforms like Google Play for Android devices and Apple's App Store for iOS. Some applications are free to use, while others require payment for access.

Language learning apps are becoming increasingly popular among students and educators across various fields, particularly in English as a Foreign Language (EFL). According to El-Hussein and Cronje (2011), the number of teachers and students utilizing mobile apps as teaching and learning tools has skyrocketed. These apps are often accessible at no cost, provide an internet connection, and include well-known platforms like Duolingo, Memrise, Babbel, Busuu, and LingQ. This study focuses on Duolingo, one of the most widely used and influential language learning applications.

2.6. Duolingo

2.6.1. Definition

Duolingo is a widely recognized language learning application that uses gamification to make language acquisition engaging and accessible. Initially conceived by Professor Luis von Ahn and his student (Hacker in 2009), the platform was officially launched to the public in June 2012. Designed to cater to learners of all ages and proficiency levels, Duolingo is available on Android and iOS and as a web-based application, allowing users to learn languages across multiple devices (Duolingo, 2023).

Duolingo has revolutionized how individuals approach language learning by combining convenience, accessibility, and engaging gamified features. Its success lies in its ability to make learning enjoyable while remaining an effective tool for language acquisition.

2.6.2. Duolingo Application

Duolingo is a language learning app that aids users in developing essential skills like vocabulary, grammar, listening, and speaking, using algorithms to tailor lessons based on each learner's performance. This adaptive learning model allows users to progress independently, addressing individual needs and learning preferences (Sørensen, 2017). Whether users are beginners or more advanced learners, the application adjusts to provide an appropriate level of challenge, making it a versatile tool for diverse audiences (Hirsch & Kross, 2021).

Duolingo's accessibility across multiple platforms, including smartphones, tablets, and web browsers, allows learners to study anytime and anywhere. Its self-paced learning environment is

suitable for individuals with varying schedules and habits (Gousia & Kapoor, 2017). Duolingo's integrated content delivery, interactive exercises, adaptive learning capabilities, and cross-platform accessibility make it a valuable tool for learners seeking engaging and efficient language learning.

2.7. *Technology Acceptance Model (TAM)*

The Technology Acceptance Model (TAM) is a theoretical framework that explains and predicts how users accept and use technology. Developed by Fred Davis in 1989, TAM is rooted in the Theory of Reasoned Action (TRA) and focuses on understanding factors influencing individuals' intentions and behaviors when interacting with technology. It has been applied across various fields, including information systems, education, and information systems, to study the adoption of word processors, e-commerce websites, and digital tools. TAM provides a robust framework for understanding user behavior and technology adoption, highlighting the interplay between perceived ease of use, usefulness, attitudes, and behavioral intentions.

3. *Methodology*

This research utilized a combination of methods, both qualitative and quantitative, in analyzing students' perceptions towards vocabulary learning through Duolingo. The combination of these methods offered both the statistical data needed to gauge the students' attitudes and valuable impressions of the students' self-reported motives and challenges.

This particular study involved a group of 60 students from the non-English departments of the Travel and Tourism Management program at Ha Long University. The participants were selected based on their relevance to the study since students in this area of study should speak English for learning purposes and career prospects in the tourism sector. With the increasing use of mobile-assisted language learning (MALL), this investigation seeks to explore their perceptions towards Duolingo as a vocabulary learning resource.

4. *Findings*

4.1. *The Results of the Questionnaire*

The questionnaire was divided into three parts: background data and learning practices, assessment of Duolingo usage and its effects, and evaluation of selected features. This section highlights the results in all these areas including summary statistics, percentage proportions, and graphs.

4.1.1. *Students' Information About Duolingo*

Table 1. Students' Type of Mobile Device

Type of Mobile Device	Answers	Percentage
Smartphone	38	63.3%
Tablet	15	25.0%
Portable Computer (PC)	7	11.7%
Total	60	100%

According to the data gathered in Table 1, the most used device is a smartphone, as 38 students, or 63.3% of the total, reported to have it. Duolingo is likely to be used mostly from smartphones since students have the most common devices available to them.

