

# THE STUDENTS' PERCEPTIONS ON THE USE OF MOBILE-ASSISTED LANGUAGE LEARNING THROUGH DUOLINGO IN IMPROVING VOCABULARY MASTERY AT THE TERTIARY LEVEL

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**Abstract:** The use of Duolingo as one of free online applications by students in learning English is essential. More studies on Duolingo app were conducted. However, in the context of university students of Indonesia in improving vocabulary mastery in the online learning setting, this current study was rare. This research was aimed to investigate the students' perceptions on Mobile-Assisted Language Learning through Duolingo Apps to improve vocabulary mastery. The research used a mixed method. There were 95 undergraduate students from some private and public universities in Indonesia. Online questionnaire and semi-structure interview were conducted to collect the data. The finding revealed that Duolingo apps improved the students' vocabulary mastery in their English learning. It is then recommended that Duolingo be used for EFL and non-EFL students in the university to increase their English proficiency, mainly in vocabulary mastery as it is simple, easy to use, and available to access. In addition, it provides interesting and informative features. Therefore, it could imply that Duolingo promotes the students' willingness and motivations to practice English better.

**Keywords:** *Duolingo; EFL; MALL; mastery; vocabulary.*

## INTRODUCTION

Learning English as a foreign language (EFL) is considered beneficial and increasingly easier with developed technologies nowadays and accessible in everywhere people want to learn (Aziz *et al.*, 2018). Those technologies can also help people directly improve their English and interact with native speakers or other learners around the world (Ahmadi & Reza, 2018).

Even with the massive development of equipment that assists the exploration of learning English, which is web-based CALL or some applications with mobile-assisted language learning (MALL) basic things, intrinsic human characteristics, such as the ability to collect the data, to critically analyze information, to

communicate and interact with interface as well as to recognize implicit meanings in a text, are essential to extract meaning from language (Rafiq, 2020). While the learning mobile as Edtech helps, it cannot replace the human needs to understand in other languages, yet it can increase instruction (Dhawan, 2020). One special area of significant growth is MALL in which students use mobile technology to engage language study (Hasan *et al.*, 2022; Kamasak *et al.*, 2021). MALL deals with the use of mobile technology in language learning. Students do not have to only study English as a Foreign Language (EFL) in a classroom. They might have the opportunity to learn it through the use of mobile

devices when they desire and wherever they are as they are easy to use (Ali & Miraz, 2018).

The technologies, such as mobile devices, can be a considerable partner if it is used to increase the methodological efficiency by allowing access to learn anywhere and at any time, not only tools that aid to translate words or text, but also can be a mentor that improves learner skills in English fluently with well-operated systems. In many cases, mobile technology extends learning beyond the classroom. Students could use mobile devices easily carried and make learning modes at any time and any place. (Al-Mashhadani & Al-Rawe, 2018).

In learning English, students need to be supported by the knowledge of vocabulary. Vocabulary can be one of the barriers for EFL students to express themselves in writing and speaking (Al-Hassan & Abdulaziz, 2019). They are also demotivated while listening and reading because of their limited knowledge of vocabulary. EFL students which stand as non-native speakers struggled with the vocabulary comprehension. One of the first problems an EFL student encounters is how to commit a tremendous amount of foreign words to memory (Ghalebi *et al.*, 2020). In addition, vocabulary is a main thing to learn and understand as it is such an important language component before students want to practice and improve language skills: receptive skills or productive skills (Saragih, 2019; Schmitt & Schmitt, 2020). Hence, students need to enrich their own vocabulary with their own willingness to practice by themselves by using mobile devices (Hasan *et al.*, 2022) and with the apps or platforms related to language mastery.

There is one mobile application that is considered to help EFL students improve their vocabulary in any situation. It is called Duolingo. Duolingo is an application for the language study, and it is one of the most rapidly popular language learning platform worldwide (Savvani, 2018). It is believed to develop a foreign language, and it is available without a subscription fee. Duolingo offers learning system based on gamification. Its users may get an achievement and counted with day-by-day quizzes streak. Duolingo's lessons systems are familiar with students' environment and experiences, such as learning from themes of food, family, travel, etc. Those topics provide some grammatical aspects and cultural ideas with limited explanations but the lessons focus on introducing new vocabulary and drill (Shortt *et al.*, 2021). Even though Duolingo could be accessed to any web-enabled devices through the

Internet at <https://www.duolingo.com>, its huge affordance is worldwide mobile access. Students may practice for English learning at their own place and time with Duolingo app which can be installed on their mobile devices that use Android, iOS or PC/laptop (Ritonga *et al.*, 2022). Thus, it is believed that Duolingo with a game platform could motivate students to continue practicing their English language.

There are some relevant studies on how Duolingo benefits for language learning. Loewen *et al.* (2019) in their study found that students generally considered Duolingo had flexibility and gamification for language learning acquisitions. In addition, Duolingo could be more effective to promote English language learning (Psychogyiou & Karasimos, 2019) and vocabulary mastery (Ajisoko, 2020) as well as motivate students to practice English skills (Tiara *et al.*, 2021). The other study revealed that students had their positive responses on the utilizing the Duolingo apps to encourage English learning outside the classroom (Hidayati & Diana, 2019). This current study focuses on how Duolingo application helps EFL and non-EFL students enrich their English vocabulary in the context of university level in Indonesia, and this is rare to conduct for that context. This study is very important to do as English language, mainly in mastering vocabulary is not only required by EFL students but also by non EFL students at the tertiary level, and Duolingo as an easy app to use and accessible by everyone is believed to be effective for English practice. Thus, this study addressed a question: What are the students' perceptions on the use of Duolingo to improve vocabulary mastery?

## **METHOD**

This research employed a mixed-method research design for exploring students' perception on Duolingo specifically. This research method included both forms of data providing different types of information for open-ended data in the form of qualitative data and for closed-ended data in the form of quantitative data (Creswell, 2018).

The participants of this research were 95 undergraduate students at some private and state universities in Jakarta and surroundings across faculties such as Faculty of Teacher Training and Education, Faculty of Communication Sciences, Faculty of Economics and Business, Faculty of Pharmacy, Faculty of Law, Faculty of Engineering, Faculty of Psychology, Faculty of Islamic Studies, Faculty of Literature, and Faculty of Public Health with ages ranging from 18 to 24

years. Thus, they are from English and non-English departments students who were learning English with Duolingo Apps and familiar with the use of Duolingo to improve English.

Table 1. *Demographics of participants*

Categories		Number of participants (N=95)	Percentage (%)
Gender	Female	79	83.2
	Male	16	16.8
Age	18 – 21	81	85.3
	22 – 24	14	14.7
Semester	1	16	16.9
	3	8	8.5
	5	21	22.1
	7	47	48.5
Department	English	34	36
	Non-English	61	64
Ever used Duolingo before	Yes	79	83
	No	16	17

From table 1, it showed that there were 83% of participants who had ever used Duolingo before. Most participants (64%) were from non-English department and dominantly were female students

(83.2%). A survey questionnaire consisting of closed and open-ended questionnaires, and semi-structure interviews were used. The close-ended questionnaires had a five-point Likert scale ranging from Strongly Disagree (1), Disagree (2), Neutral (3) Agree (4) to Strongly Agree (5) to find out the students' perceptions of Duolingo Apps. The open-ended questionnaire was used to have deeper perceptions and ideas of the students in the use of Duolingo Apps in improving their vocabulary. In the semi structure interview, seven students were randomly selected and each of them had a 15-20 minute interview.

The closed-ended surveys were analyzed with validity test and open-ended surveys and interviews were analyzed with thematical analysis. As the data were analyzed according to the themes of the questionnaire items and interview questions, the items were grouped into 5 themes i.e., the effectiveness of tools, the advantages, the disadvantages, students' interest, and students' motivation items.

## RESULTS AND DISCUSSION

Table 2. *The effectiveness of tools*

Table 2. The effectiveness of toolsItems	N	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	M	SD
1. Duolingo is easy to use to learn English	95	0 0%	0 0%	6 6%	38 40%	51 54%	4.5	0.6
2. Duolingo is easy to use to learn English Vocabulary	95	0 0%	1 1%	4 4%	38 40%	52 55%	4.5	0.6
3. Duolingo is easily accessible anytime and anywhere to learn English	95	0 0%	0 0%	6 6%	33 35%	56 59%	4.5	0.6
4. Duolingo provides interesting vocabulary questions	95	0 0%	2 2%	12 13%	40 42%	41 43%	4.3	0.7
5. Duolingo provides understandable vocabulary questions	95	0 0%	0 0%	10 10%	36 38%	49 52%	4.4	0.7