Table 2. Internet Access on Mobile Device

Answers	Percentage
Yes	59
No	1

According to Table 2, 98.3 percent of respondents (59 students) claim access to the internet on their mobile phones. Therefore, they can all utilize Duolingo.

Table 3. *Language Learning Apps Download*

Answers	Percentage
Yes	54
No	6

According to Table 3, 90 percent (54 students) indicated that they have some form of mobile language learning app installed on their devices, which means that they are keen towards using technology for language learning.

All participants claimed to know about Duolingo, indicating the app is widely known.

Table 4. *The Use of Doulingo to Learn English*

Answers	Percentage
Yes	56
No	4

As can be seen from Table 4, 93.3 percent (56 students) reported using Duolingo for learning English, while only 6.7 (4 students) reported that they do not use the application. The data suggests that among these participants, the app is quite popular.

4.1.2. *Duolingo Usage and Effectiveness*

Table 5. *Students' Use of Duolingo*

Frequency	Answers	Percentage
Every day	5	8.3%
Several times a week	15	25.0%
Once a week	32	53.3%
Never	8	13.3%

Table 5 indicates the and midterm exam of the First School of English that most of the students, 53.3 percent (32 students), reported using the application on a weekly basis. This was followed 25 percent (15 students) who use the application multiple times a week. 8.3 percent (5 students) reported that they use the application daily while 13.3 (8 students) claimed not to have used it the application at all. This suggests that the program is predominantly on a weekly basis.

Table 6. *The aspect of English the students focus on most when using Duolingo*

Language Aspect	Answers	Percentage
Vocabulary	39	65.0%
Grammar	9	15.0%
Pronunciation	6	10.0%
Listening	6	10.0%

According to Table 6, the majority of the students, 65 percent (39 students), reported that they use Duolingo with the aim of improving their vocabulary. Targeting grammar, on the other hand, was the aim of smaller groups comprising 15 percent or 9 students, while 10% or 6 students aimed at pronunciation and 10% or 6 students aimed at listening. From this, one can conclude that for the users in this study, vocab is the primary focus of Duolingo.

Table 7. *The motivating features of Duolingo*

Feature	Answers	Percentage
Gamification (points, levels)	40	66.7%
Progress Tracking	15	25.0%
Rewards	5	8.3%
Challenges	0	0.0%

When looking for specific gamified features, 90% of 60 students stated they find Duolingo's vocabulary lessons beneficial. This shows that Duolingo is widely useful among students learning another language.

Table 8. *Duolingo's vocabulary lessons helpful for improving students' language skills*

Answers	Percentage
Yes	54
No	6

As depicted in Table 8, 54 out of 60 students, which is equivalent to 90%, find Duolingo's vocabulary lessons helpful. This suggests that Duolingo is a useful app for language learning amongst these students.

Table 9. *Duolingo's vocabulary content for students' field of study*

Answers	Percentage
Yes	30
No	30

The data displays a more industry-focused gap. Out of the 60 participants surveyed, half were studying fields other than tourism or travel management. These students claimed that Duolingo's vocabulary content met the requirements for them, while the other half stated that it was not specialized enough to capture the nuances of the Tourism/Travel Management field.

Table 10. *Students' satisfaction with Duolingo's ability to improve their English vocabulary*

Satisfaction Level	Answers	Percentage
Very Satisfied	18	30.0%
Satisfied	25	41.7%
Neutral	12	20.0%
Unsatisfied	3	5.0%
Very Unsatisfied	2	3.3%

The most recent survey revealed that a considerable proportion of students, 41.7% (25 students), are satisfied with the ability of Duolingo to help them enhance their vocabulary. 30% (18 students) are very satisfied, showing that Duolingo works for most participants, at least to a degree. On the other hand, 8.3% (5 students) are either dissatisfied or very dissatisfied with the app, showing that there are some students for whom the app is ineffective.