The data depicts the mean of the highest variables was 4.5 which represented item number 1, 2, and 3. In item number 1, 54% participants strongly agreed and 40% participants agreed to the statement, 6% reported neutral, and none of them disagreed with the statement. Another result on item number 2, 55% participants strongly agreed and 40% participants agreed to the statement, 4% neutral, and only 1% participant disagreed. Meanwhile in item number 3, 59%

participants strongly agreed and 35% agreed with the statement, 6% neutral, and none of them disagreed with the statement. In item 4, it was found that 85% said to have positive statement on how Duolingo provided interesting vocabulary questions. In addition, it was reported that 90% of the students agreed that Duolingo provided understandable vocabulary questions.

The highest mean of this theme is representing that Duolingo is easy to use for learning English

**Tri Wintolo Apoko, Alfaruqi Alalwani Dunggio, & Su Li Chong**

*The students' perceptions on the use of mobile-assisted language learning through Duolingo in improving vocabulary mastery at the tertiary level*

especially for the vocabulary needed and the flexibilities. These findings were supported by participants' answer in open-ended question. Most participants (59%) indicated that Duolingo was effective. It could help them practice English wherever and whenever they were.

“In my opinion, this free application makes it easier for us to learn English, especially in increasing vocabulary. With the various practice questions contained in this application, it makes us understand English better. In addition, the feature in this application is that when we make a mistake in answering a question, this

Duolingo application can help with the correct answer, and we can find out which part is not correct in our answer” (P10)

“Yes. Duolingo is a very complete and free (if not premium) English application. In my opinion, Duolingo is a virtual English application that doesn't have to cost to go to English tutoring. Apart from being very interesting, Duolingo is also easy to understand, so we can apply our English skills in everyday life.” (P15)

*The advantages*

**Table 3. The advantages of using Duolingo**

Items	N	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	M	SD
6. Duolingo assists me learn English vocabulary at home easily	95	0 0%	0 0%	10 11%	34 36%	51 54%	4.4	0.7
7. The material presented by Duolingo is easy to understand	95	0 0%	1 1%	11 12%	41 43%	42 44%	4.3	0.7
8. Duolingo is able to help me improve my daily English skills	95	0 0%	1 1%	12 13%	44 46%	38 40%	4.3	0.7

These data showed that the highest mean was 4.4 which represents item number 6. That item showed that 54% of participants were strongly agreed, 36% of participants agreed, 10 participants neutral, and none of them were disagreed. The second highest mean is 4.3 which goes to number 7 and 8. In item number 7, 87% of participants were agreed with the statement, 12% were neutral, and only 1% of participant was disagreed. In addition, 86% of participants were agreed with the statement on how Duolingo was able to help one improve one's daily English skills.

The highest mean of this themes is representing that Duolingo could assist them to improve their vocabulary at home easily. These number were strengthened with the answer in

open-ended questions. Their opinion showed that Duolingo was able to assist them in vocabulary.

“Yes, because in Duolingo, we can review the material we have learned in a fun way, such as playing to remember vocabulary that is a race against time or sometimes the vocabulary reappears. So, by repeating the vocabulary material, it becomes easier for me to remember and can apply it to everyday life.” (P14)

“Because the vocabulary used is quite easy to understand, and the questions are also easy to understand even though some are quite difficult, but still all the questions in the application quickly make me understand the right vocabulary.” (P22)

*The disadvantages*

**Table 4. The disadvantages of using Duolingo**

Items	N	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	M	SD
9. Duolingo makes it difficult for me to learn English vocabulary	95	49 52%	36 38%	4 4%	5 5%	1 1%	1.7	0.9
10. The material presented by	95	25 26%	29 31%	29 31%	9 9%	3 3%	2.3	1.1

Duolingo tends to be boring								
11. Duolingo is difficult to access when experiencing interference or no internet connection	95	14 15%	17 18%	32 34%	24 25%	8 8%	3.0	1.2

These data were showing interesting results. The highest mean was closely to the deviation standard, which meant the variables were various. Item number 9 pointed out that only 6% of participants who agreed and strongly agreed that using Duolingo is not easy to practice vocabulary. Furthermore, item 10 was found that 12% of participants agreed and strongly agreed on how materials in the Duolingo were boring. Meanwhile, item number 11 showed the highest mean. It showed 3.0 with 8% of participants who strongly agreed, 25% of participants agreed, 34% of participants were neutral, 18% of participants

disagreed, and 15% of participants strongly disagreed.

The highest mean represented the disadvantages of using Duolingo that it was difficult to access when it had no connection. It could be strengthened with the participant's opinion in open-ended questions below.

“Duolingo can be used by anyone and it's also free; you only need a mobile phone and internet connection.” (P40)

#### Students' interest

Table 5. Students' interest in using Duolingo

Items	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	M	SD
12. Duolingo is able to interest me because it can help me understand English vocabulary well	95	0 0%	0 0%	11 12%	47 49%	38 40%	4.3	0.7
13. Duolingo gives me space to be more active and skilled in using English	95	0 0%	0 0%	11 12%	49 51%	35 37%	4.3	0.7

These data show equal mean to both items. In item number 12, 89% of participants had positive interest on the use of Duolingo and 12% had neutral responses, and none of them was disagreed. Moreover, in item number 13, 37% participants were strongly agreed with the statement, 51% were agreed, 12% were neutral, and none of them was disagreed. This number of the data showed positive with the two statements, which meant both if the statement were related with the participants with Duolingo.

These number were strengthened with the answer in open-ended questions. Their opinions showed that Duolingo attracted them to improve their vocabulary.

“For people who are learning English from the beginner, this app is very good, because Duolingo starts everything from the ground up (like providing basic vocabulary for beginners). In addition, Duolingo also has a gamification aspect that makes users not feel bored, where learning English is like playing a game.” (P54)

“Duolingo provides exercises based on behaviorism theory where a lot of repetition of words is done and provides a stimulus to the brain to remember.” (P60)

#### Students' motivation

Table 6. Students' motivation in using Duolingo

Items	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	M	SD
14. Duolingo is able to increase my motivation in learning English	95	0 0%	2 2%	21 22%	40 42%	32 34%	4.1	0.8
15. Duolingo was able	95	0	0	15	43	37	4.2	0.7

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to give me a good stimulus in memorizing English vocabulary	0%	0%	16%	45%	39%
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The highest mean of this theme was 4.2, which was represented in item number 15. In this item, 39% of participants were strongly agreed, 45% of participants were agreed, 16% of participants were neutral, and none of them was disagreed. Meanwhile, in item number 14, there were 2% of participants who disagreed, 22% of participants were neutral, and 76% of participants agreed to say that Duolingo had been able to increase motivation in learning English.

These number of the data represented that Duolingo was able to increase their motivation in learning English and able to give a positive stimulus in learning English especially in vocabulary mastery. It was showed with the answers in open-ended question in the following.

“The first is that the application is free and easy to access, and the application is interesting in my opinion because we have to compete with people to improve our rankings, so it gives enthusiasm to learn more.” (P66)

“Because when I study, I always do repetition. In Duolingo application, there is a target every day. So, every day I take my time to study. From those repetitions, I memorized English vocabulary faster, and that made me more confident to try in everyday life.” (P78)

From interview data, the result focused on the participants' opinions on using Duolingo to improve their vocabulary mastery, how Duolingo served them with two categories of vocabulary (active and passive vocabulary), and how Duolingo assisted them in choosing vocabulary in daily conversation.

*Q1: What is your opinion on using Duolingo to improve your vocabulary mastery?*

In this question, there are six themes that writer has divided; Gamification, effectiveness, students' interest, students' motivation, advantages, and disadvantages.

#### *Gamification*

Drilling method which Duolingo used was based on gamification. It served level, rank, and many other game elements to learning language, especially English and its vocabulary. Repeated courses, self-learning, and continue level were important in Duolingo. Hence, the graphic and the

interface were considered friendly to all ages and their levels.

“Especially for vocabulary mastery, it's good for those who are just learning or who want to improve their English vocabulary. There are a lot of games, which we are given in English, and there are pictures, so we can know the visualization such as "Oh, what is that?" For example, if there is a picture of a boy, then there will be a choice of "A Boy". We were given Indonesian language and then we wrote English, but there are pictures too, so we can learn it better. That's how it improves. I think it's really improving.” (P1)

#### *Effectiveness*

In every course they took, at least they could get one to three new words and its understanding. Duolingo helped beginners, especially in improving their vocabulary. With translation quizzes, the materials were easily to understand. The flexibility to keep being connected was the superiority of Duolingo.

“As for vocabulary, it's quite helpful because in each practice there must be approximately one to three new words added. This could be good enough for a beginner to enrich vocabulary.”