Table 11. *Students' ratings of Duolingo's interface in terms of user-friendliness*

Rating	Answers	Percentage
Excellent	15	25.0%
Good	32	53.3%
Average	9	15.0%
Poor	3	5.0%
Very Poor	1	1.7%

The most recent survey reveals a conclusive finding that 53.3% (32 students) consider to be good, while 25% (15 students) rated the app's interface as excellent. Most of the student's preference for usability indicates they find the app simple enough to navigate through. Only 6.7% (4 students) rated it as poor or very poor, meaning that a small fraction of users did experience problems with the app.

Table 12. *Students' opinions on Duolingo's effectiveness in helping retain vocabulary*

Effectiveness	Answers	Percentage
Very Effective	22	36.7%
Effective	28	46.7%
Somewhat Effective	7	11.7%
Not Effective	3	5.0%

As depicted in Table 12, 83.4% (50 students) who answered the survey felt that Duolingo is effective or very effective in helping them memorize vocabulary. This suggests that most users experience the app having a positive and effective impact with a strong percentage with vocabulary retention. However, a small percentage of students (5%, or 3 students) reported that it was not effective for them.

Table 13. *Students' perceptions of Duolingo's impact on their motivation to learn English*

Impact on Motivation	Answers	Percentage
Strongly Positive	25	41.7%
Positive	18	30.0%
Neutral	12	20.0%
Negative	3	5.0%
Strongly Negative	2	3.3%

It can be seen in Table 13 that a certain percentage, 43 students, which accounts for 71.7%, believes Duolingo has a positive or strongly positive effect on their motivation to learn English. On the contrary, 8.3% (five students) acknowledge it having a negative impact, meaning that while most students find Duolingo engaging, a few do not seem to be as interested.

Table 14. *Students' willingness to recommend Duolingo for improving English vocabulary*

Recommendation	Answers	Percentage
Definitely Yes	40	66.7%
Probably Yes	15	25.0%
Neutral	3	5.0%
Probably No	1	1.7%
Definitely No	1	1.7%

As per Table 14, a significant percentage of the students reported, 66.7% (40 students), said they would definitely recommend Duolingo to a friend for vocabulary enhancement. This increased level of endorsement speaks that a majority of students regard Duolingo useful. On the other hand, a small minority, 3.4% (2 students), are against this notion which indicates lack of satisfaction.

Table 15. *Students' suggestions for improving Duolingo*

Suggestions	Answers	Percentage
Add specialized content (e.g., tourism vocabulary)	32	53.3%
Improve difficulty levels	12	20.0%
Include more interactive features	9	15.0%
Other suggestions	7	11.7%

In Table 15 it can be seen that 53.3% (32 students) feel that Duolingo can be enhanced by the inclusion of specific vocabulary pertaining to tourism. This demand indicates a need for content that

aligns with the students' chosen field. Suggestions also include increasing the difficulty level and adding more gamified elements.

Table 16. *Students' opinions on the importance of Duolingo providing tourism and travel management-specific vocabulary*

Importance	Answers	Percentage
Very Important	40	66.7%
Important	15	25.0%
Neutral	3	5.0%
Not Important	2	3.3%

In Table 16 it can be seen that 66.7% of students (40) believe it is very important for Duolingo to provide subject specific vocabulary for tourism and travel management, while 25% (15 students) find it important. This demonstrates the students' concerns towards more developed materials oriented to the targeted area of their studies.

Table 17. *How often students combine Duolingo with other learning resources*

Combination Frequency	Answers	Percentage
Always	10	16.7%
Frequently	25	41.7%
Occasionally	15	25.0%
Never	10	16.7%

Table 17 shows that 41.7% (25 students) use Duolingo frequently in combination with other learning resources, while 25% (15 students) use it occasionally. Only 16.7% (10 students) never use Duolingo with other resources, suggesting that most students see Duolingo as a supplementary tool to their main studies.

Table 18. *Students' opinions on Duolingo's progress tracking features*

Feelings about Progress Tracking	Answers	Percentage
Motivating	40	66.7%
Helpful	15	25.0%
Neutral	4	6.7%
Frustrating	1	1.7%

Table 18 shows that 66.7% (40 students) find Duolingo's progress tracking features like streaks and XP points motivating, while 25% (15 students) find them helpful. Only 8.4% (5 students) reported frustration with these features, indicating that most students appreciate the gamified aspects that keep them engaged.

Table 19. *Students' opinions on whether Duolingo helps them learn English faster than traditional classroom learning*

Comparison	Answers	Percentage
Yes	25	41.7%
No	15	25.0%
About the same	20	33.3%

According to table 19, 41.7% (25 students) perceive Duolingo as a more effective application compared to traditional classroom methods in terms of learning the English language. 33.3% (20 students) feel the same way, while 25% (15 students) believe that it does not help in speeding up their processes. This suggests that Duolingo is useful, but students also appreciate traditional ways of learning.

Table 20. *Students' likelihood of continuing to use Duolingo in the future*

Likelihood	Answers	Percentage
Very Likely	40	66.7%
Likely	15	25.0%
Neutral	4	6.7%
Unlikely	1	1.7%

A strong majority of 66.7% (40 students) in table 20 stated that they are very likely to continue using Duolingo, with 25% (15 students) stating they are likely to continue. Only 1.7% (1 student) is unlikely to keep using it, indicating strong future engagement with the app.

Table 21. *Students' opinions on the variety of vocabulary lessons in Duolingo*

Variety of Vocabulary	Answers	Percentage
Yes	40	66.7%
No	20	33.3%

In table 21, it can be seen that 40 students, or 66.7%, believe that Duolingo provides adequate variety in its vocabulary lessons. The remaining 20 students (33.3%) have argued that more variety is needed in certain specialized fields.

Table 22. *Comparison between Duolingo and other language learning apps*

Comparison to Other Apps	Answers	Percentage
Better	35	58.3%
About the same	20	33.3%
Worse	5	8.3%

In comparison to other language apps, Table 22 illustrates that 58.3% (35 students) of respondents consider Duolingo to be better than most. There is a portion of 20 students (33.3%) that state its services are average, and 5 students (8.3%) claimed that Duolingo is worse than its competitors. Considering the results, it can be concluded that students most favor Duolingo.

Table 23. *Level of interest in upgrading to Duolingo Plus*

Interest in Duolingo Plus	Answers	Percentage
Yes	18	30.0%
No	42	70.0%

Students have differing perspectives about Duolingo, as shown in Table 23. More specifically, 30% (18 students) are considering getting the Duolingo Plus subscription while the remainder, 70% (42 students), are not willing to do so. This infers that many students appreciate Duolingo but are comfortable with the free plan.

The survey shows that Travel and Tourism Management students use Duolingo to enhance their vocabulary, enjoying its gamified learning features. However, there is a gap in niche vocabulary, particularly in tourism and travel management. Students find the app easy and motivating, but the lessons are insufficient for real-life contexts.

4.2. *The Results of the Interviews*

This second section contains the findings from the semi-structured interviews with five (5) junior students from the Department of Travel and Tourism Management at Ha Long University. The participants were chosen because of their active use of Duolingo and interest in sharing their experiences. The participants were asked questions on multiple considerations: integration of Duolingo in their daily lives, specific challenges they encountered, their opinions on the vocabulary enhancement value of the app, and the motivational and vocabulary retention impacts of Duolingo's gamification and adaptive learning elements. This data is studied with QCA to understand better the factors that affect the learners' utilization of Duolingo as a vocabulary learning aid.