#### *Students' interest*

Duolingo provided students' interest with the various topic they had, such as sports, foods, animals, etc. With those topics, students could choose what they wanted to learn and what they wanted to understand about the vocabulary related to the chosen topic.

“Using Duolingo is really very useful as it is interesting, and it gives a lot of vocabulary. It also shares features according to interests, such as special food, animals, etc. Then the visuals are also good.” (P5)

#### *Students' motivation*

In every level, users would challenge a new quiz. It could increase students' motivation to keep going on what they learned. After they finished the challenges, they could feel their self-confidence to use the vocabulary they just learned in daily conversation.

“Yes, that's right. There is an increase in the number of words that was previously only a few, so it becomes more and it makes me more confident, at least for a small talk.” (P4)

#### *Advantages*

Easy-accessible, user friendly, and comforting graphics were the characters of the Duolingo. Despite the looks, the material of Duolingo was considered to facilitate the users, such as the level based on the assessment in the beginning of the application. Users needed to take the level and kind of pre-test to encourage their ability in English.

“In my personal opinion, Duolingo is quite simple because it provides levels according to abilities on user selection and pre-test, so that the vocabulary provided adjusts to the user's level. Then learning vocabulary in Duolingo is also not tied, depending on when the user wants to use it” (P1)

#### *Disadvantages*

The disadvantage of Duolingo was that it had no explanation after the courses. When users took the quizzes and chose the wrong answer, they only got the correction to the answer, but not the explanation instead, so they could not recognize their lack of knowledge.

“If the display is already user friendly, it is easy to access. In terms of material, during practice, corrections are always given. Only the explanation is lacking even though the explanation is quite important.” (P2)

*Q2: Vocabulary is divided into two categories, active vocabulary and passive vocabulary. Does Duolingo help you to recognize those categories? Why?*

In this question, the participants defined their opinion through two categories ahead. Most of them answered the similar opinions through this question. The writers separated two themes in this question: Duolingo's focus on active vocabulary and user's acknowledgement about their vocabulary skills.

#### *Duolingo's focus on active vocabulary*

The material that Duolingo provided was just to recognize daily conversation. The vocabularies used were just active vocabulary whom students or users already knew and understood about the terms of the vocabulary. It was found that Duolingo might serve passive vocabulary

depending on the level at the first, but after they experienced, there was no passive vocabulary used on the courses. Duolingo just focused on the vocabulary used in daily conversation, so it did not provide passive vocabulary that not everyone could understand it.

“Active vocabulary is the word that we know and use every day, and passive one is the one, we rarely use or even never use it. When I used Duolingo, it contained more active vocabulary because many of them had been used and compared to passive vocabulary, they were lacking. Therefore, it has more active vocabulary, but it depends on the level too, maybe the higher the level, the more passive vocabulary you met. Personally, I think it has more active vocabulary as it's an everyday vocabulary that is often used.” (P3)

#### *User's acknowledgment about their vocabulary skills*

There was one participant that recognized his vocabulary skills. That participant realized that Duolingo could assist to his vocabulary ability. As a result, he assumed that Duolingo helped to improve his vocabulary for active or passive vocabulary.

“Yes, it helps, because I didn't know active and passive vocabulary before, so I didn't know that Duolingo gave progress on the two categories, after knowing some of them realized that Duolingo was very helpful” (P1)

*Q3: Does Duolingo help you to decide vocabulary in your daily conversation? What is the reason?*

In this question, a deep information was gained related to the second question, whether the participants were able to use active vocabulary and passive vocabulary or not. Since most of the answers of the second questions were considered focused on active vocabulary, it was decided to gain their opinion on their common vocabulary they used. Most of them shared their opinions that Duolingo was effective to help them choose vocabulary in daily conversation and one of them answered vice versa.

#### *The effectiveness of Duolingo in choosing daily conversation vocabulary*

Since Duolingo provided active vocabulary to drill their understanding, they were able to use those vocabulary in common daily conversation. The drilling method was considered the main

**Tri Wintolo Apoko, Alfaruqi Alalwani Dunggio, & Su Li Chong**

*The students' perceptions on the use of mobile-assisted language learning through Duolingo in improving vocabulary mastery at the tertiary level*

effect of their knowledge of the vocabulary. The example of the drill that the participant still remembered was the difference between the use of two articles: "a" and "an". Another participant answered the similar experience about using "I would rather" instead of "I want".