The interviews reveal that decliners of Duolingo not only cite ease of access and use, but also motivate gamification elements. There is a pressing gap that interfaces vocabulary, above all in tourism, which Duolingo fails to provide. In addition, students were brought up monotonously and were time-consuming, but many got around them through some other resources coupled with Duolingo. While studying, students found Duolingo helpful in enhancing vocabulary, but there is a need to personalize content in industries further and focus on topic-related issues. These findings indicate that Duolingo may be useful for students of more specific disciplines, such as Travel and Tourism Management, but require further improvements.

5. Discussion

5.1. *Duolingo's Special Features and Application in Learning*

Learners highly praise Duolingo's ease of use and flexibility, which are crucial student features. Interviews reveal that students find the app friendly and adaptable, making it suitable for individuals with diverse experience and technology and a valuable tool in any learning environment. Student 1 explained, "It is very easy to use, and I can do a few lessons without investing too much time. I can use it on the go, between classes, or while commuting".

This complements the conclusions of Vesselinov and Grego (2012), who reported that learning tools such as Duolingo, which are easy to use and accessible from different types of devices, are beneficial for learners with time constraints. For most students, Duolingo's concentrated lessons are incredibly crucial. These short sessions enable learners to study in parts, which makes it easy for students to use Duolingo without a heavy burden, because these students have many workloads.

Also, features like Experience Points, levels, streaks, and rewards show that Duolingo is highly effective at engaging users and retaining their attention. Many students stated that they were encouraged and motivated to use the app more regularly, a positive outcome. Student 2 gave her thoughts, "The points and levels make it feel like a game, so I am always trying to beat my streak. It makes me want to come back every day." In support of Sørensen (2017), this feedback strengthens the argument that gamified components in language learning applications greatly help motivate and retain users, especially those who frequently need to engage with the app to ensure that dividends are continually realized.

Despite the upbeat comments about accessibility and gamification, some students observed a slight dullness with Duolingo features. Student 4 stated, "The exercises are useful, but they start to feel repetitive after a while. I wish the lessons had more variety to keep things interesting." This complements the views of Hirsch and Kross (2021) who propose that while gamification actively sustains interest on a short term basis, the problem of user engagement retention looms very high on the agenda if users are exposed to overly familiar content without novelty or challenge.

5.2. *Duolingo's effectiveness in enhancing vocabulary*

As to other respondents, and interviewees, the discussions provided an interesting area that was central to the evaluation; which is "How effective is Duolingo in improving vocabularies?" And many students reasoned that vocabulary in General is one of the areas where students using Duolingo benefit from. The lesson plans included in the application and the system of spaced repetition greatly

aid the learners' knowledge retention. Student 1 noted, "I've learned a lot of new words, especially basic vocabulary that I use every day. Duolingo is great for building a foundation."

This supports the work of Vesselinov and Grego (2012), which stated that vocabulary retention and general language skills were markedly higher among users of Duolingo than those who did not use the application. After extensive use, users who had learned vocabulary using Duolingo showed much improvement in vocabulary retention and language proficiency. Moreover, the integration of writing, listening, and speaking exercises helps the learner to contextually understand the vocabulary to be able to engage it actively.

Still, one primary concern for the student in this case study was that Duolingo does not provide adequate attention to the industry-specific vocabulary for learning tourism and travel management. Student 5 noted, "I use Duolingo for basic everyday words, but with tourism, there are many terms like hotel management or booking tours which do not exist." This statement raises a crucial issue related to the language of industries that involve tourism, and for that purpose, Duolingo is more than insufficient. According to Nation (2001), learners must pay attention to relevant context words in their field or profession, which is contextual vocabulary acquisition. The absence of terms of tourism in Duolingo is an issue because learners trying to achieve proficiency in their fields of work can struggle with such limitations.