"It really helped. Previously my vocabulary was very limited, and then after using Duolingo it increased my knowledge from the use of simple past tense to everyday conversation. In using this learning model, it is like we are having a conversation, so we repeat until we get used to it, like I watch the movie or I ate eggs" (P4)

"Choosing vocabulary is quite helpful because the method in Duolingo is used to repeat the questions, so we are used to using it in a day. For example, the use of the article "a" and "an" (article) is found from Duolingo. In addition, synonyms and antonyms are also provided such as the words of hard and difficult." (P5)

"It helps. For example, it is found the initial use of "I want" and "I would rather". After using Duolingo I can be more varied using new vocabulary both formal and informal" (P7)

*The boredom of the use of Duolingo in English vocabulary*

The material that Duolingo served had been considered boring and too basic, so it could not be used in daily conversation. The vocabulary in Duolingo could be used only in small talk, not for the expressions of concrete feelings or telling an opinion; whereas, in everyday conversation, many expressions could not be determined and Duolingo did not provide the material.

"I don't think so, because the words used are just basic, so they don't really help in everyday conversation. It's only used for small talk; it doesn't really provide expressions that allow it to help in everyday conversation." (P3)

According to the results, students' perceptions on using Duolingo to improve their vocabulary mastery completely showed positive perceptions in the perspectives of the effectiveness of the tools, the advantages, the disadvantages, students' interest, students' motivation, and the interview about their ideas about the vocabulary itself. Duolingo showed its availability to use anywhere and everywhere, so students could use it whenever they wanted to use (García Botero *et al.*, 2019). Ease of use and free application in learning English language could be considered the

main reason behind students' interest in using some applications, such as Duolingo (Nami, 2020). Gamification in Duolingo which showed with the level they had, "badges" element, quizzes streak day-per-day, resulted that Duolingo was positively perceived as a motivational tool. The students or users resulted that they had fun, felt happy, and were motivated and encouraged to use Duolingo in learning English vocabulary (Astarilla, 2018).

This result also showed that students had more interests and strong motivation to practice English, mainly in having more vocabulary. It is in line with what Rejeki *et al.* (2020) found in their study mentioning positive agreement on the useful application of Duolingo in learning English. In addition, they could learn grammar, sentences, and word types as well.

This could be understood as Duolingo was a gamification product, which meant that they gamified all the elements to create happiness in the learning environment (Toda *et al.*, 2019). It was also added by Huynh *et al.* (2018) and Sanda & Klimova (2021) in their study which showed the effectiveness of game refinement measure to keep the learning activity attractive and easy to use. Thus, Duolingo as MALL had been believed to increase the teaching and learning process of foreign language (Azli *et al.*, 2018).

Based on the open-ended questions' answers, students were not using it daily. They were worried that if they were going to open Duolingo, they got distracted by the social media on their mobile phone. The students could not manage their time wisely to take a course single-handedly (García Botero *et al.*, 2019). Therefore, students needed to be monitored by their teacher while using Duolingo to assist their spirit to learn English consistently, and worried that they would lose their interest and motivation.

In Duolingo, the lessons were categorized based on the students' competence and level they needed. If they started from the beginner, it meant that they would face many challenges and quizzes that would help them to understand vocabulary. Nevertheless, language skill development could not be separated from the essence of language as a tool of communication. Since Duolingo employed direct translation in learning foreign language, it worked on the phrases and levels. Thus, it could not show the communicative purpose of language. The students could learn skills, yet Duolingo might not succeed in equipping them with the communicative competences which were used at the conversational level (Inayah *et al.*, 2020).



## CONCLUSION

Duolingo not only serves vocabulary lessons, but also other language components such as grammar use and pronunciation. In addition, Duolingo does not always fulfill the EFL students' needs in learning English, mainly in vocabulary mastery. Therefore, in line with the results, it is inferred that Duolingo has been effective and good to use for EFL students in improving vocabulary mastery. Thus, it is recommended that the use of Duolingo should be used for university students for the acquisition of foreign language practice as it contains more beneficial features. Moreover, lecturers may need to critically match the students with the use of active and passive vocabulary learning so that the learning experience can be maximised.

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**Tri Wintolo Apoko, Alfaruqi Alalwani Dunggio, & Su Li Chong**

*The students' perceptions on the use of mobile-assisted language learning through Duolingo in improving vocabulary mastery at the tertiary level*

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