Moreover, Beck et al. (2002) suggest that all vocabulary memorization should also serve the learner's specific purposes. Considering the needs of Travel and Tourism Management students, Duolingo can be more instrumental if lessons on vocabulary related to the specific areas of customer service, tourism, tour planning, and hospitality are added. This feature will serve students who will join the workforce in the field of tourism.

5.3. The impact of gamification on motivation and vocabulary memory retention

Duolingo's gamification feature, including XPs, levels, and streaks, is highly appreciated by students who find it motivating and engaging. This feature increases language acquisition motivation by making the learning process more enjoyable. The reward system and different levels cater to the unique needs of these students, satisfying their need for instant recognition and improving their enjoyment of learning activities.

However, students prefer more complex challenges as they progress through levels, which aligns with Dörnyei's (2007) recommendation for more sophisticated learning materials. Duolingo's self-paced features, which adapt to the learner's abilities, are generally seen positively, with some students arguing for further modifications to increase individualization. This suggests that while progressive objectives within Duolingo's adaptive learning framework foster success at lower levels, increasing focus should be on higher-level objectives.

5.4. Challenges and Limitations

While it has numerous benefits, Duolingo proved challenging for some students in this research. The more common challenges reported were deficient time, tedium, and the absence of content, such as in tourism specialization.

Time Constraints: Many students found it challenging to do Duolingo because of the time constraints stemming from academic work. For example, student 3 said, "I would like to increase my time on Duolingo, but I have so many assignments and exams to complete. At times, I just do not remember the need to practice like I want to." This demonstrates a common problem among learners who use mobile apps to study: time is a major obstacle to doing so (Kukulska-Hulme, 2012).

Monotony: Some participants noted being taught through exercises that are repetitive in nature. Student 4 noted, "I got tired of similar kinds of exercises so I would like to see more kinds of challenges which get me out of my comfort zone." This supports the work of Hirsch and Kross (2021), who highlighted that gamified apps allure students to participate, but over-relying on them renders poor engagement without active learning diversity.

Lack of Specialized Content: As stated before, the absence of tourism specific vocabulary was a major drawback for learners in the Travel and Tourism Management program. This is a deficiency in the content that could have been solved by Duolingo offering industry specific courses or modules which allow learners to focus on the phrases most associated with their field.

5.5. Recommendations for Duolingo's Improvement

From the results of this research, several suggestions can be made to improve Duolingo users effectiveness in more focused disciplines such as Travel and Tour Management. First, Duolingo can consider adding specific lessons on the tourism, hospitality, and travel management industries to ensure that students in these professions are catered for. Moreover, to keep more advanced users interested, Duolingo should lessen the simplicity of the exercises and assign more complex tasks according to the set proficiency. In order to increase engagement, the app could offer more advanced exercises where the learner has to take part in real life situations or have conversations within the context of tourism. Lastly, Duolingo can target specific issues within tourism, business, etc., paving the way for students to tailor the app according to their academic and professional objectives.

6. Conclusion

Duolingo is a significant instrument for general learning of a new language, especially when it comes to learning new words. Its ease of access, wide range of gamification, and user interface are the reasons why it is popular among students. However, students in stipulated areas such as Travel and Tourism Management will require more industry-specific content focusing on pertinent vocabulary. Through Duolingo's adaptive learning system and gamification, engagement is maintained. The app does, however, have to deal with the lack of variety and challenge for more proficient users. Further integration of industry-specific terms and greater personalization will make Duolingo a more helpful platform for students of Tourism and other relevant disciplines.

REFERENCES

1. Beatty, K. (2010), *Teaching & Researching: Computer-Assisted Language Learning* (2nd ed.). Routledge.
2. Beck, I. L., McKeown, M. G., & Kucan, L. (2002), *Bringing Words to Life: Robust Vocabulary Instruction*. Guilford Press.
3. Bucu, Luz, Colendrino et al (1995), *Educational Psychology*. San Juan: Philippines Educators Publishing Company.
4. Chappelle, C. A. (2001), *Computer Applications in Second Language Acquisition*. Cambridge University Press.
5. Coxhead, A. (2000), "A New Academic Word List." *TESOL Quarterly*, 34(2), 213-238.
6. Davis, F. D. (1989), Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319-340.
7. Duolingo. (2023), *Duolingo: Language learning app*. Retrieved from <https://www.duolingo.com/>
8. Dörnyei, Z. (2007), *Research Methods in Applied Linguistics: Quantitative and Qualitative Approaches*. Oxford University Press.
9. El-Hussein, M. O. M., & Cronje, J. C. (2010), Defining mobile learning in the higher education landscape. *Educational Technology & Society*, 13(3), 12-21.
10. Fishbein, M., & Ajzen, I. (1975), *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Addison-Wesley.
11. Gousia, R., & Kapoor, M. (2017), Duolingo: A Study on its Effectiveness in Language Learning. *Journal of Language Teaching and Research*, 8(5), 927-936.
12. Gousia, K., & Kapoor, S. (2017), Gamification in Education: A Systematic Review. *International Journal of Emerging Technologies in Learning (iJET)*, 12(3), 14-25.

13. Hacker, S. (2009), Co-founder of Duolingo and researcher in machine learning applications for language learning. Carnegie Mellon University. Retrieved from
14. https://en.wikipedia.org/wiki/Severin_Hacker.
15. Hirsch, S., & Kross, A. (2021), Adaptive Learning Technologies and User-Centric Design: Insights from Duolingo. *Journal of Educational Technology Development and Exchange*, 14(2), 35-50.
16. Hyland, K. (2006), *English for Academic Purposes: An Advanced Resource Book*. Routledge.
17. Kukulska-Hulme, A. (2012), Language Learning and Mobile Technology: Trends and Opportunities. *The Cambridge Handbook of Technology and Language Learning*, 231-248.
18. Laufer, B. (1997), The Influence of L2 Vocabulary Knowledge on L2 Reading Comprehension. *Studies in Second Language Acquisition*, 19(3), 345-365.
19. Maio, G. R., & Haddock, G. (2009), *The Three Witches of Attitudes*.
20. Nation, I. S. P. (2001), *Learning Vocabulary in Another Language*. Cambridge University Press.
21. Richards, J. C., & Schmidt, R. (2010), *Longman Dictionary of Language Teaching and Applied Linguistics* (4th ed.). Pearson Education.
22. Sørensen, B. (2017), Adaptive Learning in the Digital Age: A Review of Adaptive Learning Technologies. *Journal of Educational Technology & Society*, 20(4), 122-134.
23. Schmitt, N. (2008), *Vocabulary in Language Teaching*. Cambridge University Press.
24. Techopedia. (2013), *Definition of Mobile Learning (M-Learning)*. Retrieved from <https://www.techopedia.com> (Exact page needs verification).
25. Vesselinov, R., & Grego, J. (2012), *Duolingo effectiveness study*. City University of New York.

**Thái độ của sinh viên đối với việc ứng dụng Duolingo để nâng cao học từ vựng:
nghiên cứu điển hình về sinh viên không chuyên tiếng Anh ngành Du lịch và Quản lý Du lịch
tại một trường đại học ở Việt Nam**

Tóm tắt: Nghiên cứu này nhằm mục đích điều tra thái độ của sinh viên không chuyên tiếng Anh trong chương trình đào tạo ngành Quản lý Du lịch và Lữ hành tại Đại học Hạ Long đối với việc sử dụng ứng dụng Duolingo để nâng cao vốn từ vựng tiếng Anh của sinh viên. Nghiên cứu tập trung vào việc làm rõ những lợi ích và hạn chế của ứng dụng duolingo trong việc nâng cao năng lực học từ vựng.

Từ khóa: học tiếng Anh; từ vựng; thái độ; ứng dụng duolingo; ứng dụng di động.